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In your requests please include the following reference number 78EE117C99-2471569867

Contents

1.1 zlib 1.2.11
1.1.1 Available under license
1.2 bzip2 1.0.8
1.3 nghttp2 1.40.0
1.3.1 Available under license
1.4 rtmpdump 2.4+20151223.gitfa8646d.1-2+b2
1.4.1 Available under license
1.5 openssl 1.1.1f
1.5.1 Available under license
1.6 qt 5.12.0
1.6.1 Available under license
1.7 npth 1.6-3
1.7.1 Available under license
1.8 librtmp 2.4+20151223.gitfa8646d.1-2+b2
1.8.1 Available under license
1.9 libnpth0 1.6-3
1.9.1 Available under license
1.10 zstd 1.4.4
1.10.1 Available under license
1.11 make 4.3-4.1
1.11.1 Available under license
1.12 libnsl-dev 1.3.0-2
1.12.1 Available under license
1.13 kelseyhightower-envconfig 1.4.0
1.13.1 Available under license
1.14 libnsl 1.3.0-2

1.14.1 Available under license
1.15 xxhash 0.8.1-1
1.15.1 Available under license
1.16 expat 2.4.6
1.16.1 Available under license
1.17 zstd 1.5.0
1.17.1 Available under license
1.18 libssh2 1.10.0-3+b1
1.18.1 Available under license
1.19 gzip 1.12-1
1.19.1 Available under license
1.20 libtirpc 1.3.3+ds-1
1.20.1 Available under license
1.21 libsemanage-common 3.4-1
1.21.1 Available under license
1.22 libhogweed6 3.8.1-2
1.22.1 Available under license
1.23 libidn 2.3.3-1+b1
1.23.1 Available under license
1.24 libnettle8 3.8.1-2
1.24.1 Available under license
1.25 libnettle6 3.8.1-2
1.25.1 Available under license
1.26 lz4 1.9.4-1
1.26.1 Available under license
1.27 libjpeg-turbo 2.1.4
1.27.1 Available under license
1.28 coreutils 9.1-1
1.28.1 Available under license
1.29 base-passwd 3.6.1
1.29.1 Available under license
1.30 libunistring 1.0-2
1.30.1 Available under license
1.31 gmp 6.2.1+dfsg1-1.1
1.31.1 Available under license
1.32 bzip2 1.0.8-5+b1
1.32.1 Available under license
1.33 gdbm 1.23-3
1.33.1 Available under license

1.34 libassuan 2.5.5-5
1.34.1 Available under license
1.35 pinentry 1.2.1-1
1.35.1 Available under license
1.36 netbase 6.4
1.36.1 Available under license
1.37 libffi 3.4.4-1
1.37.1 Available under license
1.38 iconv 2.36
1.38.1 Available under license
1.39 libmd 1.0.4-2
1.39.1 Available under license
1.40 mawk 1.3.4.20200120-3.1
1.40.1 Available under license
1.41 libgpg-error 1.46-1
1.41.1 Available under license
1.42 cyrus-sasl 2.1.28+dfsg-10
1.42.1 Available under license
1.43 libgcrypt 1.10.1-3
1.43.1 Available under license
1.44 zlib 1.2.13.dfsg-1
1.44.1 Available under license
1.45 dash 0.5.12-2
1.45.1 Available under license
1.46 keyutils 1.6.3-2
1.46.1 Available under license
1.47 libksba 1.6.3-2
1.47.1 Available under license
1.48 hostname 3.23+nmu1
1.48.1 Available under license
1.49 libpkit 0.24.1-2
1.49.1 Available under license
1.50 sed 4.9-1
1.50.1 Available under license
1.51 findutils 4.9.0-4
1.51.1 Available under license
1.52 berkeley-db 5.3.28+dfsg2-1
1.52.1 Available under license
1.53 sensible-utils 0.0.17+nmu1

1.53.1 Available under license
1.54 acl 2.3.1-3
1.54.1 Available under license
1.55 attr 2.5.1-4
1.55.1 Available under license
1.56 libxcrypt 4.4.33-2
1.56.1 Available under license
1.57 readline 8.2-1.3
1.57.1 Available under license
1.58 debconf 1.5.82
1.58.1 Available under license
1.59 readline-common 8.2-1.3
1.59.1 Available under license
1.60 xz 5.12.0
1.60.1 Available under license
1.61 libxxhash0 0.8.1-1
1.61.1 Available under license
1.62 binutils 2.40-2
1.62.1 Available under license
1.63 rpcsvc-proto 1.4.3-1
1.63.1 Available under license
1.64 open-ldap 2.5.13+dfsg-5
1.64.1 Available under license
1.65 jansson 2.14-2
1.65.1 Available under license
1.66 dataintelligencecrew-go-faiss 0.2.0
1.66.1 Available under license
1.67 github.com/disintegration/imaging 1.6.2
1.67.1 Available under license
1.68 github.com/dataintelligencecrew/go-faiss 0.2.0
1.68.1 Available under license
1.69 imaging 1.6.2
1.69.1 Available under license
1.70 libarchive 3.6.0
1.70.1 Available under license
1.71 zstd 1.5.4+dfsg2-5
1.71.1 Available under license
1.72 cmd/test2json (devel)
1.72.1 Available under license

1.73 cmd/gofmt (devel)
1.73.1 Available under license
1.74 cmd/addr2line (devel)
1.74.1 Available under license
1.75 cmd/fix (devel)
1.75.1 Available under license
1.76 cmd/trace (devel)
1.76.1 Available under license
1.77 cmd/asm (devel)
1.77.1 Available under license
1.78 cmd/cover (devel)
1.78.1 Available under license
1.79 cmd/buildid (devel)
1.79.1 Available under license
1.80 cmd/pprof (devel)
1.80.1 Available under license
1.81 cmd/go (devel)
1.81.1 Available under license
1.82 cmd/cgo (devel)
1.82.1 Available under license
1.83 cmd/nm (devel)
1.83.1 Available under license
1.84 cmd/compile (devel)
1.84.1 Available under license
1.85 cmd/doc (devel)
1.85.1 Available under license
1.86 cmd/objdump (devel)
1.86.1 Available under license
1.87 cmd/link (devel)
1.87.1 Available under license
1.88 cmd/pack (devel)
1.88.1 Available under license
1.89 cmd/vet (devel)
1.89.1 Available under license
1.90 cmd/covdata (devel)
1.90.1 Available under license
1.91 gnupg 2.2.40-1.1
1.91.1 Available under license
1.92 libbsd 0.11.7-2

1.92.1 Available under license
1.93 e2fsprogs 1.47.0-2
1.93.1 Available under license
1.94 brotli 1.0.9-2+b6
1.94.1 Available under license
1.95 grep 3.8-5
1.95.1 Available under license
1.96 audit 3.0.9-1
1.96.1 Available under license
1.97 diffutils 3.8-4
1.97.1 Available under license
1.98 libcap-ng 0.8.3-1+b3
1.98.1 Available under license
1.99 libldap-2.5-0 2.5.13+dfsg-5
1.99.1 Available under license
1.100 tdb 1.47.0
1.100.1 Available under license
1.101 libsemanage-common 3.4-1+b5
1.101.1 Available under license
1.102 ca-certificates 20230311
1.102.1 Available under license
1.103 apt 2.6.0
1.103.1 Available under license
1.104 media-types 10.0.0
1.104.1 Available under license
1.105 sysv-init 3.06-4
1.105.1 Available under license
1.106 libsemanage2 3.4-1+b5
1.106.1 Available under license
1.107 libpsl 0.21.2-1
1.107.1 Available under license
1.108 adduser 3.134
1.108.1 Available under license
1.109 libsepol2 3.4-2.1
1.109.1 Available under license
1.110 libpsl5 0.21.2-1
1.110.1 Available under license
1.111 libgdbm6 1.23-3
1.111.1 Available under license

1.112 cdebconf 0.270
1.112.1 Available under license
1.113 libkeyutils 1.6.3-2
1.113.1 Available under license
1.114 gpgv 2.2.40-1.1
1.114.1 Available under license
1.115 libmd0 1.0.4-2
1.115.1 Available under license
1.116 libdebconfclient0 0.270
1.116.1 Available under license
1.117 dpkg 1.21.22
1.117.1 Available under license
1.118 logsave 1.47.0-2
1.118.1 Available under license
1.119 selinux 3.4-1+b6
1.119.1 Available under license
1.120 libzstd1 1.5.4+dfsg2-5
1.120.1 Available under license
1.121 sysvinit-utils 3.06-4
1.121.1 Available under license
1.122 libsaslmodulesdb 2.1.28+dfsg-10
1.122.1 Available under license
1.123 libsepol 3.4-2.1
1.123.1 Available under license
1.124 libsasl 2.1.28+dfsg-10
1.124.1 Available under license
1.125 libapt-pkg 2.6.1
1.125.1 Available under license
1.126 libgdbm-compat4 1.23-3
1.126.1 Available under license
1.127 libbrotli1 1.0.9-2+b6
1.127.1 Available under license
1.128 libext2fs2 1.47.0-2
1.128.1 Available under license
1.129 libss 1.47.0-2
1.129.1 Available under license
1.130 libcom-err 1.47.0-2
1.130.1 Available under license
1.131 apt 2.6.1

1.131.1 Available under license

1.132 openblas 0.3.21+ds-4

1.132.1 Available under license

1.133 libfido2 1.12.0-2+b1

1.133.1 Available under license

1.134 libcbor 0.8.0-2+b1

1.134.1 Available under license

1.135 protobuf 3.21.12-3

1.135.1 Available under license

1.136 utf8proc 2.8.0-1

1.136.1 Available under license

1.137 blas 0.3.21+ds-4

1.137.1 Available under license

1.138 mpclib 1.3.1-1

1.138.1 Available under license

1.139 apr-util 1.6.3-1

1.139.1 Available under license

1.140 mpfr 4.2.0-1

1.140.1 Available under license

1.141 lapack 3.11.0-2

1.141.1 Available under license

1.142 libedit 3.1-20221030-2

1.142.1 Available under license

1.143 serf 1.3.9-11

1.143.1 Available under license

1.144 cpp 12.2.0-14

1.144.1 Available under license

1.145 procps 4.0.2-3

1.145.1 Available under license

1.146 init-system-helpers 1.65.2

1.146.1 Available under license

1.147 libcbor0.8 0.8.0-2+b1

1.147.1 Available under license

1.148 libutf8proc2 2.8.0-1

1.148.1 Available under license

1.149 libproc2-0 4.0.2-3

1.149.1 Available under license

1.150 libmpfr6 4.2.0-1

1.150.1 Available under license

1.151 pkg-config 1.8.1-1

1.151.1 Available under license

1.152 pkgconf-bin 1.8.1-1

1.152.1 Available under license

1.153 zlib1g-dev 1.2.13.dfsg-1

1.153.1 Available under license

1.154 libjansson4 2.14-2

1.154.1 Available under license

1.155 rust-sequoia-sq 0.27.0-2+b1

1.155.1 Available under license

1.156 sq 0.27.0-2+b1

1.156.1 Available under license

1.157 libgprofng0 2.40-2

1.157.1 Available under license

1.158 libserf-1-1 1.3.9-11

1.158.1 Available under license

1.159 mercurial 6.3.2

1.159.1 Available under license

1.160 libapr-util1 1.6.3-1

1.160.1 Available under license

1.161 libpkgconf3 1.8.1-1

1.161.1 Available under license

1.162 libfido2-1 1.12.0-2+b1

1.162.1 Available under license

1.163 python 3.11.2-1

1.163.1 Available under license

1.164 liberror-perl 0.17029-2

1.164.1 Available under license

1.165 pkgconf 1.8.1-1

1.165.1 Available under license

1.166 cpp 1.203

1.166.1 Available under license

1.167 liblapack 3.11.0-2

1.167.1 Available under license

1.168 libblas 3.11.0-2

1.168.1 Available under license

1.169 bc 1.07.1-3+b1

1.169.1 Available under license

1.170 zlib 1.2.13

1.170.1 Available under license

1.171 sqlite 3.43.0

1.171.1 Available under license

1.172 brotli 1.0.9-2+b6

1.172.1 Available under license

1.173 libpammodulesbin 1.5.2-6+deb12u1

1.173.1 Available under license

1.174 pam 1.5.2-6+deb12u1

1.174.1 Available under license

1.175 debianutils 5.7-0.5~deb12u1

1.175.1 Available under license

1.176 libpamg 1.5.2-6+deb12u1

1.176.1 Available under license

1.177 libpng 1.6.35

1.177.1 Available under license

1.178 libpng 1.6.39

1.178.1 Available under license

1.179 ncurses 6.4-4

1.179.1 Available under license

1.180 python 3.11.2-1+b1

1.180.1 Available under license

1.181 llvm 18.0.0

1.181.1 Available under license

1.182 zlib1g 1.2.13.dfsg-1

1.182.1 Available under license

1.183 libcrypt 4.4.33-2

1.183.1 Available under license

1.184 libaudit 3.0.9-1

1.184.1 Available under license

1.185 readline 8.2

1.185.1 Available under license

1.186 zlib 1.2.0.4

1.186.1 Available under license

1.187 isl 0.25-1.1

1.187.1 Available under license

1.188 usr-is-merged 37~deb12u1

1.188.1 Available under license

1.189 tar 1.34+dfsg-1.2+deb12u1

1.189.1 Available under license

1.190 usrmerge 37~deb12u1
1.190.1 Available under license
1.191 libopenblas0 0.3.21+ds-4
1.191.1 Available under license
1.192 libopenblas-dev 0.3.21+ds-4
1.192.1 Available under license
1.193 libopenblas-pthread-dev 0.3.21+ds-4
1.193.1 Available under license
1.194 libopenblas0-pthread 0.3.21+ds-4
1.194.1 Available under license
1.195 sirupsen-logrus 1.9.3
1.195.1 Available under license
1.196 gnupg-l10n 2.2.40-1.1
1.196.1 Available under license
1.197 gpg-agent 2.2.40-1.1
1.197.1 Available under license
1.198 pinentry-curses 1.2.1-1
1.198.1 Available under license
1.199 gnupg-utils 2.2.40-1.1
1.199.1 Available under license
1.200 libffi8 3.4.4-1
1.200.1 Available under license
1.201 libksba8 1.6.3-2
1.201.1 Available under license
1.202 zlib 1.2.12
1.202.1 Available under license
1.203 libblis-dev 0.9.0-1
1.203.1 Available under license
1.204 blis 0.9.0-1
1.204.1 Available under license
1.205 blis 0.9.0-1~exp1
1.205.1 Available under license
1.206 blis-framework 0.9.0-1~exp1
1.206.1 Available under license
1.207 liblapack-dev 3.11.0-2
1.207.1 Available under license
1.208 libblas-dev 3.11.0-2
1.208.1 Available under license
1.209 cmake 3.24

1.209.1 Available under license
1.210 libblis4-openmp 0.9.0-1
1.210.1 Available under license
1.211 libblis4 0.9.0-1
1.211.1 Available under license
1.212 libblis-openmp-dev 0.9.0-1
1.212.1 Available under license
1.213 zstd 2.15.0
1.213.1 Available under license
1.214 protobuf-compiler 3.21.12-3
1.214.1 Available under license
1.215 libprotoc32 3.21.12-3
1.215.1 Available under license
1.216 libprotobuf-lite32 3.21.12-3
1.216.1 Available under license
1.217 libprotobuf32 3.21.12-3
1.217.1 Available under license
1.218 libprotobuf-dev 3.21.12-3
1.218.1 Available under license
1.219 libseccomp 2.5.4-1+deb12u1
1.219.1 Available under license
1.220 cmd/preprofile (devel)
1.220.1 Available under license
1.221 expat 2.5.0-1+deb12u1
1.221.1 Available under license
1.222 sqlite 3.40.1-2+deb12u1
1.222.1 Available under license
1.223 nghttp2 1.52.0-1+deb12u2
1.223.1 Available under license
1.224 libnghttp2-14 1.52.0-1+deb12u2
1.224.1 Available under license
1.225 libapr 1.7.2-3+deb12u1
1.225.1 Notifications
1.225.2 Available under license
1.226 apr 1.7.2-3+deb12u1
1.226.1 Available under license
1.227 util-linux 2.38.1-5+deb12u3
1.227.1 Available under license
1.228 libreadline 8.2-1.3

1.228.1 Available under license

1.229 libuuid 2.38.1-5+deb12u3

1.229.1 Available under license

1.230 libmount 2.38.1-5+deb12u3

1.230.1 Available under license

1.231 util-linux-extra 2.38.1-5+deb12u3

1.231.1 Available under license

1.232 mount 2.38.1-5+deb12u3

1.232.1 Available under license

1.233 ucf 3.0043+nmu1+deb12u1

1.233.1 Available under license

1.234 git 2.39.5-0+deb12u2

1.234.1 Available under license

1.235 x-sys 0.30.0

1.235.1 Available under license

1.236 libtasn 4.19.0-2+deb12u1

1.236.1 Available under license

1.237 gnutls 3.7.9-2+deb12u4

1.237.1 Available under license

1.238 x-image 0.24.0

1.238.1 Available under license

1.239 github.com/wamuir/graft 0.10.0

1.239.1 Available under license

1.240 wamuir-graft 0.10.0

1.240.1 Available under license

1.241 github.com/tensorflow/tensorflow (devel)

1.241.1 Available under license

1.242 golang-org-x-image 0.24.0

1.242.1 Available under license

1.243 libcrypt-dev 4.4.33-2

1.243.1 Available under license

1.244 libisl23 0.25-1.1

1.244.1 Available under license

1.245 cpp 12.2.0-3

1.245.1 Available under license

1.246 libtirpc-dev 1.3.3+ds-1

1.246.1 Available under license

1.247 g++ 12.2.0-3

1.247.1 Available under license

1.248 libcbin 2.36-9+deb12u10

1.248.1 Available under license

1.249 libcurlgnutls 7.88.1-10+deb12u12

1.249.1 Available under license

1.250 libc-dev 2.36-9+deb12u10

1.250.1 Available under license

1.251 glibc 2.36-9+deb12u10

1.251.1 Available under license

1.252 libc 2.36-9+deb12u10

1.252.1 Available under license

1.253 systemd 252.36-1~deb12u1

1.253.1 Available under license

1.254 libsystemd 252.36-1~deb12u1

1.254.1 Available under license

1.255 libudev 252.36-1~deb12u1

1.255.1 Available under license

1.256 libcurl 7.88.1-10+deb12u12

1.256.1 Available under license

1.257 curl 7.88.1-10+deb12u12

1.257.1 Available under license

1.258 subversion 1.14.2-4+deb12u1

1.258.1 Available under license

1.259 wget 1.21.3-1+deb12u1

1.259.1 Available under license

1.260 protobuf-go 1.36.6

1.260.1 Available under license

1.261 mercurial-common 6.3.2-1+deb12u1

1.261.1 Available under license

1.262 mercurial 6.3.2-1+deb12u1

1.262.1 Available under license

1.263 tzdata 2025b-0+deb12u1

1.263.1 Available under license

1.264 logrus 1.9.3

1.264.1 Available under license

1.265 xz 5.4.1-1

1.265.1 Available under license

1.266 liblzma 5.4.1-1

1.266.1 Available under license

1.267 libperl5.36 5.36.0-7+deb12u2

1.267.1 Available under license
1.268 perl-base 5.36.0-7+deb12u2
1.268.1 Available under license
1.269 perl 5.36.0-7+deb12u2
1.269.1 Available under license
1.270 perl-modules-5.36 5.36.0-7+deb12u2
1.270.1 Available under license
1.271 curl 7.88.1-10
1.271.1 Available under license
1.272 tensorflow 2.15.0
1.272.1 Available under license
1.273 tensorflow-tensorflow 2.15.0
1.273.1 Available under license
1.274 boringssl 1.24.2-1
1.274.1 Available under license
1.275 protobuf 1.36.6
1.275.1 Available under license
1.276 gcc-12 12.2.0-14+deb12u1
1.276.1 Available under license
1.277 golang 1.24.3
1.277.1 Notifications
1.277.2 Available under license
1.278 stdlib go1.24.3
1.278.1 Available under license
1.279 shadow 4.13+dfsg1-1+deb12u1
1.279.1 Available under license
1.280 base-files 12.4+deb12u11
1.280.1 Available under license
1.281 debian-archive-keyring 2023.3+deb12u2
1.281.1 Available under license
1.282 libcap 2.66-4+deb12u1
1.282.1 Available under license
1.283 linux-libc-dev 6.1.137-1
1.283.1 Available under license
1.284 libgcc-12-dev 12.2.0-14+deb12u1
1.284.1 Available under license
1.285 libstdc++-12-dev 12.2.0-14+deb12u1
1.285.1 Available under license
1.286 libgcc-s1 12.2.0-14+deb12u1

1.286.1 Available under license

1.287 libstd-c 12.2.0-14+deb12u1

1.287.1 Available under license

1.288 libgomp 12.2.0-14+deb12u1

1.288.1 Available under license

1.289 libgfortran5 12.2.0-14+deb12u1

1.289.1 Available under license

1.290 cpp-12 12.2.0-14+deb12u1

1.290.1 Available under license

1.291 python3.11 3.11.2-6+deb12u6

1.291.1 Available under license

1.292 libpython3.11-stdlib 3.11.2-6+deb12u6

1.292.1 Available under license

1.293 python3.11-minimal 3.11.2-6+deb12u6

1.293.1 Available under license

1.294 libpython3.11-minimal 3.11.2-6+deb12u6

1.294.1 Available under license

1.295 libubsan1 12.2.0-14+deb12u1

1.295.1 Available under license

1.296 libasan8 12.2.0-14+deb12u1

1.296.1 Available under license

1.297 gcc-12-base 12.2.0-14+deb12u1

1.297.1 Available under license

1.298 g++-12 12.2.0-14+deb12u1

1.298.1 Available under license

1.299 libtsan2 12.2.0-14+deb12u1

1.299.1 Available under license

1.300 kerberos 1.20.1-2+deb12u3

1.300.1 Available under license

1.301 openssl 3.0.16-1~deb12u1

1.301.1 Available under license

1.302 libgssapikrb 1.20.1-2+deb12u3

1.302.1 Available under license

1.303 login 4.13+dfsg1-1+deb12u1

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1.304 libssl3 3.0.16-1~deb12u1

1.304.1 Available under license

1.305 libkrbsupport 1.20.1-2+deb12u3

1.305.1 Available under license

1.306 libkcrypto 1.20.1-2+deb12u3
1.306.1 Available under license
1.307 bash 5.2.15-2+b8
1.307.1 Available under license
1.308 libkrb 1.20.1-2+deb12u3
1.308.1 Available under license
1.309 passwd 4.13+dfsg1-1+deb12u1
1.309.1 Available under license
1.310 openssh-client 9.2p1-2+deb12u6
1.310.1 Notifications
1.310.2 Available under license
1.311 openssh 9.2p1-2+deb12u6
1.311.1 Notifications
1.311.2 Available under license
1.312 cpp 12.2.0-14+deb12u1
1.312.1 Available under license
1.313 pcre2 10.42-1
1.313.1 Available under license
1.314 pcre2 10.32
1.314.1 Available under license
1.315 python 3.11.2-6+deb12u6
1.315.1 Available under license
1.316 libatomic 12.2.0-14+deb12u1
1.316.1 Available under license

1.1 zlib 1.2.11

1.1.1 Available under license :

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.11, January 15th, 2017

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for
Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950
(zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).
*/

1.2 bzip2 1.0.8

1.3 nghttp2 1.40.0

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1.4 rtmpdump 2.4+20151223.gitfa8646d.1-2+b2

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3.1.0 / 2017-09-26
==========

* Add `DEBUG_HIDE_DATE` env var (#486)
* Remove ReDoS regexp in %o formatter (#504)
* Remove "component" from package.json
* Remove `component.json`
* Ignore package-lock.json
* Examples: fix colors printout
* Fix: browser detection
* Fix: spelling mistake (#496, @EdwardBetts)

3.0.1 / 2017-08-24
==========

* Fix: Disable colors in Edge and Internet Explorer (#489)

3.0.0 / 2017-08-08
==========

* Breaking: Remove DEBUG_FD (#406)
* Breaking: Use `Date#toISOString()` instead to `Date#toUTCString()` when output is not a TTY (#418)
* Breaking: Make millisecond timer namespace specific and allow 'always enabled' output (#408)
* Addition: document `enabled` flag (#465)
* Addition: add 256 colors mode (#481)
* Addition: `enabled()` updates existing debug instances, add `destroy()` function (#440)
* Update: component: update "ms" to v2.0.0
* Update: separate the Node and Browser tests in Travis-CI
* Update:
refactor Readme, fixed documentation, added "Namespace Colors" section, redid screenshots
* Update: separate Node.js and web browser examples for organization
* Update: update "browserify" to v14.4.0
* Fix: fix Readme typo (#473)

2.6.9 / 2017-09-22
==========

* remove ReDoS regexp in %o formatter (#504)

2.6.8 / 2017-05-18
==========

* Fix: Check for undefined on browser globals (#462, @marbemac)

2.6.7 / 2017-05-16
==========

* Fix: Update ms to 2.0.0 to fix regular expression denial of service vulnerability (#458, @hubdotcom)
* Fix: Inline extend function in node implementation (#452, @dougwilson)
* Docs: Fix typo (#455, @msasad)

2.6.5 / 2017-04-27
==========

* Fix: null reference check on window.documentElement.style.WebkitAppearance (#447, @thebigredgeek)
* Misc: clean up browser reference checks (#447, @thebigredgeek)
* Misc: add npm-debug.log to .gitignore (@thebigredgeek)

2.6.4 / 2017-04-20
==========

* Fix: bug that would occur if process.env.DEBUG is a non-string value. (#444, @LucianBuzzo)
* Chore: ignore bower.json in npm installations. (#437, @joaovieira)
* Misc: update "ms" to v0.7.3 (@tootallnate)

2.6.3 / 2017-03-13
==========

* Fix: Electron reference to `process.env.DEBUG` (#431, @paulcbetts)
* Docs: Changelog fix (@thebigredgeek)

2.6.2 / 2017-03-10
==========

* Fix: DEBUG_MAX_ARRAY_LENGTH (#420, @slavaGanzin)
* Docs: Add backers and sponsors from Open Collective (#422, @piamancini)
* Docs: Add Slackin invite badge (@tootallnate)

2.6.1 / 2017-02-10
==========

* Fix: Module's `export default` syntax fix for IE8 `Expected identifier` error
* Fix: Whitelist DEBUG_FD for values 1 and 2 only (#415, @pi0)
* Fix: IE8 "Expected identifier" error (#414, @vgoma)
* Fix: Namespaces would not disable once enabled (#409, @musikov)

2.6.0 / 2016-12-28
==========

* Fix: added better null pointer checks for browser useColors
(@thebigredgeek)
* Improvement: removed explicit `window.debug` export (#404, @tootallnate)
* Improvement: deprecated `DEBUG_FD` environment variable (#405, @tootallnate)

2.5.2 / 2016-12-25
==========

* Fix: reference error on window within webworkers (#393, @KlausTrainer)
* Docs: fixed README typo (#391, @lurch)
* Docs: added notice about v3 api discussion (@thebigredgeek)

2.5.1 / 2016-12-20
==========

* Fix: babel-core compatibility

2.5.0 / 2016-12-20
==========

* Fix: wrong reference in bower file (@thebigredgeek)
* Fix: webworker compatibility (@thebigredgeek)
* Fix: output formatting issue (#388, @kribblo)
* Fix: babel-loader compatibility (#383, @escwald)
* Misc: removed built asset from repo and publications (@thebigredgeek)
* Misc: moved source files to /src (#378, @yamikuronue)
* Test: added karma integration and replaced babel with browserify for browser tests (#378, @yamikuronue)
* Test: coveralls integration (#378,
@yamikuronue)
* Docs: simplified language in the opening paragraph (#373, @yamikuronue)

2.4.5 / 2016-12-17
==========

* Fix: `navigator` undefined in Rhino (#376, @jochenberger)
* Fix: custom log function (#379, @hsiliev)
* Improvement: bit of cleanup + linting fixes (@thebigredgeek)
* Improvement: rm non-maintainted `dist/` dir (#375, @freewil)
* Docs: simplified language in the opening paragraph. (#373, @yamikuronue)

2.4.4 / 2016-12-14
==========

* Fix: work around debug being loaded in preload scripts for electron (#368, @paulcbetts)

2.4.3 / 2016-12-14
==========

* Fix: navigation.userAgent error for react native (#364, @escwald)

2.4.2 / 2016-12-14
==========

* Fix: browser colors (#367, @tootallnate)
* Misc: travis ci integration (@thebigredgeek)
* Misc: added linting and testing boilerplate with sanity check (@thebigredgeek)

2.4.1 / 2016-12-13
==========

* Fix: typo that broke the package (#356)

2.4.0 / 2016-12-13
==========

* Fix: bower.json references unbuilt src entry point (#342, @justmatt)
* Fix: revert "handle regex special characters" (@tootallnate)
* Feature: configurable util.inspect()`options for NodeJS (#327, @tootallnate)
* Feature: %O`(big O) pretty-prints objects (#322, @tootallnate)
* Improvement: allow colors in workers (#335, @botverse)
* Improvement: use same color for same namespace. (#338, @lchenay)

2.3.3 / 2016-11-09
==========

* Fix: Catch `JSON.stringify()` errors (#195, Jovan Alleyne)
* Fix: Returning `localStorage` saved values (#331, Levi Thomason)
* Improvement: Don't create an empty object when no `process` (Nathan Rajlich)

2.3.2 / 2016-11-09
==========

* Fix: be super-safe in index.js as well (@TooTallNate)
* Fix: should check whether process exists (Tom Newby)

2.3.1 / 2016-11-09
==========

* Fix: Added electron compatibility (#324, @paulcbetts)
* Improvement: Added performance optimizations (@tootallnate)
* Readme: Corrected PowerShell environment variable example (#252, @gimre)
* Misc: Removed yarn lock file from source control (#321, @fengmk2)

2.3.0 / 2016-11-07
==========

* Fix: Consistent placement of ms diff at end of output (#215, @gorangajic)
* Fix: Escaping of regex special characters in namespace strings (#250, @zacronos)
* Fix: Fixed bug causing crash on react-native (#282, @vkarpov15)
* Feature: Enabled ES6+ compatible import via default export (#212 @bucaran)
* Feature: Added %O formatter to reflect Chrome's console.log capability (#279, @oncletom)
* Package: Update "ms" to 0.7.2 (#315, @DevSide)
* Package: removed superfluous version property from bower.json (#207 @kkirsche)
* Readme: fix USE_COLORS to DEBUG_COLORS
* Readme: Doc fixes for format string sugar (#269, @mlucool)
* Readme: Updated docs for DEBUG_FD and DEBUG_COLORS environment variables (#232, @mattlyons0)
* Readme: doc fixes for PowerShell (#271 #243, @exoticknight
@unreadable)
* Readme: better docs for browser support (#224, @matthewmueller)
* Tooling: Added yarn integration for development (#317, @thebigredgeek)
* Misc: Renamed History.md to CHANGELOG.md (@thebigredgeek)
* Misc: Added license file (#226 #274, @CantemoInternal @sdaitzman)
* Misc: Updated contributors (@thebigredgeek)

2.2.0 / 2015-05-09
==========

* package: update "ms" to v0.7.1 (#202, @dougwilson)
* README: add logging to file example (#193, @DanielOchoa)
* README: fixed a typo (#191, @amir-s)
* browser: expose `storage` (#190, @stephenmathieson)
* Makefile: add a `distclean` target (#189, @stephenmathieson)

2.1.3 / 2015-03-13
==========

* Updated stdout/stderr example (#186)
* Updated example/stdout.js to match debug current behaviour
* Renamed example/stderr.js to stdout.js
* Update Readme.md (#184)
* replace high intensity foreground color for bold (#182, #183)

2.1.2 / 2015-03-01
==========

* dist: recompile
*
update "ms" to v0.7.0
* package: update "browserify" to v9.0.3
* component: fix "ms.js" repo location
* changed bower package name
* updated documentation about using debug in a browser
* fix: security error on safari (#167, #168, @yields)

2.1.1 / 2014-12-29
==========

 * browser: use `typeof` to check for `console` existence
 * browser: check for `console.log` truthiness (fix IE 8/9)
 * browser: add support for Chrome apps
 * Readme: added Windows usage remarks
 * Add `bower.json` to properly support bower install

2.1.0 / 2014-10-15
==========

 * node: implement `DEBUG_FD` env variable support
 * package: update "browserify" to v6.1.0
 * package: add "license" field to package.json (#135, @panuhorsmalahti)

2.0.0 / 2014-09-01
==========

 * package: update "browserify" to v5.11.0
 * node: use stderr rather than stdout for logging (#29, @stephenmathieson)

1.0.4 / 2014-07-15
==========

 * dist: recompile
 * example: remove `console.info()`
 log usage
 * example: add "Content-Type" UTF-8 header to browser example
 * browser: place %c marker after the space character
 * browser: reset the "content" color via `color: inherit`
 * browser: add colors support for Firefox >= v31
 * debug: prefer an instance `log()` function over the global one (#119)
 * Readme: update documentation about styled console logs for FF v31 (#116, @wryk)

1.0.3 / 2014-07-09
==========

 * Add support for multiple wildcards in namespaces (#122, @seegno)
 * browser: fix lint

1.0.2 / 2014-06-10
==========

 * browser: update color palette (#113, @gscottolson)
 * common: make console logging function configurable (#108, @timoxley)
 * node: fix %o colors on old node <= 0.8.x
 * Makefile: find node path using shell/which (#109, @timoxley)

1.0.1 / 2014-06-06
==========

 * browser: use `removeItem()` to clear localStorage
 * browser, node: don't set DEBUG if namespaces is undefined (#107, @leedm777)
 * package:
 add "contributors" section
 * node: fix comment typo
 * README: list authors

1.0.0 / 2014-06-04
==========

 * make ms diff be global, not be scope
 * debug: ignore empty strings in enable()
 * node: make DEBUG_COLORS able to disable coloring
 * *: export the `colors` array
 * npmignore: don't publish the `dist` dir
 * Makefile: refactor to use browserify
 * package: add "browserify" as a dev dependency
 * Readme: add Web Inspector Colors section
 * node: reset terminal color for the debug content
 * node: map "%o" to `util.inspect()`
 * browser: map "%j" to `JSON.stringify()`
 * debug: add custom "formatters"
 * debug: use "ms" module for humanizing the diff
 * Readme: add "bash" syntax highlighting
 * browser: add Firebug color support
 * browser: add colors for WebKit browsers
 * node: apply log to `console`
 * rewrite: abstract common logic for Node & browsers
 * add .jshintrc file

0.8.1 / 2014-04-14
==========

 * package: re-add the
 "component" section

0.8.0 / 2014-03-30
==========

 * add `enable()` method for nodejs. Closes #27
 * change from stderr to stdout
 * remove unnecessary index.js file

0.7.4 / 2013-11-13

==========

 * remove "browserify" key from package.json (fixes something in browserify)

0.7.3 / 2013-10-30
==========

 * fix: catch localStorage security error when cookies are blocked (Chrome)
 * add debug(err) support. Closes #46
 * add .browser prop to package.json. Closes #42

0.7.2 / 2013-02-06
==========

 * fix package.json
 * fix: Mobile Safari (private mode) is broken with debug
 * fix: Use unicode to send escape character to shell instead of octal to work with strict mode javascript

0.7.1 / 2013-02-05
==========

 * add repository URL to package.json
 * add DEBUG_COLORED to force colored output
 * add browserify support
 * fix component. Closes #24

0.7.0 / 2012-05-04
==========

 * Added .component to package.json
 * Added
 debug.component.js build

0.6.0 / 2012-03-16
==========

 * Added support for "-" prefix in DEBUG [Vinay Pulim]
 * Added `.enabled` flag to the node version [TooTallNate]

0.5.0 / 2012-02-02
==========

 * Added: humanize diffs. Closes #8
 * Added `debug.disable()` to the CS variant
 * Removed padding. Closes #10
 * Fixed: persist client-side variant again. Closes #9

0.4.0 / 2012-02-01

==========

 * Added browser variant support for older browsers [TooTallNate]
 * Added `debug.enable('project:*')` to browser variant [TooTallNate]
 * Added padding to diff (moved it to the right)

0.3.0 / 2012-01-26
==========

 * Added millisecond diff when isatty, otherwise UTC string

0.2.0 / 2012-01-22
==========

 * Added wildcard support

0.1.0 / 2011-12-02
==========

 * Added: remove colors unless stderr isatty [TooTallNate]

0.0.1 / 2010-01-03
==========

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##

BezierEasing - use bezier curve for transition easing function
by Gatan Renaudeau 2014 - 2015 MIT License

Credits: is based on Firefox's nsSMILKeySpline.cpp
Usage:
var spline = BezierEasing([0.25, 0.1, 0.25, 1.0])

spline.get(x) => returns the easing value | x must be in [0, 1] range
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[This is the first released version of the library GPL. It is
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Preamble

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* SpanDSP - a series of DSP components for telephony
*
* g711.h - In line A-law and u-law conversion routines
*
* Written by Steve Underwood <steveu@coppice.org>
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*/
wcwidth.js: JavaScript Portng of Markus Kuhn's wcwidth() Implementation
==

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This package is a JavaScript porting of `wcwidth()` implementation
[by Markus Kuhn](http://www.cl.cam.ac.uk/~mgk25/ucs/wcwidth.c).

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- Strongtalk assembler, the basis of the files assembler-arm-inl.h,
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Computer graphics and geometric modeling: implementation and algorithms
By Max K. Agoston
Springer; 1 edition (January 4, 2005)
http://books.google.com/books?q=vatti+clipping+agoston

See also:
"Polygon Offsetting by Computing Winding Numbers"
Paper no. DETC2005-85513 pp. 565-575
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(For example, a function in a library to compute square roots has

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Otherwise, if the work is a derivative of the Library, you may
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machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the

source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

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

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

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

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

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

6. As an exception to the Sections above, you may also combine or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work
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modification of the work for the customer's own use and reverse
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during execution displays copyright notices, you must include the

copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

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

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

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

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

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

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

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

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#!/usr/bin/env node

/*
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*/

var checker = require('../lib/index');

var args = require('../lib/args').parse();
var mkdirp = require('mkdirp');
var path = require('path');
var chalk = require('chalk');
var fs = require('fs');

if (args.help) {
  console.error('license-checker@' + require('../package.json').version);
  var usage = [
    '',
    ' --production only show production dependencies.',
    ' --development only show development dependencies.',
    ' --unknown report guessed licenses as unknown licenses.',
    ' --start [path of the initial json to look for]',
    ' --onlyunknown only list packages with unknown or guessed licenses.',
    ' --json output in json format.',
    ' --csv output in csv format.',
    ' --csvComponentPrefix column prefix for components in csv file',

```
      '   --out [filepath] write
 the data to a specific file.',
      '   --customPath to add a custom Format file in JSON',
      '   --exclude [list] exclude modules which licenses are in the comma-separated list from the output',
      '   --relativeLicensePath output the location of the license files as relative paths',
      '   --summary output a summary of the license usage',
      '   --failOn [list] fail (exit with code 1) on the first occurrence of the licenses of the semicolon-separated list',
      '   --onlyAllow [list] fail (exit with code 1) on the first occurrence of the licenses not in the semicolon-seperated
list',
      '   --direct look for direct dependencies only',
      '   --packages [list] restrict output to the packages (package@version) in the semicolon-seperated list',
      '   --excludePackages [list] restrict output to the packages (package@version) not in the semicolon-seperated
list',
      '   --excludePrivatePackages restrict output to not include any package marked
 as private',
      '',
      '   --version The current version',
      '   --help  The text you are reading right now :)',
      ''
    ];
    console.error(usage.join('\n'), '\n');
    process.exit(0);
}

if (args.version) {
    console.error(require('../package.json').version);
    process.exit(1);
}

if (args.failOn && args.onlyAllow) {
    console.error('--failOn and --onlyAllow can not be used at the same time. Choose one or the other.');
    process.exit(1);
} else {
    var argValue = args.failOn || args.onlyAllow;
    if (argValue && argValue.indexOf(',') >= 0) {
        var argName = args.failOn ? 'failOn' : 'onlyAllow';
        console.warn('Warning: As of v17 the --' + argName + ' argument takes semicolons as delimeters instead of
commas (some license names can contain commas)');
    }
}

checker.init(args, function(err, json) {

    var formattedOutput = '';

    if (!!err) {
        console.error('Found error');
        console.error(err);
```

```
  }

  if (shouldColorizeOutput(args))
{
    var keys = Object.keys(json);
    keys.forEach(function(key) {
      var keyParts = key.split('@');
      var colorizedKey = chalk.blue(keyParts[0]) + chalk.dim('@') + chalk.green(keyParts[1]);
      json[colorizedKey] = json[key];
      delete json[key];
    });
  }

  if (args.json) {
    formattedOutput = JSON.stringify(json, null, 2) + '\n';
  } else if (args.csv) {
    formattedOutput = checker.asCSV(json, args.customFormat, args.csvComponentPrefix);
  } else if (args.markdown){
    formattedOutput = checker.asMarkDown(json, args.customFormat) + '\n';
  } else if (args.summary) {
    formattedOutput = checker.asSummary(json);
  } else {
    formattedOutput = checker.asTree(json);
  }

  if (args.files) {
    checker.asFiles(json, args.files);
  } else if (args.out) {
    var dir = path.dirname(args.out);
    mkdirp.sync(dir);
    fs.writeFileSync(args.out, formattedOutput,
'utf8');
  } else {
    console.log(formattedOutput);
  }
});

function shouldColorizeOutput(args) {
  return args.color && !args.out && !(args.csv || args.json || args.markdown);
}
```

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Each time Licensee distributes a copy of Redistributables, then one Distribution License is used, and Licensee's account of available Distribution Licenses is decreased accordingly.

Licensee may distribute copies of the Redistributables so long as Licensee has Distribution Licenses remaining on its account.

10.4. Payment
Terms
License Fees and any other charges under this Agreement shall be paid by Licensee no later than thirty (30) days from the date of the applicable invoice from The Qt Company.

The Qt Company will submit an invoice to Licensee after the date of this Agreement and/or after The Qt Company receives a Purchase Order from Licensee.

A late payment charge of the lower of (a) one percent per month; or (b) the interest rate stipulated by applicable law, shall be charged on any unpaid balances that remain past due.

10.5. Taxes
All License Fees and other charges payable hereunder are gross amounts but exclusive of any value added tax, use tax, sales tax, withholding tax and other taxes, duties or tariffs ("Taxes") levied directly for the sale, delivery or use of Licensed Software hereunder pursuant to any applicable law. Such applicable Taxes shall be paid by Licensee to The Qt Company, or, where applicable, in lieu of payment of such Taxes to The Qt Company,

Licensee shall provide an
exemption certificate to The Qt Company and any
applicable authority.

11. RECORD-KEEPING AND REPORTING OBLIGATIONS; AUDIT RIGHTS

11.1. Licensee's Record-keeping
Licensee shall at all times during the Term of this Agreement and for a period of seven (7) years thereafter maintain Licensee's Records in an accurate and up-to-date form. Licensee's Records shall be adequate to reasonably enable The Qt Company to determine Licensee's compliance with the provisions of this Agreement. The records shall conform to general good accounting practices.

Licensee shall, within thirty (30) days from receiving The Qt Company's request to that effect, deliver to The Qt Company a report based on Licensee's Records, such report to contain information, in sufficient detail, on (i) number and identity of users working with Licensed Software or Open Source Qt, (ii) copies of Redistributables distributed by Licensee during the most recent calendar quarter and/or any other term specified by The Qt Company,
(iii) number of undistributed copies of Redistributables
and corresponding number of unused Distribution Licenses remaining on Licensee's account, and (iv) any other information as The Qt Company may reasonably require from time to time.

11.2. The Qt Company's Audit Rights
The Qt Company or an independent auditor acting on behalf of The Qt Company's, may, upon at least five (5) business days' prior written notice and at its expense, audit Licensee with respect to the Licensee's use of the Licensed Software, but not more frequently than once during each 6-month period. Such audit may be conducted by mail, electronic means or through an in-person visit to Licensee's place of business. Any such in-person audit shall be conducted during regular business hours at Licensee's facilities and shall not unreasonably interfere with Licensee's usiness activities. The Qt Company or the independent auditor acting on behalf of The Qt Company shall be entitled to inspect Licensee's Records and conduct
necessary interviews of Licensee's relevant employees and
Contractors. All such Licensee's Records and use thereof shall be subject to an obligation of confidentiality under this Agreement.

If an audit reveals that Licensee is using the Licensed Software beyond scope of the licenses Licensee has paid for, Licensee agrees to pay The Qt Company any amounts owed for such unauthorized use within 30 days from receipt of the corresponding invoice from The Qt Company.

In addition, in the event the audit reveals a material violation of the

terms of this Agreement (without limitation, either (i) underpayment of more than 10 % of License Fees or 10,000 euros (whichever is more) or (ii) distribution of products, which include or result from Prohibited Combination, shall be deemed a material violation for purposes of this section), then the Licensee shall pay The Qt Company's reasonable cost of conducting such audit.

12. TERM AND TERMINATION

12.1. Agreement Term

This Agreement shall enter into force upon due acceptance by both Parties and remain in force for as long as there is any Development License(s) purchased under this Agreement in force ("Term"), unless and until terminated pursuant to the terms of this Section 12.

12.2. Termination and suspension of rights

Either Party shall have the right to terminate this Agreement upon thirty (30) days prior written notice if the other Party commits a material breach of any obligation of this Agreement and fails to remedy such breach within such notice period.

Instead of termination, The Qt Company shall have the right to suspend or withhold grants of all rights to the Licensed Software hereunder, including but not limited to the Development Licenses, Distribution License, and Support, should Licensee fail to make payment in timely fashion or otherwise violates or is reasonably suspected to violate its obligations or terms of this Agreement, and where such violation or breach is not cured within five (5) business days following The Qt Company's written notice thereof.

12.3. Mutual Right to Terminate

Either Party shall have the right to terminate this Agreement immediately upon written notice in the event that the other Party becomes insolvent, files for any form of bankruptcy, makes any assignment for the benefit of creditors, has a receiver, administrative receiver or officer appointed over the whole or a substantial part of its assets, ceases to conduct business, or an act equivalent to any of the above occurs under the laws of the jurisdiction of the other Party.

12.4. Parties' Rights and Duties upon Termination

Upon expiry or termination of the Agreement, Licensee shall cease and shall cause all Designated Users (including those of its Affiliates' and Contractors') to cease using the Licensed Software and distribution of the Redistributables under this Agreement.

Notwithstanding the above, in the event the Agreement expires or is terminated:

(i) as a result of The Qt Company choosing not to renew

the Development
License(s) as set forth in Section 3.1, then all valid licenses possessed by the Licensee at such date shall be extended to be valid in perpetuity under the terms of this Agreement and Licensee is entitled to purchase additional licenses as set forth in Section 10.2; or

(ii) for reason other than by The Qt Company pursuant to item (i) above or pursuant to Section 12.2, then the Licensee is entitled, for a period of six (6) months after the effective date of termination, to continue distribution of Devices under the Distribution Licenses paid but unused at such effective date of termination.

Upon any such termination the Licensee shall destroy or return to The Qt Company all copies of the Licensed Software and all related materials and will certify the same to The Qt Company upon its request, provided however that Licensee may retain and exploit such copies of the Licensed Software as it may
reasonably require in providing continued support to Customers.

Expiry or termination of this Agreement for any reason whatsoever shall not relieve Licensee of its obligation to pay any License Fees accrued or payable to The Qt Company prior to the effective date of termination, and Licensee shall immediately pay to The Qt Company all such fees upon the effective date of termination. Termination of this Agreement shall not affect any rights of Customers to continue use of Applications and Devices (and therein incorporated Redistributables).

12.5. Extension in case of bankruptcy
In the event The Qt Company is declared bankrupt under a final, non-cancellable decision by relevant court of law, and this Agreement is not, at the date of expiry of the Development License(s) pursuant to Section 3.1, assigned to party, who has assumed The Qt Company's position as a legitimate licensor of Licensed Software under this Agreement, then all valid licenses possessed by the Licensee at such
date of expiry, and which the Licensee has
not notified for expiry, shall be extended to be valid in perpetuity under the terms of this Agreement.

13. GOVERNING LAW AND LEGAL VENUE

In the event this Agreement is in the name of The Qt Company Inc., a Delaware Corporation, then:

(i) this Agreement shall be construed and interpreted in accordance with the laws of the State of California, USA, excluding its choice of law provisions;

(ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and

(iii) any dispute, claim or controversy arising out of or relating to this

Agreement or the breach, termination, enforcement, interpretation or validity thereof, including the determination of the scope or applicability of this Agreement to arbitrate, shall be determined by arbitration in San Francisco, USA, before one arbitrator. The arbitration shall be
administered by JAMS pursuant to JAMS'
Streamlined Arbitration Rules and Procedures. Judgment on the Award may be entered in any court having jurisdiction. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

In the event this Agreement is in the name of The Qt Company Ltd., a Finnish Company, then:

(i) this Agreement shall be construed and interpreted in accordance with the laws of Finland, excluding its choice of law provisions;

(ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and

(iii) any disputes, controversy or claim arising out of or relating to this Agreement, or the breach, termination or validity thereof shall be finally settled by arbitration in accordance with the Arbitration Rules of Finland Chamber of Commerce. The arbitration tribunal
shall
consist of one (1), or if either Party so requires, of three (3), arbitrators. The award shall be final and binding and enforceable in any court of competent jurisdiction. The arbitration shall be held in Helsinki, Finland and the process shall be conducted in the English language. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

14. GENERAL PROVISIONS

14.1. No Assignment

Except in the case of a merger or sale of substantially all of its corporate assets, Licensee shall not be entitled to assign or transfer all or any of its rights, benefits and obligations under this Agreement without the prior written consent of The Qt Company, which shall not be unreasonably withheld or delayed. The Qt Company shall be entitled to freely assign or transfer any of its rights, benefits or obligations under this Agreement.

14.2. No Third-Party
Representations

Licensee shall make no representations or warranties concerning the Licensed Software on behalf of The Qt Company. Any representation or warranty Licensee makes or purports to make on The Qt Company's behalf shall be void as to The Qt Company.

14.3. Surviving Sections

Any terms and conditions that by their nature or otherwise reasonably should survive termination of this Agreement shall so be deemed to survive. Such sections include especially the following: 1, 2, 6, 7, 9, 11, 12.4, 13 and 14.

14.4. Entire Agreement
This Agreement, the exhibits hereto, the License Certificate and any applicable Purchase Order accepted by The Qt Company constitute the complete agreement between the Parties and supersedes all prior or contemporaneous discussions, representations, and proposals, written or oral, with respect to the subject matters discussed herein.

In the event of any conflict or inconsistency between this Agreement and any Purchase Order, the terms of this Agreement
will prevail over the terms of
the Purchase Order with respect to such conflict or inconsistency.

Parties specifically acknowledge and agree that this Agreement prevails over any click-to-accept or similar agreements the Designated Users may need to accept online upon download of the Licensed Software, as may be required by The Qt Company's applicable processes relating to Licensed Software.

14.5. Modifications
No modification of this Agreement shall be effective unless contained in a writing executed by an authorized representative of each Party. No term or condition contained in Licensee's Purchase Order ("Deviating Terms") shall apply unless The Qt Company has expressly agreed such Deviating Terms in writing. Unless and to the extent expressly agreed by The Qt Company, any such Deviating Terms shall be deemed void and with no legal effect. For clarity, delivery of the Licensed Software following the receipt of the Purchase Order including Deviating Terms shall not constitute
acceptance of
such Deviating Terms."

14.6. Force Majeure
Except for the payment obligations hereunder, neither Party shall be liable to the other for any delay or non-performance of its obligations hereunder in the event and to the extent that such delay or non-performance is due to an event of act of God, terrorist attack or other similar unforeseeable catastrophic event that prevents either Party for fulfilling its obligations under this Agreement and which such Party cannot avoid or circumvent ("Force Majeure Event"). If the Force Majeure Event results in a delay or non-performance of a Party for a period of three (3) months or longer, then either Party shall have the right to terminate this Agreement with immediate effect without any liability (except for the obligations of payment arising prior to the event of Force Majeure) towards the other Party.

14.7. Notices

Any notice given by one Party to the other shall be deemed properly given and deemed received if specifically acknowledged by the receiving Party in writing or when successfully delivered to the recipient by hand, fax, or special courier during normal business hours on a business day to the addresses specified for each Party on the signature page. Each communication and document made or delivered by one Party to the other Party pursuant to this Agreement shall be in the English language.

14.8. Export Control

Licensee acknowledges that the Redistributables, as incorporated in Applications or Devices, may be subject to export control restrictions under the applicable laws of respective countries. Licensee shall fully comply with all applicable export license restrictions and requirements as well as with all laws and regulations relating to the Redistributables and exercise of licenses hereunder and shall procure all necessary governmental authorizations, including without limitation, all necessary licenses, approvals, permissions or consents, where necessary for the re-exportation of the Redistributables, Applications and/or Devices.

14.9. No Implied License

There are no implied licenses or other implied rights granted under this Agreement, and all rights, save for those expressly granted hereunder, shall remain with The Qt Company and its licensors. In addition, no licenses or immunities are granted to the combination of the Licensed Software with any other software or hardware not delivered by The Qt Company under this Agreement.

14.10. Attorney Fees

The prevailing Party in any action to enforce this Agreement shall be entitled to recover its attorney's fees and costs in connection with such action.

14.11. Privacy

Licensee acknowledges and agrees that for the purpose of this Agreement, The Qt Company may collect, use, transfer and disclose personal data pertaining to Designated Users as well as any other employees and directors of the Licensee and its Contractors relevant for carrying out the intent of this Agreement. Such personal data may be collected from the Licensee or directly from the relevant individuals. The Parties acknowledge that with regard to such personal data processed hereunder, The Qt Company shall be regarded as the Data Controller under the applicable Data Protection Legislation. The Qt Company shall process any such personal data in accordance with its privacy policies and practices, which will comply with all applicable requirements of the Data Protection Legislation.

14.12. Severability
If any provision of this Agreement shall be adjudged by any court of competent jurisdiction to be unenforceable or invalid, that provision shall be limited or eliminated to the minimum extent necessary so that this Agreement shall otherwise remain in full force and effect and enforceable.

APPENDICES

The Agreement includes Appendix 1, and possibly one or more of the appendices 3-5, depending on the product(s) purchased by the Licensee, what is stated in the quote or invoice, and/or what is stated in the Licensee's License Certificate.

APPENDIX 1

The
 modules and/or tools that are included in the respective product - Qt for Application Development (QtAD), Qt for Device Creation (QtDC), Qt for MCUs (QtMCU), Qt 3D Studio (Qt3DS) and Qt Design Studio (QtDS) - are marked with 'X' in the below table.

Parts of the product that are permitted for distribution in object-code form only ("Redistributables") are marked with 'R' in the below table.

Modules / Tools	QtAD	QtDC	QtMCU	Qt3DS	QtDS
Qt Core	X, R	X, R			
Qt GUI	X, R	X, R			
Qt Multimedia	X, R	X, R			
Qt Multimedia Widgets	X, R	X, R			
Qt Network	X, R	X, R			
Qt QML	X, R	X, R			
Qt Quick	X, R	X, R			
Qt Quick Controls 2	X, R	X, R			
Qt Quick Dialogs	X, R	X, R			
Qt Quick Layouts	X, R	X, R			

| | | | |
+---+
| Qt Quick Test | X, R | X, R | | | |
+---+
| Qt SQL | X, R | X, R | | | |
+---+
| Qt Test | X, R | X, R | | | |
+---+
| Qt Widgets | X, R | X, R | | | |
+---+
| Active Qt | X, R | X, R | | | |
+---+
| Qt 3D | X, R | X, R | | | |
+---+
| Qt Android
Extras | X, R | X, R | | | |
+---+
| Qt Bluetooth | X, R | X, R | | | |
+---+
| Qt Canvas 3D | X, R | X, R | | | |
+---+
| Qt Concurrent | X, R | X, R | | | |
+---+
| Qt D-Bus | X, R | X, R | | | |
+---+
| Qt Gamepad | X, R | X, R | | | |
+---+
| Qt Graphical Effects | X, R | X, R | | | |
+---+
|
Qt Help | X, R | X, R | | | |
+---+
| Qt Image Formats | X, R | X, R | | | |
+---+
| Qt Location | X, R | X, R | | | |
+---+
| Qt Mac Extras | X, R | X, R | | | |
+---+
| Qt Network Authorization | X, R | X, R | | | |
+---+
| Qt NFC | X, R | X, R | | | |
+---+
| Qt Platform Headers | X, R | X, R | | | |
+---+
|
Qt Positioning | X, R | X, R | | | |
+---+
| Qt Print Support | X, R | X, R | | | |

Qt Purchasing	X, R	X, R			
Qt for Python	X, R	X, R			
Qt Quick Controls	X, R	X, R			
Qt Quick Extras	X, R	X, R			
Qt Quick Widgets	X, R	X, R			
Qt SCXML	X, R	X, R			
Qt Sensors	X, R	X, R			
Qt Serial Bus	X, R	X, R			
Qt Serial Port	X, R	X, R			
Qt Speech	X, R	X, R			
Qt SVG	X, R	X, R			
Qt UI Tools	X, R	X, R			
Qt WebChannel	X, R	X, R			
Qt WebEngine	X, R	X, R			
Qt WebSockets	X, R	X, R			
Qt WebView	X, R	X, R			
Qt Windows Extras	X, R	X, R			
Qt X11 Extras	X, R	X, R			
Qt XML	X, R	X, R			
Qt XML Patterns	X, R	X, R			
Qt Wayland Compositor	X, R	X, R			
Qt Charts	X, R	X, R			

| Qt Data visualization | X, R | X, R | | | |
+---+---+---+---+---+---+
| Qt Virtual Keyboard | X, R | X, R | | | |
+---+---+---+---+---+---+
| Boot 2 Qt stack | | X, R | | | |
+---+---+---+---+---+---+
|
Qt OTA | | X, R | | | |
+---+---+---+---+---+---+
| Device Utilities | | X, R | | | |
+---+---+---+---+---+---+
| Qt Debugging Bridge (QDB) Daemon | | X, R | | | |
+---+---+---+---+---+---+
| Qt Quick Ultralite Controls | | | X, R | | |
+---+---+---+---+---+---+
| Qt Quick Ultralite | | | X, R | | |
+---+---+---+---+---+---+
| Qt Creator | X | X | X | | |
+---+---+---+---+---+---+
| Qt Designer (Qt Widget Designer) | X | X |
| | |
+---+---+---+---+---+---+
| Qt Quick Designer (Qt Creator | X | X | X | | |
| plugin) | | | | | |
+---+---+---+---+---+---+
| Qt Linguist | X | X | X | | |
+---+---+---+---+---+---+
| Qt Assistant | X | X | X | | |
+---+---+---+---+---+---+
| Lupdate | X | X | X | | |
+---+---+---+---+---+---+
| Lrelease | X | X | X | | |
+---+---+---+---+---+---+
| Qmake | X | X | | | |
+---+---+---+---+---+---+
|
Uic | X | X | | | |
+---+---+---+---+---+---+
| Rcc | X | X | | | |
+---+---+---+---+---+---+
| Qlalr | X | X | | | |
+---+---+---+---+---+---+
| Qdoc | X | X | | | |
+---+---+---+---+---+---+
| Qmlscene | X | X | | | |
+---+---+---+---+---+---+
| Qmlviewer | X | X | | | |
+---+---+---+---+---+---+

| Target toolchains | | X | X |
| | |
+---+
| Qt Debugging Bridge (QDB) Host | | X | | | |
| Tools | | | | | |
+---+
| qtconfig-gui | | X | | | |
+---+
| Qt Emulator | | X | | | |
+---+
| Qmlinterfacegenerator | | | X | | |
+---+
| Qmltocpp | | | X | | |
+---+
| qulfontcompiler | | | X | | |
+---+
|
Qt53DStudioRuntime2 | | | | X, R | |
+---+
| Qt 3D Studio | | | | X | |
+---+
| Qt Design Studio | | | | | X |
+---+

APPENDIX 3: ADDITIONS TO LICENSED SOFTWARE

In addition to what is provided under the definition of the Licensed Software, Parties agree that Licensed Software shall also include the Add-On Products of The Qt Company, as mentioned in this Appendix, if included in the quote / invoice.

The Modules and/or Tools of the Licensed Software that are included with each Add-On Product respectively are marked with 'X' in the below table.

Parts of the respective Add-On Product that are permitted for distribution
in
object-code form only ("Redistributables") are marked with 'R' in the below table.

+---+
| | Add-On Product(s) |
| +---+
Modules / Tools of	Qt for	Qt	Qt	Qt	Qt	Qt
Licensed Software	Automation	Automotive	Safe	Application	GammaRay	Deployment
	/ Qt M2M	Suite	Renderer	Manager		Platform
	Protocols					Package
+---+

| Qt MQTT | X, R | | | | | |
+---+
|
| Qt KNX | X, R | | | | | |
+---+
| Qt OPC UA | X, R | | | | | |
+---+
| Qt CoAP | X, R | | | | | |
+---+
| Qt Safe Renderer | | X, R | X, R | | | |
+---+
| Qt Application | | X, R | | X, R | | |
| Manager |
| | | | | | |
+---+
| Qt IVI | | X, R | | | | |
+---+
| Reference UI | | X, R | | | | |
+---+
| Qt GENIVI Extras | | X, R | | | | |
+---+
| QML Live | | X | | | | |
+---+
| Qt Creator | |
X | | | | | |
| Deployment | | | | | | | |
+---+
| Qt Creator Plugin | | X | | X | | |
| for Qt Application Manager | | | | | | |
+---+
| Qt Automotive Suite | | X | | | | |
| Deployment Server | | | | | | | |
+---+
| Qt Design Studio | | X | | | | |
+---+
|
| Qt 3D Studio | | X | | | | |
+---+
| GammaRay | | X | | | X | |
+---+
Platform adaptations						X
for specified						
Deployment Platforms						
+---+
Qt for Device		X				
Creation		
+---+

All the above Redistributables are subject to applicable provisions and limitations including but not limited to what is defined in section 3 of the Agreement.

APPENDIX 4: SMALL BUSINESS AND STARTUP

The provisions of this Appendix 4 are applicable for companies with an annual revenue, including funding, equivalent to maximum of 250,000 USD (in applicable currency) during the latest full calendar year, as evidenced by duly audited records of the Licensee and approved by The Qt Company ("Start-up Company").

Start-up Companies are qualified for a discounted License Fee for maximum of four (4) Development Licenses ("Start-up Development License") unless otherwise agreed between the parties.

Start-up Development License entitles the respective Designated User for Support only for installation related issues.

Upon expiry of the respective License
Term, the Start-up Development
Licenses shall be automatically extended, pursuant to Section 3.1 of the Agreement, for a Renewal Term either as new Start-up Development Licenses (if the Licensee still qualifies as a Start-up Company), or as normal Development Licenses (if the Licensee no longer qualifies as a Start-up ompany).

APPENDIX 5: NON-COMMERCIAL USE
The provisions of this Appendix 5 are applicable for non-commercial use of the Licensed Software by the Licensee.

For the purpose of this Appendix 5, the following additional definitions (replacing the relevant definition of the Agreement, where applicable) shall be applicable:

"Demo Units" shall mean (i) hardware development platform, which incorporates the Licensed Software along with Licensee's software and/or hardware, and (ii) prototype versions of Applications or Devices.

"Designated User(s)" shall mean the employees and students of the Licensee.

"Licensee Products" shall mean Applications and/or Devices.

"Permitted Purpose"
shall mean (i) Licensee's internal evaluation and
testing of Licensed Software, (ii) building Demo Units as well as (iii)

educational use.

"Term" shall mean a period of twelve (12) months or any such other period as may be agreed between the Parties.

For the purpose of this Appendix 5, the following changes shall be agreed with respect to relevant Sections of the Agreement:

I. Recital (A) shall be replaced in its entirety to read as follows:
"(A) Licensee wishes to use the Licensed Software for the Permitted Purpose."

II. Section 3.1 shall be replaced in its entirety to read as follows:
"The Qt Company grants to Licensee a personal, non-exclusive, non-transferable, revocable, royalty-free license, valid for the Term, to use, modify and copy the Licensed Software solely for the Permitted Purpose.
Licensee may install copies of the Licensed Software on five (5) computers per Designated User, provided that only
the Designated
Users who have a valid Development License may use the Licensed Software.
Licensee may demonstrate the Demo Units, provided that such demonstrations must be conducted by Licensee, and the Demo Units must remain in Licensee's possession and under Licensee's control at all times.
For clarity, this Agreement does not (i) entitle Licensee to use Licensed Software to create Applications or Devices (other than prototypes thereof) or (ii) carry any distribution rights to Licensee, but such rights are subject to and conditional upon conclusion of a separate license agreement with The Qt Company."

III. Sections 3.2, 3.3, 8 and 10 shall be deleted.

IV. Section 3.4 shall be replaced in its entirety to read as follows:
"Licensee shall not:
- remove or alter any copyright, trademark or other proprietary rights notice contained in any portion of the Licensed Software;
- transfer, publish, sublicense, disclose, display or otherwise make the Licensed Software available to any third party (except that Licensee may demonstrate the Demo Units pursuant to Section 3.1);
- in any way combine, incorporate or integrate Licensed Software with, or use Licensed Software for creation of, any software created with or incorporating Open Source Qt;

Licensee shall cause all Designated Users who make use of the licenses granted under this Agreement, to be contractually bound to comply with the relevant terms of this Agreement and not to use the Licensed Software beyond the terms hereof. Licensee shall be responsible for any and all actions and omissions of its

Designated Users relating to the Licensed Software and use thereof.

Any use of Licensed Software beyond the provisions of this Agreement is strictly prohibited and requires an additional license from The Qt Company."

V. Section 12 shall be replaced in its entirety to read as follows: "This Agreement shall enter into force upon due acceptance by both Parties and remain in force for the Term, unless and until terminated pursuant to the terms of Section 12.

Upon termination of the Agreement, Licensee shall cease using the Licensed Software. All other copies of Licensed Software in the possession or control of Licensee must be erased or destroyed. An officer of Licensee must, upon request, promptly deliver to The Qt Company a written confirmation that this has occurred."

Except for the modifications specified above, this Appendix carries no change to the terms of the Agreement which shall remain in full force.
Copyright (c) 2013 Julien Pommier (pommier@modartt.com)

Based on original fortran 77 code from FFTPACKv4 from NETLIB, authored by Dr Paul Swarztrauber of NCAR, in 1985.

As confirmed by the NCAR fftpack software curators, the following FFTPACKv5 license applies to FFTPACKv4 sources. My changes are released under the same terms.

FFTPACK license:

http://www.cisl.ucar.edu/css/software/fftpack5/ftpk.html

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curl

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dynamic_annotations

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eigen3
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Following
applies to:
./test/mapstaticmethods.cpp
./test/schur_real.cpp
./test/prec_inverse_4x4.cpp
./test/smallvectors.cpp
./test/redux.cpp
./test/special_numbers.cpp
./test/adjoint.cpp
./test/resize.cpp
./test/mixingtypes.cpp
./test/product_trmv.cpp
./test/sparse_solvers.cpp
./test/cholesky.cpp
./test/geo_quaternion.cpp
./test/miscmatrices.cpp
./test/stddeque.cpp
./test/integer_types.cpp
./test/product_large.cpp
./test/eigensolver_generic.cpp
./test/householder.cpp
./test/geo_orthomethods.cpp
./test/array_for_matrix.cpp
./test/sparseLM.cpp
./test/upperbidiagonalization.cpp
./test/nomalloc.cpp
./test/packetmath.cpp
./test/jacobisvd.cpp
./test/geo_transformations.cpp
./test/swap.cpp
./test/eigensolver_selfadjoint.cpp
./test/inverse.cpp
./test/product_selfadjoint.cpp
./test/product_trsolve.cpp
./test/product_extra.cpp
./test/sparse_solver.h
./test/mapstride.cpp
./test/mapped_matrix.cpp
./test/geo_eulerangles.cpp
./test/eigen2support.cpp
./test/denseLM.cpp
./test/stdvector.cpp
./test/nesting_ops.cpp
./test/sparse_permutations.cpp
./test/zerosized.cpp
./test/exceptions.cpp
./test/vectorwiseop.cpp

./test/cwiseop.cpp
./test/basicstuff.cpp
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./test/umfpack_support.cpp

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./test/qr_fullpivoting.cpp
./test/array_replicate.cpp
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./Eigen/src/Core/CwiseNullaryOp.h
./Eigen/src/Core/Block.h
./Eigen/src/Core/GeneralProduct.h
./Eigen/src/Core/CommaInitializer.h
./Eigen/src/Core/ReturnByValue.h
./Eigen/src/Core/Stride.h
./Eigen/src/SPQRSupport/SuiteSparseQRSupport.h
./Eigen/src/SparseLU/SparseLU_column_dfs.h
./Eigen/src/SparseLU/SparseLU_panel_dfs.h
./Eigen/src/SparseLU/SparseLU_relax_snode.h
./Eigen/src/SparseLU/SparseLU_panel_bmod.h
./Eigen/src/SparseLU/SparseLU_SupernodalMatrix.h
./Eigen/src/SparseLU/SparseLU_Utils.h
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./Eigen/src/SparseLU/SparseLU_copy_to_ucol.h
./Eigen/src/SparseLU/SparseLU_Structs.h
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./Eigen/Core
./Eigen/SparseLU
./Eigen/StdList
./Eigen/StdDeque
./Eigen/SparseCholesky
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./scripts/relicense.py
./blas/BandTriangularSolver.h
./blas/PackedTriangularMatrixVector.h
./blas/complex_double.cpp
./blas/level2_real_impl.h

./blas/level1_cplx_impl.h
./blas/level1_impl.h
./blas/level1_real_impl.h
./blas/level3_impl.h
./blas/single.cpp
./blas/level2_cplx_impl.h
./blas/PackedSelfadjointProduct.h
./blas/Rank2Update.h
./blas/complex_single.cpp
./blas/PackedTriangularSolverVector.h
./blas/double.cpp
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./blas/level2_impl.h
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Component	Location	Primary Author	License
Main Mesa code	src/mesa/	Brian Paul	Mesa (MIT)
Device drivers	src/mesa/drivers/*	See drivers	See drivers
Ext headers	include/GL/glext.h include/GL/glxext.h	SGI	SGI Free B
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gradle
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javascript/tracing_framework

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java_src/android_libs/exoplayer

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Support Term shall be automatically extended to one or more Support Renewal Term(s), unless and until either Party notifies the other Party in writing that it does not wish to continue the Support, such notification to be provided to the other Party no less than ninety (90) days before expiry of the Initial Support Term or respective Support Renewal Term. During any such Support Renewal Term Support shall be available subject to prices and terms agreed between the Parties or, if no advance agreement exists, subject to The Qt Company's standard pricing applicable at the commencement date of any such Support Renewal Term. From time to time The Qt Company may change Support provided within each Support plan; provided that during the respective Initial Support Term or Support Renewal Term (as the case may be), the level of Support provided by The Qt Company may not be reduced without the consent of the Licensee.

Unless otherwise agreed, The Qt Company shall not be responsible for
providing
any service or support to the Customers.

9. CONFIDENTIALITY

Each Party acknowledges that during the Term of this Agreement each Party may

receive information about the other Party's business, business methods, business plans, customers, business relations, technology, and other information, including the terms of this Agreement, that is confidential and of great value to the other Party, and the value of which would be significantly reduced if disclosed to third parties ("Confidential Information"). Accordingly, when a Party (the "Receiving Party") receives Confidential Information from the other Party (the "Disclosing Party"), the Receiving Party shall only disclose such information to employees and Contractors on a need to know basis, and shall cause its employees and employees of its Affiliates to: (i) maintain any and all Confidential Information in confidence; (ii) not disclose the Confidential Information to a third party without the Disclosing Party's prior written approval;
and (iii) not, directly or indirectly, use the Confidential
Information for any purpose other than for exercising its rights and fulfilling its responsibilities pursuant to this Agreement. Each Party shall take reasonable measures to protect the Confidential Information of the other Party, which measures shall not be less than the measures taken by such Party to protect its own confidential and proprietary information.

Obligation of confidentiality shall not apply to information that (i) is or becomes generally known to the public through no act or omission of the Receiving Party; (ii) was in the Receiving Party's lawful possession prior to the disclosure hereunder and was not subject to limitations on disclosure or use; (iii) is developed independently by employees or Contractors of the Receiving Party or other persons working for the Receiving Party who have not had access to the Confidential Information of the Disclosing Party, as proven by the written records of the Receiving
Party; (iv) is lawfully disclosed to the
Receiving Party without restrictions, by a third party not under an obligation of confidentiality; or (v) the Receiving Party is legally compelled to disclose, in which case the Receiving Party shall notify the Disclosing Party of such compelled disclosure and assert the privileged and confidential nature of the information and cooperate fully with the Disclosing Party to limit the scope of disclosure and the dissemination of disclosed Confidential Information to the minimum extent necessary.

The obligations under this Section 9 shall continue to remain in force for a period of five (5) years after the last disclosure, and, with respect to trade secrets, for so long as such trade secrets are protected under applicable trade secret laws.

10. FEES, DELIVERY AND PAYMENT

10.1 License Fees

License Fees are described in The Qt Company's standard price list, quote or Purchase Order confirmation or in an appendix hereto, as the case may be. The License

Fees shall not be refunded or claimed as a credit, even on the ground that Distribution Licenses are not used, i.e. Redistributables are not actually distributed corresponding to the Distribution Licenses purchased, or for any other reason.

10.2 Ordering Licenses

Licensee may purchase Development Licenses and Distribution Licenses pursuant to agreed pricing terms or, if no specific pricing terms have been agreed upon, at The Qt Company's standard pricing terms applicable at the time of purchase.

Licensee shall submit all purchase orders for Development Licenses and Distribution Licenses to The Qt Company by email or any other method acceptable to The Qt Company (each such order is referred to herein as a "Purchase Order") for confirmation, whereupon the Purchase Order shall become binding between the Parties.

10.3 Distribution

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Distribution License.

10.4 Payment Terms
License Fees and any other charges under this Agreement shall be paid by Licensee no later than thirty (30) days from the date of the applicable invoice from The Qt Company.

The Qt Company will submit an invoice to Licensee after the date of this Agreement and/or after The Qt Company receives a Purchase Order from Licensee. A late payment charge of the lower of (a) one percent per month; or (b) the interest rate stipulated by applicable law, shall be charged on any unpaid balances that remain past
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All License Fees and other charges payable hereunder are gross amounts but exclusive of any value added tax, use tax, sales tax and other taxes, duties or tariffs ("Taxes"). Such applicable Taxes shall be paid by Licensee, or, where applicable, in lieu of payment of such Taxes, Licensee shall provide an exemption certificate to The Qt Company and any applicable authority.

11 RECORD-KEEPING AND REPORTING OBLIGATIONS; AUDIT RIGHTS

11.1 Licensee's Record-keeping

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with the provisions of this Agreement and to demonstrate the number of Designated Users and Redistributables distributed by Licensee. The records shall conform to good accounting practices reasonably acceptable to The Qt Company.

Licensee shall, within thirty (30) days from the end of each calendar quarter, deliver to The Qt Company a report detailing the number of Designated Users and copies of Redistributables distributed by Licensee during that calendar quarter, and also detailing the number of undistributed copies of Redistributables made by Licensee and remaining in its account (i.e., undistributed copies for which Distribution Licenses have been or need to be obtained from The Qt Company). Such report shall contain such other information as The Qt Company shall reasonably require from time to time.

11.2. The Qt Company's Audit Rights

The Qt Company or an independent auditor acting on behalf of The Qt Company's, may, upon at least five (5) business days' prior written notice and at its expense, audit Licensee with respect to the use of the Redistributables, but not more frequently than once during each 6-month period. Such audit may be conducted by mail, electronic means or through an in-person visit to Licensee's place of business. Any such in-person audit shall be conducted during regular business hours at Licensee's facilities and shall not unreasonably interfere with Licensee's business activities. The Qt Company or the independent auditor acting on behalf of The Qt Company shall be entitled to inspect Licensee's Records. All such Licensee's Records and use thereof shall be subject to an obligation of confidentiality under this Agreement.

If an audit reveals that Licensee is using the Licensed Software beyond scope of the licenses Licensee has paid for, Licensee agrees to immediately pay The Qt Company any amounts owed for such unauthorized use.

In addition, in the event the audit reveals a material violation of the terms of this Agreement (underpayment of more than 5% of License Fees shall always be deemed a material violation for purposes of this section), then the Licensee shall pay The Qt Company's reasonable cost of conducting such audit.

12 TERM AND TERMINATION

12.1 Term

This Agreement shall enter into force upon due acceptance by both Parties and remain in force for the Term, unless and until terminated pursuant to the terms of this Section 12.

12.2 Termination by The Qt Company

The Qt Company shall have the right to terminate this Agreement upon thirty (30) days prior written notice if (i) the Licensee is in material breach of any obligation of this Agreement and fails to remedy such breach within such notice period; (ii) or Licensee or any of its Affiliates bring a suit before any court or administrative agency or otherwise assert a claim against The Qt Company's or any of its Affiliates' Intellectual Property Rights or validity thereof.

12.3 Mutual Right to Terminate

Either Party shall have the right to terminate this Agreement immediately upon written notice in the event that the other Party becomes insolvent, files for any form of bankruptcy, makes any assignment for the benefit of creditors, has a

receiver, administrative receiver or officer appointed over the whole or a substantial part of its assets, ceases to conduct business, or an act equivalent to any of the above occurs under the laws of the jurisdiction of the other Party.

12.4 Parties Rights and Duties upon Termination

Upon expiry or termination of the Agreement for any reason, Licensee shall, within 30 days after such termination, cease and shall cause all Designated Users (including those of its Affiliates' and Contractors') and Licensee's SDK Contractors to cease using the Licensed Software and distribution of the Redistributables under this Agreement. Notwithstanding the above, in the event the Agreement expires or is terminated for reason other than by The Qt Company pursuant to Section 12.2, the Licensee is entitled, for a period of six (6) months after the effective date of termination, to continue distribution of Devices under the Distribution Licenses paid but unused at such effective date of termination.

Upon any such termination the Licensee shall destroy or return to The Qt Company all copies of the Licensed Software and all related materials and will certify the same to The Qt Company upon its request, provided however that Licensee may retain and exploit such copies of the Licensed Software as it may reasonably require in providing continued support to Customers.

Expiry or termination of this Agreement for any reason whatsoever shall not relieve Licensee of its obligation to pay any License Fees accrued or payable to The Qt Company prior to the effective date of termination, and Licensee shall immediately pay to The Qt Company all such fees upon the effective date of termination. Termination of this Agreement shall not affect any rights of Customers to continue use of Applications and Devices (and therein incorporated Redistributables).

13.GOVERNING LAW AND LEGAL VENUE

In the event this Agreement is in the name of The Qt Company Inc., a Delaware Corporation, then:

(i) this Agreement shall be construed and interpreted in accordance with the laws of the State of California, USA, excluding its choice of law provisions;

(ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and

(iii) any dispute, claim or controversy arising out of or relating to this Agreement or the breach, termination, enforcement, interpretation or validity thereof, including the determination of the scope or applicability of this

Agreement to arbitrate, shall be determined by arbitration in San Francisco, USA, before one arbitrator. The arbitration shall be administered by JAMS pursuant to JAMS' Streamlined Arbitration Rules and Procedures. Judgment on the Award may be entered in any court having jurisdiction. This Section shall not preclude
parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

In the event this Agreement is in the name of The Qt Company Ltd., a Finnish Company, then:

(i) this Agreement shall be construed and interpreted in accordance with the laws of Finland, excluding its choice of law provisions;

(ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and

(iii) any disputes, controversy or claim arising out of or relating to this Agreement, or the breach, termination or validity thereof shall be shall be finally settled by arbitration in accordance with the Arbitration Rules of Finland Chamber of Commerce. The arbitration tribunal shall consist of one (1), or if either Party so requires, of three (3), arbitrators. The award shall be final and binding and enforceable in any court of competent jurisdiction. The arbitration shall be held in Helsinki, Finland and the process shall be conducted
in the English language. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

14. GENERAL PROVISIONS

14.1 No Assignment Licensee

shall not be entitled to assign or transfer all or any of its rights, benefits and obligations under this Agreement without the prior written consent of The Qt Company, which shall not be unreasonably withheld or delayed. The Qt Company shall be entitled to freely assign or transfer any of its rights, benefits or obligations under this Agreement.

14.2 No Third Party Representations

Licensee shall make no representations or warranties concerning the Licensed Software on behalf of The Qt Company. Any representation or warranty Licensee makes or purports to make on The Qt Company's behalf shall be void as to The Qt Company.

14.3 Surviving Sections

Any terms and conditions that by their nature or otherwise reasonably should survive termination of this Agreement shall so
be deemed to survive.

14.4 Entire Agreement

This Agreement, the exhibits hereto, the License Certificate and any applicable Purchase Order constitute the complete agreement between the Parties and supersedes all prior or contemporaneous discussions, representations, and proposals, written or oral, with respect to the subject matters discussed herein. In the event of any conflict or inconsistency between this Agreement and any Purchase Order, the terms of this Agreement will prevail over the terms of the Purchase Order with respect to such conflict or inconsistency.

14.5 Modifications

No modification of this Agreement shall be effective unless contained in a writing executed by an authorized representative of each Party. No term or condition contained in Licensee's Purchase Order shall apply unless expressly accepted by The Qt Company in writing.

14.6 Force Majeure

Except for the payment obligations hereunder, neither Party shall be liable to the other for any delay or non-performance
of its obligations hereunder in the
event and to the extent that such delay or non- performance is due to an event of act of God, terrorist attack or other similar unforeseeable catastrophic event that prevents either Party for fulfilling its obligations under this Agreement and which such Party cannot avoid or circumvent ("Force Majeure Event"). If the Force Majeure Event results in a delay or non- performance of a Party for a period of three (3) months or longer, then either Party shall have the right to terminate this Agreement with immediate effect without any liability (except for the obligations of payment arising prior to the event of Force Majeure) towards the other Party.

14.7 Notices

Any notice given by one Party to the other shall be deemed properly given and deemed received if specifically acknowledged by the receiving Party in writing or when successfully delivered to the recipient by hand, fax, or special courier during normal business hours on a business day to
the addresses specified for
The Qt Company in the beginning of this Agreement, and for the Licensee in the Licensees account profile. Each communication and document made or delivered by one Party to the other Party pursuant to this Agreement shall be in the English language.

14.8 Export Control
Licensee acknowledges that the Redistributables may be subject to export control restrictions under the applicable laws of respective countries. Licensee shall fully comply with all applicable export license restrictions and requirements as well as with all lawses hereunder and shall procure all necessary governmental authorizations, including without limitation, all necessary licenses, approvals, permissions or consents, where necessary for the re- exportation of the Redistributables, Applications and/or Devices.

14.9 No Implied License
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14.10 Attorney Fees

The prevailing Party in any action to enforce this Agreement shall be entitled to recover its attorney's fees and costs in connection with such action.

14.11 Severability

If any provision of this Agreement shall be adjudged by any court of competent jurisdiction to be unenforceable or invalid, that provision shall be limited or eliminated to the minimum extent necessary so that this Agreement shall otherwise remain in full force and effect and enforceable.

IN WITNESS WHEREOF, the Parties hereto, intending to be legally bound hereby, have caused this Agreement to be executed by Licensees authorized representative installing the Licensed Software and accepting the terms hereof in connection therewith.

Appendix 1

1. Parts of the Licensed Software
that are permitted for distribution in object
code form only ("Redistributables") under this Agreement:

- The Licensed Software's essential and add-on libraries

- The Licensed Software's configuration tool ("qtconfig")

- The Licensed Software's help tool ("Qt Assistant")

- The Licensed Software's internationalization tools ("Qt Linguist", "lupdate",

"lrelease")

- The Licensed Software's QML ("Qt Quick") launcher tool ("qmlscene" and "qmlviewer")

- The Licensed Software's installer framework

2. Parts of the Licensed Software that are not permitted for distribution include, but are not limited to:

- The Licensed Software's source code and header files

- The Licensed Software's documentation

- The Licensed Software's documentation generation tool ("qdoc")

- The Licensed Software's tool for writing makefiles ("qmake")

- The Licensed Software's Meta Object Compiler ("moc")

- The Licensed Software's User Interface Compiler ("uic" or in the case of Qt Jambi: "juic")

- The Licensed
Software's Resource Compiler ("rcc")

- The Licensed Software's generator (only in the case of Qt Jambi if applicable)

- The Licensed Software's parts of the IDE tool ("Qt Creator")

- The Licensed Software's Emulator

- Build scripts, recipes and other material for creating the configuration of Licensed Software and/or 3rd party components, including the reference operating system configuration delivered in conjunction with the

```
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```
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* Written by Wilco Dijkstra, 1996. The following email exchange establishes the
* license.
*
* From: Wilco Dijkstra <Wilco.Dijkstra@ntlworld.com>
* Date: Fri, Jun 24, 2011 at 3:20 AM
* Subject: Re: sqrt routine
* To: Kevin Ma <kma@google.com>
* Hi Kevin,
* Thanks for asking. Those routines are public domain (originally posted to
* comp.sys.arm a long time ago), so you can use them freely for any purpose.
* Cheers,
* Wilco
*
* ----- Original Message -----
* From: "Kevin Ma" <kma@google.com>
* To: <Wilco.Dijkstra@ntlworld.com>
* Sent: Thursday, June 23, 2011 11:44 PM
* Subject: Fwd: sqrt routine
* Hi Wilco,
* I saw your sqrt routine from several web sites, including
* http://www.finesse.demon.co.uk/steven/sqrt.html.
* Just wonder if there's any copyright information with your Successive
* approximation routines, or if I can freely use it for any purpose.
* Thanks.
* Kevin
*/
```

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/*
* $Id: pa_memorybarrier.h 1240 2007-07-17 13:05:07Z bjornroche $
* Portable Audio I/O Library
* Memory barrier utilities
*
* Author: Bjorn Roche, XO Audio, LLC
*
* This program uses the PortAudio Portable Audio Library.
* For more information see: http://www.portaudio.com
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* license above.
*/

/*
* $Id: pa_ringbuffer.c 1421 2009-11-18 16:09:05Z bjornroche $
* Portable Audio I/O Library
* Ring Buffer utility.
*
* Author:
 Phil Burk, http://www.softsynth.com
* modified for SMP safety on Mac OS X by Bjorn Roche
* modified for SMP safety on Linux by Leland Lucius
* also, allowed for const where possible
* modified for multiple-byte-sized data elements by Sven Fischer
*
* Note that this is safe only for a single-thread reader and a
* single-thread writer.
*
* This program uses the PortAudio Portable Audio Library.
* For more information see: http://www.portaudio.com
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and semantics are as close as possible to those of the Perl 5 language.

This is JavaScriptCore's variant of the PCRE library. While this library
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Mesa 3-D graphics library
Version: 7.0

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A tiny JavaScript debugging utility modelled after Node.js core's debugging
technique. Works in Node.js and web browsers.

Installation

```bash
$ npm install debug
```

Usage

`debug` exposes a function; simply pass this function the name of your module, and it will return a decorated version of `console.error`
 for you to pass debug statements to. This will allow you to toggle the debug output for different parts of your module as well as the module as a whole.

Example [_app.js_](./examples/node/app.js):

```js
var debug = require('debug')('http')
 , http = require('http')
 , name = 'My App';

// fake app

debug('booting %o', name);

http.createServer(function(req, res){
 debug(req.method + ' ' + req.url);
 res.end('hello\n');
}).listen(3000, function(){
 debug('listening');
});

// fake worker of some kind

require('./worker');
```

Example [_worker.js_](./examples/node/worker.js):

```js
var a = require('debug')('worker:a')
 , b = require('debug')('worker:b');
```

```
function work() {
 a('doing lots of uninteresting work');
 setTimeout(work, Math.random() * 1000);
}

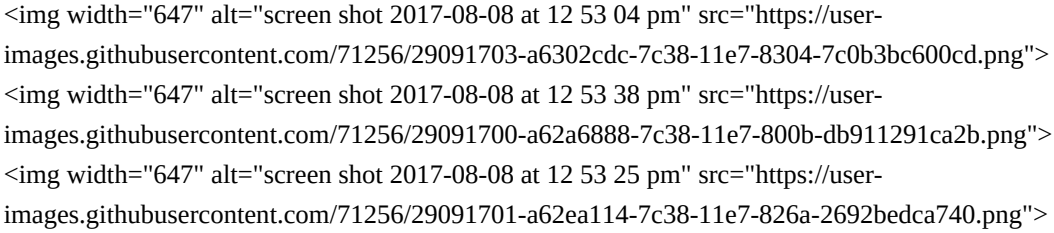
work();

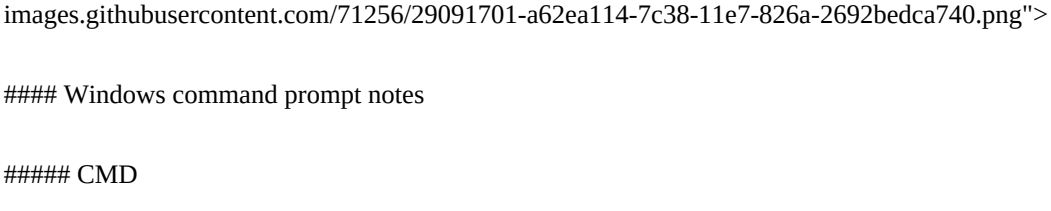
function workb() {
 b('doing some work');
 setTimeout(workb, Math.random() * 2000);
}

workb();
```

The `DEBUG` environment variable is then used to enable these based on space or comma-delimited names.

Here
 are some examples:





Windows command prompt notes

CMD

On Windows the environment variable is set using the `set` command.

```cmd
set DEBUG=*,-not_this
```

Example:

```cmd
set DEBUG=* & node app.js
```

PowerShell (VS Code default)

PowerShell uses different syntax to set environment variables.

```cmd
$env:DEBUG = "*,-not_this"
```

Example:

```cmd
$env:DEBUG='app';node app.js
```

Then, run the program to be debugged as usual.

npm script example:
```js
 "windowsDebug":
 "@powershell -Command $env:DEBUG='*';node app.js",
```

Namespace Colors

Every debug instance has a color generated for it based on its namespace name.
This helps when visually parsing the debug output to identify which debug instance
a debug line belongs to.

Node.js

In Node.js, colors are enabled when stderr is a TTY. You also _should_ install
the [`supports-color`](https://npmjs.org/supports-color) module alongside debug,
otherwise debug will only use a small handful of basic colors.

<img width="521" src="https://user-images.githubusercontent.com/71256/29092181-47f6a9e6-7c3a-11e7-9a14-1928d8a711cd.png">

Web Browser

Colors are also enabled on "Web Inspectors" that understand the `%c` formatting
option. These are WebKit web inspectors, Firefox ([since version
31](https://hacks.mozilla.org/2014/05/editable-box-model-multiple-selection-sublime-text-keys-much-more-firefox-developer-tools-episode-31/))
and the Firebug plugin for Firefox (any version).

<img width="524"
 src="https://user-images.githubusercontent.com/71256/29092033-b65f9f2e-7c39-11e7-8e32-f6f0d8e865c1.png">

Millisecond diff

When actively developing an application it can be useful to see when the time spent between one `debug()` call and the next. Suppose for example you invoke `debug()` before requesting a resource, and after as well, the "+NNNms" will show you how much time was spent between calls.

When stdout is not a TTY, `Date#toISOString()` is used, making it more useful for logging the debug information as shown below:

Conventions

If you're using this in one or more of your libraries, you _should_ use the name of your library so that developers may toggle debugging as desired without guessing names. If you have more than one debuggers you _should_ prefix them with your library name and use ":" to separate features. For example "bodyParser" from Connect would then be "connect:bodyParser". If you append a "*" to the end of your name, it will always be enabled regardless of the setting of the DEBUG environment variable. You can then use it for normal output as well as debug output.

Wildcards

The `*` character may be used as a wildcard. Suppose for example your library has debuggers named "connect:bodyParser", "connect:compress", "connect:session", instead of listing all three with `DEBUG=connect:bodyParser,connect:compress,connect:session`, you may simply do `DEBUG=connect:*`, or to run everything using this module simply use `DEBUG=*`.

You can also exclude specific debuggers by prefixing them with a "-" character. For example, `DEBUG=*,-connect:*` would include all debuggers except those starting with "connect:".

Environment Variables

When running through Node.js, you can set a few environment variables that will change the behavior of the debug logging:

Name	Purpose
`DEBUG`	Enables/disables specific debugging namespaces.
`DEBUG_HIDE_DATE`	Hide date from debug output (non-TTY).
`DEBUG_COLORS`	Whether or not to use colors in the debug output.
`DEBUG_DEPTH`	Object inspection depth.
`DEBUG_SHOW_HIDDEN`	Shows hidden properties on inspected objects.

__Note:__ The environment variables beginning with `DEBUG_` end up being
converted into an Options object that gets used with `%o`/`%O` formatters.
See the Node.js documentation for
[`util.inspect()`](https://nodejs.org/api/util.html#util_util_inspect_object_options)
for the complete list.

Formatters

Debug uses [printf-style](https://wikipedia.org/wiki/Printf_format_string) formatting.
Below are the officially supported formatters:

| Formatter | Representation
 |
|-----------|----------------|
| `%O` | Pretty-print an Object on multiple lines. |
| `%o` | Pretty-print an Object all on a single line. |
| `%s` | String. |
| `%d` | Number (both integer and float). |
| `%j` | JSON. Replaced with the string '[Circular]' if the argument contains circular references. |
| `%%` | Single percent sign ('%'). This does not consume an argument. |

Custom formatters

You can add custom formatters by extending the `debug.formatters` object.
For example, if you wanted to add support for rendering a Buffer as hex with
`%h`, you could do something like:

```js
const createDebug = require('debug')
createDebug.formatters.h = (v) => {
 return v.toString('hex')
}

// elsewhere
const debug = createDebug('foo')
debug('this is hex: %h', new Buffer('hello world'))
//   foo this is hex: 68656c6c6f20776f726c6421 +0ms
```

Browser Support

You can build a browser-ready script using [browserify](https://github.com/substack/node-browserify),
or

just use the [browserify-as-a-service](https://wzrd.in/) [build](https://wzrd.in/standalone/debug@latest),
if you don't want to build it yourself.

Debug's enable state is currently persisted by `localStorage`.
Consider the situation shown below where you have `worker:a` and `worker:b`,
and wish to debug both. You can enable this using `localStorage.debug`:

```js
localStorage.debug = 'worker:*'
```

And then refresh the page.

```js
a = debug('worker:a');
b = debug('worker:b');

setInterval(function(){
 a('doing some work');
}, 1000);

setInterval(function(){
 b('doing some work');
}, 1200);
```

Output streams

By default `debug` will log to stderr, however this can be configured per-namespace by overriding the `log`
method:

Example [_stdout.js_](./examples/node/stdout.js):

```js
var debug = require('debug');
var error = debug('app:error');

// by default stderr is used
error('goes to stderr!');

var log = debug('app:log');
// set this namespace to log via console.log
log.log
 = console.log.bind(console); // don't forget to bind to console!
log('goes to stdout');
error('still goes to stderr!');
```

```
// set all output to go via console.info
// overrides all per-namespace log settings
debug.log = console.info.bind(console);
error('now goes to stdout via console.info');
log('still goes to stdout, but via console.info now');
```

Extend
You can simply extend debugger
```js
const log = require('debug')('auth');

//creates new debug instance with extended namespace
const logSign = log.extend('sign');
const logLogin = log.extend('login');

log('hello'); // auth hello
logSign('hello'); //auth:sign hello
logLogin('hello'); //auth:login hello
```

Set dynamically

You can also enable debug dynamically by calling the `enable()` method :

```js
let debug = require('debug');

console.log(1, debug.enabled('test'));

debug.enable('test');
console.log(2, debug.enabled('test'));

debug.disable();
console.log(3, debug.enabled('test'));

```

print :
```
1
 false
2 true
3 false
```

Usage :
`enable(namespaces)`

`namespaces` can include modes separated by a colon and wildcards.

Note that calling `enable()` completely overrides previously set DEBUG variable :

```
$ DEBUG=foo node -e 'var dbg = require("debug"); dbg.enable("bar"); console.log(dbg.enabled("foo"))'
=> false
```

Checking whether a debug target is enabled

After you've created a debug instance, you can determine whether or not it is
enabled by checking the `enabled` property:

```javascript
const debug = require('debug')('http');

if (debug.enabled) {
 // do stuff...
}
```

You can also manually toggle this property to force the debug instance to be
enabled or disabled.

Authors

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- Nathan Rajlich
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```

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```
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#
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its purpose remains meaningful.

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a purpose that is entirely well-defined independent of the
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the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

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// Original can be found at:
//   https://bitbucket.org/lindenlab/llsd
// Modifications by Joshua Bell inexorabletash@gmail.com
//   https://github.com/inexorabletash/polyfill

// ES3/ES5 implementation of the Krhonos Typed Array Specification
//   Ref: http://www.khronos.org/registry/typedarray/specs/latest/
//   Date: 2011-02-01
//
// Variations:
// * Allows typed_array.get/set() as alias for subscripts (typed_array[])
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v4.0.1 (2016-12-14)

WHOOPS

* [`fb9b1ce`](https://github.com/npm/nopt/commit/fb9b1ce57b3c69b4f7819015be87719204f77ef6)
 Merged so many patches at once that the code fencing

([@adius](https://github.com/adius)) added got broken. Sorry,
([@adius](https://github.com/adius))!
([@othiym23](https://github.com/othiym23))

v4.0.0 (2016-12-13)

BREAKING CHANGES

* [`651d447`](https://github.com/npm/nopt/commit/651d4473946096d341a480bbe56793de3fc706aa)
When parsing String-typed arguments, if the next value is `""`, don't simply
swallow it. ([@samjonester](https://github.com/samjonester))

PERFORMANCE TWEAKS

* [`3370ce8`](https://github.com/npm/nopt/commit/3370ce87a7618ba228883861db84ddbcdff252a9)
Simplify initialization. ([@elidoran](https://github.com/elidoran))
* [`356e58e`](https://github.com/npm/nopt/commit/356e58e3b3b431a4b1af7fd7bdee44c2c0526a09)
Store `Array.isArray(types[arg])` for reuse.
([@elidoran](https://github.com/elidoran))
* [`0d95e90`](https://github.com/npm/nopt/commit/0d95e90515844f266015b56d2c80b94e5d14a07e)
Interpret single-item type arrays as a single type.
([@samjonester](https://github.com/samjonester))
* [`07c69d3`](https://github.com/npm/nopt/commit/07c69d38b5186450941fbb505550becb78a0e925)
Simplify key-value extraction. ([@elidoran](https://github.com/elidoran))
* [`39b6e5c`](https://github.com/npm/nopt/commit/39b6e5c65ac47f60cd43a1fbeece5cd4c834c254)
Only call `Date.parse(val)` once. ([@elidoran](https://github.com/elidoran))
* [`934943d`](https://github.com/npm/nopt/commit/934943dffecb55123a2b15959fe2a359319a5dbd)
Use `osenv.home()` to find a user's home directory instead of assuming it's
always `$HOME`. ([@othiym23](https://github.com/othiym23))

TEST & CI IMPROVEMENTS

* [`326ffff`](https://github.com/npm/nopt/commit/326ffff7f78a00bcd316adecf69075f8a8093619)
Fix `/tmp` test to work on Windows.
([@elidoran](https://github.com/elidoran))
* [`c89d31a`](https://github.com/npm/nopt/commit/c89d31a49d14f2238bc6672db08da697bbc57f1b)
Only run Windows tests on Windows, only run Unix tests on a Unix.
([@elidoran](https://github.com/elidoran))
* [`affd3d1`](https://github.com/npm/nopt/commit/affd3d1d0addffa93006397b2013b18447339366)
Refresh Travis to run the tests against the currently-supported batch of npm
versions. ([@helio](https://github.com/helio)-frota)
* [`55f9449`](https://github.com/npm/nopt/commit/55f94497d163ed4d16dd55fd6c4fb95cc440e66d)
`tap@8.0.1` ([@othiym23](https://github.com/othiym23))

DOC TWEAKS

* [`5271229`](https://github.com/npm/nopt/commit/5271229ee7c810217dd51616c086f5d9ab224581)
Use JavaScript code block for syntax highlighting.

([@adius](https://github.com/adius))
* [`c0d156f`](https://github.com/npm/nopt/commit/c0d156f229f9994c5dfcec4a8886eceff7a07682)
The code sample in the README had `many2: [ oneThing ]`, and now it has
`many2: [ two, things ]`. ([@silkentrance](https://github.com/silkentrance))
-*-makefile-*-
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Commands to generate dependency files
GEN_DEPS.c= $(CC) -E -MM $(DEFS) $(CPPFLAGS)
GEN_DEPS.cc= $(CXX) -E -MM $(DEFS) $(CPPFLAGS)

Flags for position independent code
SHAREDLIBCFLAGS = -fPIC
SHAREDLIBCXXFLAGS = -fPIC
SHAREDLIBCPPFLAGS = -DPIC

Additional flags when building libraries and with threads
THREADSCPPFLAGS = -D_REENTRANT
LIBCPPFLAGS =

Compiler switch to embed a runtime search path
LD_RPATH=
LD_RPATH_PRE= -Wl,-rpath,

Compiler switch to embed a library name
LD_SONAME = -Wl,-soname -Wl,$(notdir $(MIDDLE_SO_TARGET))

Shared library options
LD_SOOPTIONS= -Wl,-Bsymbolic

Shared object suffix
SO = so
Non-shared intermediate object suffix
STATIC_O = ao

Compilation
rules
%.$(STATIC_O): $(srcdir)/%.c
$(COMPILE.c) $(STATICCPPFLAGS) $(STATICCFLAGS) -o $@ $<
%.o: $(srcdir)/%.c
$(COMPILE.c) $(DYNAMICCPPFLAGS) $(DYNAMICCFLAGS) -o $@ $<

%.$(STATIC_O): $(srcdir)/%.cpp
$(COMPILE.cc) $(STATICCPPFLAGS) $(STATICCXXFLAGS) -o $@ $<

```
%.o: $(srcdir)/%.cpp
 $(COMPILE.cc) $(DYNAMICCPPFLAGS) $(DYNAMICCXXFLAGS) -o $@ $<


## Dependency rules
%.d: $(srcdir)/%.c
 @echo "generating dependency information for $<"
 @$(SHELL) -ec '$(GEN_DEPS.c) $< \
  | sed '\"s/\($*\)\.o[ :]*/\1.o $@ : /g'\" > $@; \
  [ -s $@ ] || rm -f $@'

%.d: $(srcdir)/%.cpp
 @echo "generating dependency information for $<"
 @$(SHELL) -ec '$(GEN_DEPS.cc) $< \
  | sed '\"s/\($*\)\.o[ :]*/\1.o $@ : /g'\" > $@; \
  [ -s $@ ] || rm -f $@'

## Versioned libraries rules

%.$(SO).$(SO_TARGET_VERSION_MAJOR): %.$(SO).$(SO_TARGET_VERSION)
 $(RM) $@ && ln -s ${<F} $@
%.$(SO): %.$(SO).$(SO_TARGET_VERSION_MAJOR)
 $(RM) $@ && ln -s ${*F}.$(SO).$(SO_TARGET_VERSION) $@

##  Bind internal references

# LDflags that pkgdata will use
BIR_LDFLAGS= -Wl,-Bsymbolic

# Dependencies [i.e. map files] for the final library
BIR_DEPS=

## Remove shared library 's'
STATIC_PREFIX_WHEN_USED =
STATIC_PREFIX =

## End BSD-specific setup
```

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WebKit is using derived sources of ThreadCondition code from Pthreads-win32.

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Alexander Terekhov TEREKHOV at de dot ibm dot com
    Re-implemented and improved read-write locks;
    (with Louis Thomas) re-implemented and improved
    condition variables;
    enhancements to semaphores;
    enhancements to mutexes;
    new mutex implementation in 'futex' style;
    suggested a robust implementation of pthread_once
    similar to that implemented by V.Kliathcko;
    system clock change handling re CV timeouts;
    bug fixes.
Thomas Pfaff tpfaff at gmx dot net
    Changes to make C version usable with C++ applications;
    re-implemented mutex routines to avoid Win32 mutexes
    and TryEnterCriticalSection;
    procedure to fix Mingw32 thread-safety issues.
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Contributed the QueueUserAPCEx package which
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re-implemented pthread_once (version 2)
(pthread_once cancellation added by rpj).
Vladimir Kliatchko vladimir at kliatchko dot com
reimplemented pthread_once with the same form
as described by A.Terekhov (later version 2);
implementation of MCS (Mellor-Crummey/Scott) locks.
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Version : 6.1.3a
Date : 22 January 2014
Website : http://www.angusj.com
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Communications of the ACM, Vol 35, Issue 7 (July 1992) pp 56-63.
http://portal.acm.org/citation.cfm?id=129906

Computer graphics and geometric modeling: implementation and algorithms
By Max K. Agoston
Springer; 1 edition (January 4, 2005)
http://books.google.com/books?q=vatti+clipping+agoston

See also:
"Polygon Offsetting by Computing Winding Numbers"
Paper no. DETC2005-85513 pp. 565-575
ASME 2005 International Design Engineering Technical Conferences
and Computers and Information in Engineering Conference (IDETC/CIE2005)
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http://www.me.berkeley.edu/~mcmains/pubs/DAC05OffsetPolygon.pdf

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C++ port by Konstantin Kfer <mail@kkaefer.com>, 2014.

https://github.com/deanm/css-color-parser-js
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#
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#
src/base/fthash.c
src/base/md5.c
src/base/md5.h
#
src/bdf/bdf.c
src/bdf/bdf.h
src/bdf/bdfdrivr.c
src/bdf/bdfdrivr.h
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src/bdf/bdflib.c
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src/pcf/pcf.c
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src/pcf/pcfread.c
src/pcf/pcfread.h
src/pcf/pcfutil.c
src/pcf/pcfutil.h
src/pcf/README
src/pcf/rules.mk
#
src/gzip/adler32.c
src/gzip/infblock.c
src/gzip/infblock.h
src/gzip/infcodes.c
src/gzip/infcodes.h
src/gzip/inffixed.h
src/gzip/inflate.c
src/gzip/inftrees.c
src/gzip/inftrees.h
src/gzip/infutil.c
src/gzip/infutil.h
src/gzip/zconf.h
src/gzip/zlib.h
src/gzip/zutil.c
src/gzip/zutil.h
#
src/tools/apinames.c
src/tools/ftrandom/ftrandom.c
#
#
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NPM License Checker
==========

[![Build Status](https://www.travis-ci.org/davglass/license-checker.svg?branch=master)](https://www.travis-ci.org/davglass/license-checker)

*As of v17.0.0 the `failOn` and `onlyAllow` arguments take semicolons as delimeters instead of commas. Some license names contain
commas and it messed with the parsing*

Ever needed to see all the license info for a module and its dependencies?

It's this easy:

```shell
npm install -g license-checker

mkdir foo
cd foo
npm install yui-lint
license-checker
```

You should see something like this:

```
cli@0.4.3
  repository: http://github.com/chriso/cli
  licenses: MIT
glob@3.1.14
  repository: https://github.com/isaacs/node-glob
  licenses: UNKNOWN
graceful-fs@1.1.14
  repository: https://github.com/isaacs/node-graceful-fs
  licenses: UNKNOWN
inherits@1.0.0
  repository: https://github.com/isaacs/inherits
  licenses: UNKNOWN
jshint@0.9.1
  licenses: MIT
lru-cache@1.0.6
  repository: https://github.com/isaacs/node-lru-cache
   licenses: MIT
lru-cache@2.0.4
  repository: https://github.com/isaacs/node-lru-cache
  licenses: MIT
minimatch@0.0.5
  repository: https://github.com/isaacs/minimatch
  licenses: MIT
minimatch@0.2.9
  repository: https://github.com/isaacs/minimatch
```

```
  licenses: MIT
sigmund@1.0.0
  repository: https://github.com/isaacs/sigmund
  licenses: UNKNOWN
yui-lint@0.1.1
   licenses: BSD
     repository: http://github.com/yui/yui-lint
```

An asterisk next to a license name means that it was deduced from
an other file than package.json (README, LICENSE, COPYING, ...)
You could see something like this:

```
debug@2.0.0
   repository: https://github.com/visionmedia/debug
   licenses: MIT*
```

Options
----

* `--production` only show production dependencies.
* `--development` only show development dependencies.
* `--start [path of the initial json to look for]`
* `--unknown` report guessed licenses as unknown licenses.
* `--onlyunknown` only list
 packages with unknown or guessed licenses.
* `--json` output in json format.
* `--csv` output in csv format.
* `--csvComponentPrefix` prefix column for component in csv format.
* `--out [filepath]` write the data to a specific file.
* `--customPath` to add a custom Format file in JSON
* `--exclude [list]` exclude modules which licenses are in the comma-separated list from the output
* `--relativeLicensePath` output the location of the license files as relative paths
* `--summary` output a summary of the license usage',
* `--failOn [list]` fail (exit with code 1) on the first occurrence of the licenses of the semicolon-separated list
* `--onlyAllow [list]` fail (exit with code 1) on the first occurrence of the licenses not in the semicolon-seperated list
* `--packages [list]` restrict output to the packages (package@version) in the semicolon-seperated list
* `--excludePackages [list]` restrict output to the packages (package@version) not in the semicolon-seperated list
* `--excludePrivatePackages`
 restrict output to not include any package marked as private
* `--direct look for direct dependencies only`

Exclusions

A list of licenses is the simplest way to describe what you want to exclude.

You can use valid [SPDX identifiers](https://spdx.org/licenses/).
You can use valid SPDX expressions like `MIT OR X11`.
You can use non-valid SPDX identifiers, like `Public Domain`, since `npm` does
support some license strings that are not SPDX identifiers.

Examples

```
license-checker --json > /path/to/licenses.json
license-checker --csv --out /path/to/licenses.csv
license-checker --unknown
license-checker --customPath customFormatExample.json
license-checker --exclude 'MIT, MIT OR X11, BSD, ISC'
license-checker --packages 'react@16.3.0;react-dom@16.3.0;lodash@4.3.1'
license-checker --excludePackages 'internal-1;internal-2'
license-checker --onlyunknown
```

Custom format

The `--customPath` option can be used with CSV to specify the columns.
 Note that
the first column, `module_name`, will always be used.

When used with JSON format, it will add the specified items to the usual ones.

The available items are the following:
- name
- version
- description
- repository
- publisher
- email
- url
- licenses
- licenseFile
- licenseText
- licenseModified

You can also give default values for each item.
See an example in customFormatExample.json.

Requiring

```js
var checker = require('license-checker');

checker.init({
  start: '/path/to/start/looking'
}, function(err, packages) {
  if (err) {
     //Handle error
  } else {
     //The sorted package data
     //as an Object
  }
});
```

Debugging
----

license-checker uses [debug](https://www.npmjs.com/package/debug) for internal logging. Theres two internal markers:

* `license-checker:error` for errors
* `license-checker:log` for non-errors

Set the `DEBUG` environment variable to one of these to see debug output:

```shell
$
 export DEBUG=license-checker*; license-checker
scanning ./yui-lint
cli@0.4.3
  repository: http://github.com/chriso/cli
  licenses: MIT
# ...
```

How Licenses are Found

We walk through the `node_modules` directory with the [`read-installed`](https://www.npmjs.org/package/read-installed) module. Once we gathered a list of modules we walk through them and look at all of their `package.json`'s, We try to identify the license with the [`spdx`](https://www.npmjs.com/package/spdx) module to see if it has a valid SPDX license attached. If that fails, we then look into the module for the following files: `LICENSE`, `LICENCE`, `COPYING`, & `README`.

If one of the those files are found (in that order) we will attempt to parse the license data from it with a list of known license texts. This will be shown with the `*` next to the name of the license to show that we "guessed" at it.

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spdx-license-ids

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Installation

[Download JSON directly](https://raw.githubusercontent.com/shinnn/spdx-license-ids/master/index.json), or [use](https://docs.npmjs.com/cli/install) [npm](https://docs.npmjs.com/about-npm/):

```
npm install spdx-license-ids
```

[Node.js](https://nodejs.org/) API

require('spdx-license-ids')

Type: `string[]`

All license IDs except for the currently deprecated ones.

```javascript
const ids = require('spdx-license-ids');
```

```
//=> ['0BSD', 'AAL', 'ADSL', 'AFL-1.1', 'AFL-1.2', 'AFL-2.0', 'AFL-2.1', 'AFL-3.0', 'AGPL-1.0-only', ...]

ids.includes('BSD-3-Clause'); //=> true
ids.includes('CC-BY-1.0'); //=>
 true

ids.includes('GPL-3.0'); //=> false
```

require('spdx-license-ids/deprecated')

Type: `string[]`

Deprecated license IDs.

```javascript
const deprecatedIds = require('spdx-license-ids/deprecated');
//=> ['AGPL-1.0', 'AGPL-3.0', 'GFDL-1.1', 'GFDL-1.2', 'GFDL-1.3', 'GPL-1.0', 'GPL-2.0', ...]

deprecatedIds.includes('BSD-3-Clause'); //=> false
deprecatedIds.includes('CC-BY-1.0'); //=> false

deprecatedIds.includes('GPL-3.0'); //=> true
```

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A. HISTORY OF THE SOFTWARE
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Python was created in the early 1990s by Guido van Rossum at Stichting
Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands
as a successor of a language called ABC. Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team. In October of the same
year, the PythonLabs team moved to Digital Creations, which became
Zope Corporation. In 2001, the Python Software Foundation (PSF, see
https://www.python.org/psf/) was formed, a non-profit organization
created specifically to own Python-related Intellectual Property.
Zope Corporation was a sponsoring member of the PSF.

All

Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2 and above	2.1.1	2001-now	PSF	yes

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Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

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"License Fee" shall mean the fee charged to the Licensee for rights granted under the terms of this Agreement.

"License Term" shall mean the agreed validity period of the Development License of the respective Designated User, during which time the Designated User is entitled to use the Licensed Software, as set forth in the respective License Certificate.

"Licensed Software" shall mean either

(i) Qt for Application Development or
(ii) Qt for Device Creation, and/or
(iii) Qt 3D Studio, and/or
(iv) Qt Design Studio, and/or
(v) Qt for MCUs, and/or
(vi) selected Add-on Products, if any,

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"Licensee" shall mean the individual or legal entity that is party to this Agreement, as identified on the signature page hereof.

"Licensee's Records" shall mean books and records that are likely to contain information bearing on Licensee's compliance with this Agreement, Licensee's use of Open Source Qt and/or the payments due to The Qt Company under this Agreement, including, but not limited to user information, assembly logs, sales records and distribution records.

"Modified Software" shall have the meaning as set forth in Section 2.3.

"Online Services" shall mean any services or access to systems made available by The Qt Company to the Licensee over the Internet relating to the Licensed Software
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"Party" or "Parties" shall mean Licensee and/or The Qt Company.

"Permitted Combination" shall have the meaning as set forth in Section 3.4(viii).

"Pre-Release Code" shall have the meaning as set forth in Section 4.

"Prohibited Combination" shall mean any means to (i) use, combine, incorporate, link or integrate Licensed Software with any software created with or incorporating Open Source Qt, (ii) use Licensed Software for creation of any software created with or
incorporating Open Source Qt, or (iii) incorporate or integrate Applications into a hardware device or product other than a Device.

"Qt 3D Studio" shall mean The Qt Company's productized offering, which consist of all versions of modules and tools as set forth in Appendix 1.

"Qt Design Studio" shall mean The Qt Company's productized offering, which consist of all versions of modules and tools as set forth in Appendix 1.

"Qt for Application Development" shall mean The Qt Company's productized offering, which consist of all versions of modules and tools as set forth in Appendix 1.

"Qt for Device Creation" shall mean The Qt Company's productized offering, which consist of all versions of modules and tools as set forth in Appendix 1.

"Qt for MCUs" shall mean The Qt Company's productized offering, which consist of all versions of modules and tools as set forth in Appendix 1.

"Redistributables" shall mean the portions of the Licensed Software set forth in Appendix 1 that may be distributed
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in object code form only, including any relevant documentation. Where relevant, any reference to Licensed Software in this Agreement shall include and refer also to Redistributables.

"Renewal Term" shall mean an extension of previous License Term as agreed between the Parties.

"Submitted Modified Software" shall have the meaning as set forth in Section 2.3.

"Support" shall mean standard developer support that is provided by The Qt Company to assist Designated Users in using the Licensed Software in accordance with The Qt Company's standard support terms available at https://www.qt.io/terms-conditions/ and as further defined in Section 8 hereunder.

"Taxes" shall have the meaning set forth in Section 10.5.

"Term" shall have the meaning set forth in Section 12.

"The Qt Company" shall mean:

(i) in the event Licensee is an individual residing in the United States or a legal entity incorporated in the United States or

having its headquarters in the United States, The Qt Company Inc., a Delaware corporation with its office at 2350 Mission College Blvd., Suite 1020, Santa Clara, CA 95054, USA.; or

(ii) in the event the Licensee is an individual residing outside of the United States or a legal entity incorporated outside of the United States or having its registered office outside of the United States, The Qt Company Ltd., a Finnish company with its registered office at Bertel Jungin aukio D3A, 02600 Espoo, Finland.

"Third-Party Software" shall have the meaning set forth in Section 4.

"Updates" shall mean a release or version of the Licensed Software containing bug fixes, error corrections and other changes that are generally made available to users of the Licensed Software that have contracted for Support. Updates are generally depicted as a change to the digits following the decimal

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number. The Qt Company shall make Updates
available to the Licensee under the Support. Updates shall be considered as
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"Upgrades" shall mean a release or version of the Licensed Software containing
enhancements and new features and are generally depicted as a change to the
first digit of the Licensed Software version number. In the event Upgrades are
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2.2. Ownership of Licensee

All the Licensee's Intellectual Property Rights are and shall remain
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All Intellectual Property Rights to the Modified Software, Applications and
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Term, to use, modify and copy the Licensed Software by Designated Users on the Development Platforms for the sole purposes of designing, developing, demonstrating and testing Application(s) and/or Devices, and to provide thereto related support and other related services to end-user Customers.

Licensee may install copies of the Licensed Software on five (5) computers per Designated User, provided that only the Designated Users who have a valid Development License may use the Licensed Software.

Licensee may at any time designate another Designated User to replace a then-current Designated User by notifying The Qt Company in writing, provided that any Designated User may be replaced only once during any six-month period.

Upon expiry of the initially agreed License Term, the respective License Terms shall be automatically extended to one or more Renewal Term(s), unless and until either Party notifies the other Party in writing
that it does not wish
to continue the License Term, such notification to be provided to the other Party no less than ninety (90) days before expiry of the respective License Term. Unless otherwise agreed between the Parties, Renewal Term shall be of equal length with the initial License Term.

Any such Renewal Term shall be subject to License Fees agreed between the Parties or, if no advance agreement exists, subject to The Qt Company's standard pricing applicable at the commencement date of any such Renewal Term.

Any price or other term specified for a Renewal Term shall be valid only for the specified time.

The Qt Company may request the Licensee to place a purchase order corresponding to a quote by The Qt Company for the relevant Renewal Term.

In the event Licensee does not prevent auto-renewal pursuant the above, but a Renewal Term is nevertheless not duly ordered within 30 days from the date of the respective quote from The Qt Company and/or the respective License Fee

paid by due
date specified in The Qt Company's respective invoice, The Qt Company shall apply a reinstatement fee equal to ten percent (10 %) of the total value of the License Fees of the Development Licenses for the expired term to be added to the License Fee of the respective Renewal Term.

In the event Licensee chooses not to renew a Development License for a Renewal Term by notifying The Qt Company thereof no less than ninety (90) days before expiry of the respective License Term, Licensee may still reinstate such expired Development Licenses for a Renewal Term subject to applicable renewal Term License Fees until thirty (30) days from the expiry of the initially agreed License Term or preceding Renewal Term. After such thirty (30) day period a Development License shall be subject to applicable License Fees for a new Development License and not any Renewal Term License Fees.

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Subject to the terms of this Agreement, The Qt Company grants to Licensee a worldwide,
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The licenses granted above in this Section 3 by The Qt Company to Licensee are conditional and subject to Licensee's compliance with the following terms:

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(ix) Licensee shall cause all of its Affiliates and Contractors entitled to make use of the licenses granted under this Agreement, to be contractually bound to comply with the relevant terms of this Agreement and not to use the Licensed Software beyond the terms hereof and for any purposes other than operating within the scope of their services for Licensee. Licensee shall be responsible for any and all actions and omissions of its Affiliates and Contractors relating to the Licensed Software and use thereof (including but not limited to payment of all applicable License Fees);

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EXCEPT FOR (I) CASES OF GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, AND (II) BREACH OF CONFIDENTIALITY, AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL EITHER PARTY'S TOTAL AGGREGATE LIABILITY UNDER THIS AGREEMENT EXCEED THE AGGREGATE LICENSE FEES PAID OR PAYABLE TO THE QT COMPANY FROM LICENSEE DURING THE PERIOD OF TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE EVENT RESULTING IN SUCH LIABILITY.

THE
PROVISIONS OF THIS SECTION 7 ALLOCATE THE RISKS UNDER THIS AGREEMENT BETWEEN THE QT COMPANY AND LICENSEE AND THE PARTIES HAVE RELIED UPON THE LIMITATIONS SET FORTH HEREIN IN DETERMINING WHETHER TO ENTER INTO THIS AGREEMENT.

NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT, LICENSEE SHALL ALWAYS BE LIABLE TO PAY THE APPLICABLE LICENSE FEES CORRESPONDING TO ITS ACTUAL USE OF LICENSED SOFTWARE.

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Upon due payment of the agreed License Fees the Licensee will be eligible to receive Support and Updates and to use the Online Services during the License Term, provided, however, that in the event the License Term is longer than 36 months, the initial payment includes Support for only the first 12 months, unless the Parties specifically otherwise agree.

Unless otherwise decided by The Company at its free and absolute discretion, Upgrades will not be included in the Support but may be available subject to additional fees.

From time

to time The Qt Company may change the Support terms, provided that during the respective ongoing License Term the level of Support provided by The Qt Company may not be reduced without the consent of the Licensee.

Unless otherwise agreed, The Qt Company shall not be responsible for providing any service or support to Customers.

9. CONFIDENTIALITY

Each Party acknowledges that during the Term of this Agreement each Party may receive information about the other Party's business, business methods, business plans, customers, business relations, technology, and other information, including the terms of this Agreement, that is confidential and of great value to the other Party, and the value of which would be significantly reduced if disclosed to third parties ("Confidential Information"). Accordingly, when a Party (the "Receiving Party") receives Confidential Information from the other Party (the "Disclosing Party"), the Receiving Party shall only disclose such information to employees and Contractors on a need to know basis, and shall cause its employees and employees of its Affiliates to: (i) maintain any and all Confidential Information in confidence; (ii) not disclose the Confidential Information to a third party without the Disclosing Party's prior written approval; and (iii) not, directly or indirectly, use the Confidential Information for any purpose other than for exercising its rights and fulfilling its responsibilities pursuant to this Agreement. Each Party shall take reasonable measures to protect the Confidential Information of the other Party, which measures shall not be less than the measures taken by such Party to protect its own confidential and proprietary information.

Obligation of confidentiality shall not apply to information that (i) is or becomes generally known to the public through no act or omission of the Receiving Party; (ii) was in the Receiving Party's lawful possession prior to the disclosure hereunder and was not subject to limitations on disclosure or use; (iii) is developed independently by employees or Contractors of the Receiving Party or other persons working for the Receiving Party who have not had access to the Confidential Information of the Disclosing Party, as proven by the written records of the Receiving Party; (iv) is lawfully disclosed to the Receiving Party without restrictions, by a third party not under an obligation of confidentiality; or (v) the Receiving Party is legally compelled to disclose, in which case the Receiving Party shall notify the Disclosing Party of such compelled disclosure and assert the privileged and confidential nature of the information and cooperate fully with the Disclosing Party to limit the scope of disclosure and the dissemination of disclosed Confidential Information to the minimum extent necessary.

The obligations under this Section 9 shall continue to remain in force for a period of five (5) years after the last disclosure, and, with respect to trade secrets, for so long

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10. FEES, DELIVERY AND PAYMENT

10.1. License Fees

License Fees are described in The Qt Company's standard price list, quote or Purchase Order confirmation or in an appendix hereto, as the case may be.

The License Fees shall not be refunded or claimed as a credit in any event or for any reason whatsoever.

10.2. Ordering Licenses

Licensee may purchase Development Licenses and Distribution Licenses pursuant to agreed pricing terms or, if no specific pricing terms have been agreed upon, at The Qt Company's standard pricing terms applicable at the time of purchase. Unless specifically otherwise provided, any pricing terms referenced in this Agreement shall be valid for twelve (12) months from the date of this Agreement.

Licensee shall submit all purchase orders for Development Licenses and Distribution Licenses to The Qt Company by email or any other method acceptable to The Qt Company (each such order is referred to herein as a "Purchase Order") for confirmation, whereupon the Purchase Order shall become binding between the Parties.

10.3. Distribution License Packs

Unless otherwise agreed, Distribution Licenses shall be purchased by way of Distribution License Packs.

Upon due payment of the ordered Distribution License Pack(s), the Licensee will have an account of Distribution Licenses available for distributing the Redistributables in accordance with this Agreement.

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License Fees and any other charges under this Agreement shall be paid by Licensee no later than thirty (30) days from the date of the applicable invoice from The Qt Company.

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A late payment charge of the lower of (a) one percent per month; or (b) the interest rate stipulated by applicable law, shall be charged on any unpaid balances that remain past due.

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11. RECORD-KEEPING AND REPORTING OBLIGATIONS; AUDIT RIGHTS

11.1. Licensee's Record-keeping

Licensee shall at all times during the Term of this Agreement and for a period of seven (7) years thereafter maintain Licensee's Records in an accurate and up-to-date form. Licensee's Records shall be adequate to reasonably enable The Qt Company to determine Licensee's compliance with the provisions of this Agreement. The records shall conform to general good accounting practices.

Licensee shall, within thirty (30) days from receiving The Qt Company's request to that effect, deliver to The Qt Company a report based on Licensee's Records, such report to contain information, in sufficient detail, on (i) number and identity of users working with Licensed Software or Open Source Qt, (ii) copies of Redistributables distributed by Licensee during the most recent calendar quarter and/or any other term specified by The Qt Company, (iii) number of undistributed copies of Redistributables and corresponding number of unused Distribution Licenses remaining on Licensee's account, and (iv) any other information as The Qt Company may reasonably require from time to time.

11.2. The Qt Company's Audit Rights

The Qt Company or an independent auditor acting on behalf of The Qt Company's, may, upon at least five (5) business days' prior written notice and at its expense, audit Licensee with respect to the Licensee's use of the Licensed Software, but not more frequently than once during each 6-month period. Such audit may be conducted by mail, electronic means or through an in-person visit to Licensee's place of business. Any such in-person audit shall be conducted during regular business hours at Licensee's facilities and shall not unreasonably interfere with Licensee's business activities. The Qt Company or the independent auditor acting on behalf of The Qt Company shall be entitled to inspect Licensee's Records and conduct necessary interviews of Licensee's relevant employees and Contractors. All such Licensee's Records and use thereof shall be subject to an obligation of confidentiality under this Agreement.

If an audit reveals that

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12. TERM AND TERMINATION

12.1. Agreement Term

This Agreement shall enter into force upon due acceptance by both Parties and remain in force for as long as there is any Development License(s) purchased under this Agreement in force ("Term"), unless and until terminated pursuant to the terms of
this Section 12.

12.2. Termination and suspension of rights

Either Party shall have the right to terminate this Agreement upon thirty (30) days prior written notice if the other Party commits a material breach of any obligation of this Agreement and fails to remedy such breach within such notice period.

Instead of termination, The Qt Company shall have the right to suspend or withhold grants of all rights to the Licensed Software hereunder, including but not limited to the Development Licenses, Distribution License, and Support, should Licensee fail to make payment in timely fashion or otherwise violates or is reasonably suspected to violate its obligations or terms of this Agreement, and where such violation or breach is not cured within five (5) business days following The Qt Company's written notice thereof.

12.3. Mutual Right to Terminate

Either Party shall have the right to terminate this Agreement immediately upon written notice in the event that the other Party becomes insolvent,
files for
any form of bankruptcy, makes any assignment for the benefit of creditors, has a receiver, administrative receiver or officer appointed over the whole or a substantial part of its assets, ceases to conduct business, or an act
equivalent to any of the above occurs under the laws of the jurisdiction of the other Party.

12.4. Parties Rights and Duties upon Termination

Upon expiry or termination of the Agreement, Licensee shall cease and shall cause all Designated Users (including those of its Affiliates' and Contractors') to cease using the Licensed Software and distribution of the Redistributables under this Agreement.

Notwithstanding the above, in the event the Agreement expires or is terminated:

(i) as a result of The Qt Company choosing not to renew the Development License(s) as set forth in Section 3.1, then all valid licenses possessed by the Licensee at such date shall be extended to be valid in perpetuity under the terms of this Agreement and Licensee is entitled to purchase additional licenses as set forth in Section 10.2; or

(ii) for reason other than by The Qt Company pursuant to item (i) above or pursuant to Section 12.2, then the Licensee is entitled, for a period of six (6) months after the effective date of termination, to continue distribution of Devices under the Distribution Licenses paid but unused at such effective date of termination.

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Expiry or termination of this Agreement for any reason whatsoever shall not relieve Licensee of its obligation to pay any License Fees accrued or payable to The Qt Company prior to the effective date of termination, and Licensee shall immediately pay to The Qt Company all such fees upon the effective date of termination. Termination of this Agreement shall not affect any rights of Customers to continue use of Applications and Devices (and therein incorporated Redistributables).

12.5. Extension in case of bankruptcy

In the event The Qt Company is declared bankrupt under a final, non-cancellable decision by relevant court of law, and this Agreement is not, at the date of expiry of the Development License(s) pursuant to Section 3.1, assigned to party, who has assumed The Qt Company's position as a legitimate licensor of Licensed Software under this Agreement, then all valid licenses possessed by the Licensee at such date of expiry, and which the Licensee has not notified for expiry, shall be extended to be valid in perpetuity under the terms of this Agreement.

13. GOVERNING LAW AND LEGAL VENUE

In the event this Agreement is in the name of The Qt Company Inc., a Delaware Corporation, then:

(i) this Agreement shall be construed and interpreted in accordance with the laws of the State of California, USA, excluding its choice of law provisions;

(ii) the United Nations Convention on Contracts for the International

Sale of Goods will not apply to this Agreement; and

(iii) any dispute, claim or controversy arising out of or relating to this Agreement or the breach, termination, enforcement, interpretation or validity thereof, including the determination of the scope or applicability of this Agreement to arbitrate, shall be determined by arbitration in San Francisco, USA, before one arbitrator. The arbitration shall be administered by JAMS pursuant to JAMS' Streamlined Arbitration Rules and Procedures. Judgment on the Award may be entered in any court having jurisdiction. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

In the event this Agreement is in the name of The Qt Company Ltd., a Finnish Company, then:

(i) this Agreement shall be construed and interpreted in accordance with the laws of Finland, excluding its choice of law provisions;

(ii) the United Nations Convention on Contracts for the International Sale of Goods will not apply to this Agreement; and

(iii) any disputes, controversy or claim arising out of or relating to this Agreement, or the breach, termination or validity thereof shall be finally settled by arbitration in accordance with the Arbitration Rules of Finland Chamber of Commerce. The arbitration tribunal shall consist of one (1), or if either Party so requires, of three (3), arbitrators. The award shall be final and binding and enforceable in any court of competent jurisdiction. The arbitration shall be held in Helsinki, Finland and the process shall be conducted in the English language. This Section shall not preclude parties from seeking provisional remedies in aid of arbitration from a court of appropriate jurisdiction.

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the other for any delay or non-performance of its obligations hereunder in the event and to the extent that such delay or non-performance is due to an event of act of God, terrorist attack or other similar unforeseeable catastrophic event that prevents either Party for fulfilling its obligations under this Agreement and which such Party cannot avoid or circumvent ("Force Majeure Event"). If the Force Majeure Event results in a delay or non-performance of a Party for a period of three (3) months or longer, then either Party shall have the right to terminate this Agreement with immediate effect without any liability (except for the obligations of payment arising prior to the event of Force Majeure) towards the other Party.

14.7. Notices

Any notice given by one Party to the other shall be deemed properly given and deemed received if specifically acknowledged by the receiving Party in writing or when successfully delivered to the recipient by hand, fax, or special courier during normal business hours on a business day to the addresses specified for each Party on the signature page. Each communication and document made or delivered by one Party to the other Party pursuant to this Agreement shall be in the English language.

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14.12. Severability

If any provision of this Agreement shall be adjudged by any court of competent jurisdiction to be unenforceable or invalid, that provision shall be limited or eliminated to the minimum extent necessary so that this Agreement shall otherwise remain in full force and effect and enforceable.

APPENDICES

The Agreement includes Appendix 1, and possibly one or more of the appendices 3-5, depending on the product(s) purchased by the Licensee, what is stated in the quote or invoice, and/or what is stated in the Licensee's License Certificate.

APPENDIX 1

The modules and/or tools that are included in the respective product - Qt for Application
Development (QtAD), Qt for Device Creation (QtDC), Qt for MCUs (QtMCU), Qt 3D Studio (Qt3DS) and Qt Design Studio (QtDS) - are marked with 'X' in the below table.

Parts of the product that are permitted for distribution in object-code form only ("Redistributables") are marked with 'R' in the below table.

Modules/Tools	QtAD	QtDC	QtMCU	Qt3DS	QtDS
Qt Core	X,R	X,R			
Qt GUI	X,R	X,R			
Qt Multimedia	X,R	X,R			
Qt Multimedia Widgets	X,R	X,R			
Qt Network	X,R	X,R			
Qt QML	X,R	X,R			
Qt Quick	X,R	X,R			
Qt Quick Controls 2	X,R	X,R			
Qt Quick Dialogs	X,R	X,R			
Qt Quick Layouts	X,R	X,R			
Qt					

Quick Test	X,R	X,R		
Qt SQL	X,R	X,R		
Qt Test	X,R	X,R		
Qt Widgets	X,R	X,R		
Active Qt	X,R	X,R		
Qt 3D	X,R	X,R		
Qt Android Extras	X,R	X,R		
Qt Bluetooth	X,R	X,R		
Qt Canvas 3D	X,R	X,R		
Qt Concurrent	X,R	X,R		
Qt D-Bus	X,R	X,R		
Qt Gamepad	X,R	X,R		
Qt Graphical Effects	X,R	X,R		
Qt Help	X,R	X,R		
Qt Image Formats	X,R	X,R		
Qt Location	X,R	X,R		
Qt Mac Extras	X,R	X,R		
Qt Network Authorization	X,R	X,R		
Qt NFC	X,R	X,R		
Qt Platform Headers	X,R	X,R		
Qt Positioning	X,R	X,R		
Qt Print Support	X,R	X,R		
Qt Purchasing	X,R	X,R		

Qt for Python	X,R	X,R		
Qt Quick Controls	X,R	X,R		
Qt Quick Extras	X,R	X,R		
Qt Quick Widgets	X,R	X,R		
Qt SCXML	X,R	X,R		
Qt Sensors	X,R	X,R		
Qt Serial Bus	X,R	X,R		
Qt Serial Port	X,R	X,R		
Qt Speech	X,R	X,R		
Qt SVG	X,R	X,R		
Qt UI Tools	X,R	X,R		
Qt WebChannel	X,R	X,R		
Qt WebEngine	X,R	X,R		
Qt WebSockets	X,R	X,R		
Qt WebView	X,R	X,R		
Qt Windows Extras	X,R	X,R		
Qt X11 Extras	X,R	X,R		
Qt XML	X,R	X,R		
Qt XML Patterns	X,R	X,R		
Qt Wayland Compositor	X,R	X,R		
Qt Charts	X,R	X,R		
Qt Data Visualization	X,R	X,R		

Qt Virtual Keyboard | X,R | X,R | | |

Boot
2 Qt stack | | X,R | | |

Qt OTA | | X,R | | |

Device Utilities | | X,R | | |

Qt Debugging Bridge (QDB) Daemon | | X,R | | |

Qt Quick Ultralite Controls | | | X,R | |

Qt Quick Ultralite | | | X,R | |

Qt Creator |
X | X | X | |

Qt Designer (Qt Widget Designer) | X | X | | |

Qt Quick Designer (Qt Creator plugin) | X | X | X | |

Qt Linguist | X | X | X | |

Qt Assistant | X | X | X | |

---

lupdate | X | X | X | |

---

lrelease | X | X | X | |

---

qmake
| X | X | | |

---

uic | X | X | | |

---

rcc | X | X | | |

---

qlalr | X | X | | |

---

qdoc | X | X | | |

---

qmlscene | X | X | | |

---

qmlviewer | X | X
| | |

Target toolchains | | X | X | |

Qt Debugging Bridge (QDB) Host Tools		X		
qtconfig-gui		X		
Qt Emulator		X		
qmlinterfacegenerator			X	
qmltocpp			X	
qulfontcompiler			X	
Qt53DStudioRuntime2				X,R
Qt 3D Studio				X
Qt Design Studio				X

APPENDIX 3: ADDITIONS TO LICENSED SOFTWARE
In addition to what is provided under the definition of the Licensed Software, Parties agree that Licensed Software shall also include the Add-On Products of The Qt Company, as mentioned in this Appendix, if included in the quote / invoice.

The Modules and/or Tools of the Licensed Software that are included with each Add-On
Product respectively are marked with 'X' in the below table. Parts of the respective Add-On Product that are permitted for distribution in object-code form only (''Redistributables'') are marked with 'R' in the below table.

Modules / Tools of Licensed Software	Add-On Product(s)					
	Qt for Automation	Qt Automotive Suite	Qt Safe Renderer	Qt Application Manager	Qt Gammaray	Qt Deployment Platform Package
Qt MQTT	X,R					
Qt KNX	X,R					
Qt OPC UA	X,R					

Qt CoAP	X,R				
Qt Safe Renderer		X,R	X,R		
Qt Application Manager		X,R		X,R	
Qt IVI		X,R			
Reference UI		X,R			
Qt GENIVI Extras		X,R			
QML Live		X			
Qt Creator Deployment		X			
Qt Creator Plugin for Qt Application Manager			X	X	
Qt Automotive Suite Deployment Server		X			
Qt Design Studio		X			
Qt 3D Studio		X			
GammaRay		X			X
Platform adaptations for specified					X

Deployment Platforms					
Qt for Device Creation		X			

All the above Redistributables are subject to applicable provisions and limitations including but not limited to what is defined in section 3 of the Agreement.

APPENDIX 4: SMALL BUSINESS AND STARTUP

The provisions of this Appendix 4 are applicable for Start-up Companies and for the Evaluation Term.For the purpose of this Appendix 4, the following additional definitions shall be applicable:

"Trial Term" shall mean a period of twelve (12) months.

"Start-up Company" means a company with a maximum annual revenue, including funding, equivalent to 100,000 USD (in applicable currency) during a respective calendar year, as evidenced by duly audited records of the Licensee and approved by The Qt Company.

During the Trial Term, Section 3 shall apply with following modifications ("Trial Term Modifications"):

(i) Licenses granted under Sections 3.1 and 3.2 shall be free of any charge. For clarity, License for distribution of Devices pursuant to Section 3.3 is subject to applicable License Fee for necessary Distribution Licenses;

(ii) Development License under Section 3.1 is limited to a maximum of three (3) Designated Users; and

(iii) Support is available subject to availability, as judged by The Qt Company at its free and absolute discretion, provided that support will be limited to a maximum of ten (10) tickets during the Trial Term.

Upon expiry of the Trial Term:

(a) This Appendix 4 is terminated, Trial Term Modifications cease to remain in force, Licensee's Development Licenses shall be automatically converted into licenses subject to a License Fee (in the amount specified in the quote or in Appendix 2 and payable with a 30-day payment term) and Licensee's rights and obligations under this Agreement shall continue to remain in force under the standard provisions of the Agreement,

unless the Licensee notifies The Qt Company in writing no less than ninety (90) days before such expiry date that Licensee does not agree to such continuance, in which event the Agreement, and all rights of the Licensee thereunder, shall expire; provided however that

(b) in the event the Licensee still qualifies as a Start-up Company, the Licensee has an option ("Option"), instead of what is stated in item a) above, to renew the Trial Term. Renewal is limited to one time, and the total duration of Trial Term is thus 24 months after the effective date. Licensee shall notify The Qt Company in writing, no less than ninety (90) days before the expiry date, if Licensee wish to exercise the Option.

APPENDIX 5: NON-COMMERCIAL USE

The provisions of this Appendix 5 are applicable for non-commercial use of the Licensed Software by the Licensee.

For the purpose of this Appendix 5, the following additional definitions (replacing the relevant definition of the Agreement, where applicable) shall be applicable:

"Demo Units" shall mean (i) hardware development platform, which incorporates the Licensed Software along with Licensee's software and/or hardware, and (ii) prototype versions of Applications or Devices.

"Designated User(s)" shall mean the employees and students of the Licensee.

"Licensee Products" shall mean Applications and/or Devices.

"Permitted Purpose" shall mean (i) Licensee's internal evaluation and testing of Licensed Software, (ii) building Demo Units as well as (iii) educational use.

"Term" shall mean a period of twelve (12) months or any such other period as may be agreed between the Parties.

For the purpose of this Appendix 5, the following changes shall be agreed with respect to relevant Sections of the Agreement:

I. Recital (A) shall be replaced in its entirety to read as follows:

"(A) Licensee wishes to use the Licensed Software for the Permitted Purpose."

II. Section 3.1 shall be replaced in its entirety to read as follows:

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Licensee may demonstrate the Demo Units, provided that such demonstrations must be conducted by Licensee, and the Demo Units must remain in Licensee's possession and under Licensee's control at all times.

For clarity, this Agreement does not (i) entitle Licensee to use Licensed Software to create Applications or Devices (other than prototypes thereof) or (ii) carry any distribution rights to Licensee, but such rights are subject to and conditional upon conclusion of a separate license agreement with The Qt Company."

III. Sections 3.2, 3.3, 8 and 10 shall be deleted.

IV. Section 3.4 shall be replaced in its entirety to read as follows:

"Licensee shall not:

- remove or alter any copyright, trademark or other proprietary rights notice contained in any portion of the Licensed Software;

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Any use of Licensed Software beyond the provisions of this

Agreement is strictly prohibited and requires an additional license from The Qt Company."

V. Section 12 shall be replaced in its entirety to read as follows:

"This Agreement shall enter into force upon due acceptance by both Parties and remain in force for the Term, unless and until terminated pursuant to the terms
of Section 12.

Upon termination of the Agreement, Licensee shall cease using the Licensed Software. All other copies of Licensed Software in the possession or control of Licensee must be erased or destroyed. An officer of Licensee must, upon request, promptly deliver to The Qt Company a written confirmation that this has occurred."

Except for the modifications specified above, this Appendix carries no change to the terms of the Agreement which shall remain in full force.

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Repository: https://github.com/adrianheine/acorn-import-meta

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Repository: https://github.com/acornjs/acorn.git

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braces
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Repository: jonschlinkert/fill-range

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immutable
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jonschlinkert/is-number

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magic-string
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Repository: jorgebucaran/turbocolor

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Specifically, the GPL parts of FFmpeg are:

- libpostproc
- optional x86 optimization in the files
  - `libavcodec/x86/flac_dsp_gpl.asm`
  - `libavcodec/x86/idct_mmx.c`
  - `libavfilter/x86/vf_removegrain.asm`
- the following building and testing tools
  - `compat/solaris/make_sunver.pl`
  - `doc/t2h.pm`
  - `doc/texi2pod.pl`
  - `libswresample/tests/swresample.c`
  - `tests/checkasm/*`
  - `tests/tiny_ssim.c`
-
 the following filters in libavfilter:
  - `signature_lookup.c`
  - `vf_blackframe.c`
  - `vf_boxblur.c`
  - `vf_colormatrix.c`
  - `vf_cover_rect.c`
  - `vf_cropdetect.c`
  - `vf_delogo.c`
  - `vf_eq.c`
  - `vf_find_rect.c`
  - `vf_fspp.c`
  - `vf_geq.c`
  - `vf_histeq.c`
  - `vf_hqdn3d.c`
  - `vf_kerndeint.c`
  - `vf_lensfun.c` (GPL version 3 or later)

- `vf_mcdeint.c`
- `vf_mpdecimate.c`
- `vf_nnedi.c`
- `vf_owdenoise.c`
- `vf_perspective.c`
- `vf_phase.c`
- `vf_pp.c`
- `vf_pp7.c`
- `vf_pullup.c`
- `vf_repeatfields.c`
- `vf_sab.c`
- `vf_signature.c`
- `vf_smartblur.c`
- `vf_spp.c`
- `vf_stereo3d.c`
- `vf_super2xsai.c`
- `vf_tinterlace.c`
- `vf_uspp.c`
- `vf_vaguedenoiser.c`
- `vsrc_mptestsrc.c`

Should you, for whatever reason, prefer to use version 3 of the (L)GPL, then the configure parameter `--enable-version3` will activate this licensing option for you. Read
the file `COPYING.LGPLv3` or, if you have enabled GPL parts, `COPYING.GPLv3` to learn the exact legal terms that apply in this case.

There are a handful of files under other licensing terms, namely:

* The files `libavcodec/jfdctfst.c`, `libavcodec/jfdctint_template.c` and `libavcodec/jrevdct.c` are taken from libjpeg, see the top of the files for licensing details. Specifically note that you must credit the IJG in the documentation accompanying your program if you only distribute executables. You must also indicate any changes including additions and deletions to those three files in the documentation.
* `tests/reference.pnm` is under the expat license.

External libraries

FFmpeg can be combined with a number of external libraries, which sometimes affect the licensing of binaries resulting from the combination.

Compatible libraries

The following libraries are under GPL version 2:
- avisynth
- frei0r

- libcdio
- libdavs2
- librubberband
- libvidstab
- libx264
- libx265
-
 libxavs
- libxavs2
- libxvid

When combining them with FFmpeg, FFmpeg needs to be licensed as GPL as well by
passing `--enable-gpl` to configure.

The following libraries are under LGPL version 3:
- gmp
- libaribb24
- liblensfun

When combining them with FFmpeg, use the configure option `--enable-version3` to
upgrade FFmpeg to the LGPL v3.

The VMAF, mbedTLS, RK MPI, OpenCORE and VisualOn libraries are under the Apache License
2.0. That license is incompatible with the LGPL v2.1 and the GPL v2, but not with
version 3 of those licenses. So to combine these libraries with FFmpeg, the
license version needs to be upgraded by passing `--enable-version3` to configure.

The smbclient library is under the GPL v3, to combine it with FFmpeg,
the options `--enable-gpl` and `--enable-version3` have to be passed to
configure to upgrade FFmpeg to the GPL v3.

Incompatible libraries

There are certain libraries you can combine with FFmpeg whose licenses are not
compatible with the GPL and/or
 the LGPL. If you wish to enable these
libraries, even in circumstances that their license may be incompatible, pass
`--enable-nonfree` to configure. This will cause the resulting binary to be
unredistributable.

The Fraunhofer FDK AAC and OpenSSL libraries are under licenses which are
incompatible with the GPLv2 and v3. To the best of our knowledge, they are
compatible with the LGPL.
This file contains a list of people who've made non-trivial
contribution to the Google C++ Mocking Framework project. People
who commit code to the project are encouraged to add their names
here. Please keep the list sorted by first names.

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```
reporting:
  reports:
    - lcov
    - text
    - text-summary
check:
  global:
    statements: 95
    lines: 95
    branches: 90
    functions: 100
```

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^ expected errors | v input
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/*---

esid: sec-assignment-operators-static-semantics-early-errors
description: Minimal test
---*/

void 0;

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validate-npm-package-license
==========

Give me a string and I'll tell you if it's a valid npm package license string.

```javascript
var valid = require('validate-npm-package-license');
```

SPDX license identifiers are valid license strings:

```javascript

var assert = require('assert');
var validSPDXExpression = {
 validForNewPackages: true,
 validForOldPackages: true,
 spdx: true
};

assert.deepEqual(valid('MIT'), validSPDXExpression);
assert.deepEqual(valid('BSD-2-Clause'), validSPDXExpression);
assert.deepEqual(valid('Apache-2.0'), validSPDXExpression);
assert.deepEqual(valid('ISC'), validSPDXExpression);
```

The function will return a warning and suggestion for nearly-correct license identifiers:

```javascript
```

```
assert.deepEqual(
 valid('Apache 2.0'),
 {
  validForOldPackages: false,
  validForNewPackages: false,
  warnings: [
   'license should be ' +
   'a valid SPDX license expression (without "LicenseRef"), ' +
   '"UNLICENSED", or ' +
    '"SEE LICENSE IN <filename>"',
   'license is similar to the valid expression "Apache-2.0"'
  ]
 }
);
```

SPDX expressions are valid, too ...

```javascript
// Simple SPDX license expression for dual licensing
assert.deepEqual(
 valid('(GPL-3.0-only OR BSD-2-Clause)'),
 validSPDXExpression
);
```

... except if they contain `LicenseRef`:

```javascript
var warningAboutLicenseRef = {
 validForOldPackages: false,
 validForNewPackages: false,
 spdx: true,
 warnings: [
  'license should be ' +
  'a valid SPDX license expression (without "LicenseRef"), ' +
  '"UNLICENSED", or ' +
  '"SEE LICENSE IN <filename>"',
 ]
};

assert.deepEqual(
 valid('LicenseRef-Made-Up'),
 warningAboutLicenseRef
);

assert.deepEqual(
 valid('(MIT OR LicenseRef-Made-Up)'),
```

 warningAboutLicenseRef
);
```

If you can't describe your licensing terms with standardized SPDX identifiers, put the terms in a file in the package and point users there:

```javascript
assert.deepEqual(
 valid('SEE
 LICENSE IN LICENSE.txt'),
 {
  validForNewPackages: true,
  validForOldPackages: true,
  inFile: 'LICENSE.txt'
 }
);

assert.deepEqual(
 valid('SEE LICENSE IN license.md'),
 {
  validForNewPackages: true,
  validForOldPackages: true,
  inFile: 'license.md'
 }
);
```

If there aren't any licensing terms, use `UNLICENSED`:

```javascript
var unlicensed = {
 validForNewPackages: true,
 validForOldPackages: true,
 unlicensed: true
};
assert.deepEqual(valid('UNLICENSED'), unlicensed);
assert.deepEqual(valid('UNLICENCED'), unlicensed);
```
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```

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```
#!/usr/bin/env node
var nopt = require("../lib/nopt")
 , path = require("path")
 , types = { num: Number
           , bool: Boolean
           , help: Boolean
           , list: Array
           , "num-list": [Number, Array]
           , "str-list": [String, Array]
           , "bool-list": [Boolean, Array]
           , str: String
           , clear: Boolean
           , config: Boolean
           , length: Number
           , file: path
           }
 , shorthands = { s: [ "--str", "astring" ]
                , b: [ "--bool" ]
                , nb: [ "--no-bool" ]
                , tft: [ "--bool-list", "--no-bool-list", "--bool-list", "true" ]
                , "?": ["--help"]
                , h: ["--help"]
                , H: ["--help"]
                , n: [ "--num", "125" ]
                , c: ["--config"]
                , l: ["--length"]
                , f: ["--file"]
                }
 , parsed = nopt( types
```

```
            , shorthands

        , process.argv
            , 2 )

console.log("parsed", parsed)

if (parsed.help) {
 console.log("")
 console.log("nopt cli tester")
 console.log("")
 console.log("types")
 console.log(Object.keys(types).map(function M (t) {
   var type = types[t]
   if (Array.isArray(type)) {
     return [t, type.map(function (type) { return type.name })]
   }
   return [t, type && type.name]
 }).reduce(function (s, i) {
   s[i[0]] = i[1]
   return s
 }, {}))
 console.log("")
 console.log("shorthands")
 console.log(shorthands)
}
```

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C++ Big Integer Library
(see ChangeLog for version)

http://mattmccutchen.net/bigint/

Written and maintained by Matt McCutchen <matt@mattmccutchen.net>

You can use this library in a C++ program to do arithmetic on integers of size
limited only by your computer's memory. The library provides BigUnsigned and
BigInteger classes that represent nonnegative integers and signed integers,
respectively. Most of the C++ arithmetic operators are overloaded for these
classes, so big-integer calculations are as easy as:

```
#include "BigIntegerLibrary.hh"

BigInteger a = 65536;
cout << (a * a * a * a * a * a * a * a);
```

(prints 340282366920938463463374607431768211456)

The code in `sample.cc' demonstrates the most important features of the library.
To get started quickly, read the code and explanations in that file and run it.
If you want more detail or a feature not shown in `sample.cc', consult
the
consult the actual header and source files, which are thoroughly commented.

This library emphasizes ease of use and clarity of implementation over speed;
some users will prefer GMP (http://swox.com/gmp/), which is faster. The code is
intended to be reasonably portable across computers and modern C++ compilers; in
particular, it uses whatever word size the computer provides (32-bit, 64-bit, or
otherwise).

Compiling programs that use the library

The library consists of a folder full of C++ header files (`.hh') and source
files (`.cc'). Your own programs should `#include' the necessary header files
and link with the source files. A makefile that builds the sample program
(`sample.cc') is included; you can adapt it to replace the sample with your own

program.

Alternatively, you can use your own build system or IDE. In that case, you must put the library header files where the compiler will find them and arrange to have your program linked
with the library source files; otherwise, you will get
errors about missing header files or "undefined references". To learn how to do this, consult the documentation for the build system or IDE; don't bother asking me. Adding all the library files to your project will work in many IDEs but may not be the most desirable approach.

Resources

The library's Web site (above) provides links to released versions, the current development version, and a mailing list for release announcements, questions, bug reports, and other discussion of the library. I would be delighted to hear from you if you like this library and/or find a good use for it.

Bugs and enhancements

The library has been tested by me and others but is by no means bug-free. If you find a bug, please report it, whether it comes in the form of compiling trouble, a mathematically inaccurate result, or a memory-management blooper (since I use Java, these are altogether too common in my C++).
I generally fix
all reported bugs. You are also welcome to request enhancements, but I am unlikely to do substantial amounts of work on enhancements at this point.

Legal

I, Matt McCutchen, the sole author of the original Big Integer Library, waive my copyright to it, placing it in the public domain. The library comes with absolutely no warranty.

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OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
If you want to write an option parser, and have it be good, there are
two ways to do it. The Right Way, and the Wrong Way.

The Wrong Way is to sit down and write an option parser. We've all done
that.

The Right Way is to write some complex configurable program with so many
options that you hit the limit of your frustration just trying to
manage them all, and defer it with duct-tape solutions until you see
exactly to the core of the problem, and finally snap and write an
awesome option parser.

If you want to write an option parser, don't write an option parser.
Write a package manager, or a source control system, or a service
restarter, or an operating system. You probably won't end up with a
good one of those, but if you don't give up, and you are relentless and
diligent enough in your procrastination, you may just end up with a very
nice option parser.

USAGE

```javascript
// my-program.js
var nopt = require("nopt")
 , Stream = require("stream").Stream
 , path = require("path")
  , knownOpts = { "foo" : [String, null]
                , "bar" : [Stream, Number]
                , "baz" : path
                , "bloo" : [ "big", "medium", "small" ]
                , "flag" : Boolean
                , "pick" : Boolean
                , "many1" : [String, Array]
                , "many2" : [path, Array]
                }
 , shortHands = { "foofoo" : ["--foo", "Mr. Foo"]
                 , "b7" : ["--bar", "7"]
                 , "m" : ["--bloo", "medium"]
                 , "p" : ["--pick"]
                 , "f" : ["--flag"]
                 }
           // everything is optional.
           // knownOpts and shorthands default to {}
           // arg list defaults to process.argv
           // slice defaults to 2
 , parsed = nopt(knownOpts, shortHands, process.argv, 2)
console.log(parsed)
```

This would give you support for any of the following:

```console
$ node my-program.js --foo "blerp" --no-flag
{ "foo" : "blerp", "flag" : false }

$ node my-program.js
 ---bar 7 --foo "Mr. Hand" --flag
{ bar: 7, foo: "Mr. Hand", flag: true }

$ node my-program.js --foo "blerp" -f -----p
{ foo: "blerp", flag: true, pick: true }

$ node my-program.js -fp --foofoo
{ foo: "Mr. Foo", flag: true, pick: true }

$ node my-program.js --foofoo -- -fp  # -- stops the flag parsing.
{ foo: "Mr. Foo", argv: { remain: ["-fp"] } }

$ node my-program.js --blatzk -fp # unknown opts are ok.
{ blatzk: true, flag: true, pick: true }

$ node my-program.js --blatzk=1000 -fp # but you need to use = if they have a value
{ blatzk: 1000, flag: true, pick: true }

$ node my-program.js --no-blatzk -fp # unless they start with "no-"
{ blatzk: false, flag: true, pick: true }

$ node my-program.js --baz b/a/z # known paths are resolved.
{ baz: "/Users/isaacs/b/a/z" }

# if Array is one of the types, then it can take many
# values, and will always be an array.  The other types provided
# specify what types are allowed in the list.

$ node my-program.js --many1 5 --many1 null
 --many1 foo
{ many1: ["5", "null", "foo"] }

$ node my-program.js --many2 foo --many2 bar
{ many2: ["/path/to/foo", "path/to/bar"] }
```

Read the tests at the bottom of `lib/nopt.js` for more examples of
what this puppy can do.

Types

The following types are supported, and defined on `nopt.typeDefs`

* String: A normal string. No parsing is done.
* path: A file system path. Gets resolved against cwd if not absolute.
* url: A url. If it doesn't parse, it isn't accepted.
* Number: Must be numeric.
* Date: Must parse as a date. If it does, and `Date` is one of the options,
 then it will return a Date object, not a string.
* Boolean: Must be either `true` or `false`. If an option is a boolean,
 then it does not need a value, and its presence will imply `true` as
 the value. To negate boolean flags, do `--no-whatever` or `--whatever
 false`
* NaN: Means that the option is strictly not allowed. Any value will
 fail.
* Stream: An object matching the "Stream" class in node.
  Valuable
 for use when validating programmatically. (npm uses this to let you
 supply any WriteStream on the `outfd` and `logfd` config options.)
* Array: If `Array` is specified as one of the types, then the value
 will be parsed as a list of options. This means that multiple values
 can be specified, and that the value will always be an array.

If a type is an array of values not on this list, then those are
considered valid values. For instance, in the example above, the
`--bloo` option can only be one of `"big"`, `"medium"`, or `"small"`,
and any other value will be rejected.

When parsing unknown fields, `"true"`, `"false"`, and `"null"` will be
interpreted as their JavaScript equivalents.

You can also mix types and values, or multiple types, in a list. For
instance `{ blah: [Number, null] }` would allow a value to be set to
either a Number or null. When types are ordered, this implies a
preference, and the first type that can be used to properly interpret
the value will
 be used.

To define a new type, add it to `nopt.typeDefs`. Each item in that
hash is an object with a `type` member and a `validate` method. The
`type` member is an object that matches what goes in the type list. The
`validate` method is a function that gets called with `validate(data,
key, val)`.  Validate methods should assign `data[key]` to the valid
value of `val` if it can be handled properly, or return boolean
`false` if it cannot.

You can also call `nopt.clean(data, types, typeDefs)` to clean up a
config object and remove its invalid properties.

Error Handling

By default, nopt outputs a warning to standard error when invalid values for
known options are found. You can change this behavior by assigning a method
to `nopt.invalidHandler`. This method will be called with
the offending `nopt.invalidHandler(key, val, types)`.

If no `nopt.invalidHandler` is assigned, then it will console.error
its whining. If it is assigned to boolean `false` then the warning is
suppressed.

##
 Abbreviations

Yes, they are supported. If you define options like this:

```javascript
{ "foolhardyelephants" : Boolean
, "pileofmonkeys" : Boolean }
```

Then this will work:

```bash
node program.js --foolhar --pil
node program.js --no-f --pileofmon
# etc.
```

Shorthands

Shorthands are a hash of shorter option names to a snippet of args that
they expand to.

If multiple one-character shorthands are all combined, and the
combination does not unambiguously match any other option or shorthand,
then they will be broken up into their constituent parts. For example:

```json
{ "s" : ["--loglevel", "silent"]
, "g" : "--global"
, "f" : "--force"
, "p" : "--parseable"
, "l" : "--long"
}
```

```bash
npm ls -sgflp
# just like doing this:
```

npm ls --loglevel silent --global --force --long --parseable
```

## The Rest of the args

The config object returned by nopt is given a special member called
`argv`, which is an object with the following fields:

* `remain`: The remaining args
 after all the parsing has occurred.
* `original`: The args as they originally appeared.
* `cooked`: The args after flags and shorthands are expanded.

## Slicing

Node programs are called with more or less the exact argv as it appears
in C land, after the v8 and node-specific options have been plucked off.
As such, `argv[0]` is always `node` and `argv[1]` is always the
JavaScript program being run.

That's usually not very useful to you.  So they're sliced off by
default.  If you want them, then you can pass in `0` as the last
argument, or any other number that you'd like to slice off the start of
the list.
// sigslot.h: Signal/Slot classes
//
// Written by Sarah Thompson (sarah@telergy.com) 2002.
//
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Change Log

v25.0.1 (2019/01/10 19:29 +00:00)

- [f1c835b](https://github.com/davglass/license-checker/commit/f1c835b991b65dc928eafe64c29b73df9e703169) Updated readme with new args (@davglass)
- [ada667f](https://github.com/davglass/license-checker/commit/ada667f28e8ef4e96b5b6059fe05541d05ca936c) changelog (@davglass)
- [7813f0d](https://github.com/davglass/license-checker/commit/7813f0db3b51f7cc4cd37d8e7b4670f9005fed06) contrib (@davglass)

v25.0.0 (2019/01/10 15:09 +00:00)

- [cdb77d9](https://github.com/davglass/license-checker/commit/cdb77d9a2b36cd87503f32265a0ee388b25c24ae) 25.0.0 (@davglass)
- [b897345](https://github.com/davglass/license-checker/commit/b89734549bc05fb5e143083fdf6d3959d87eb2b8) [Fixes #136] Document --start option and add the depth option for looking into root dependencies or infinitely (@davglass)

- [#185](https://github.com/davglass/license-checker/pull/185) Merge pull request #185 from theboolean/fix/exclude-packages-and-private (@theboolean)
- [#184](https://github.com/davglass/license-checker/pull/184)
Merge pull request #184 from theboolean/docs/fix-typo (@theboolean)
- [987a60f](https://github.com/davglass/license-checker/commit/987a60fbb58052cf36d5a80e6252e81136bb1dd8) changes 24.1.0 (@davglass)

v24.1.0 (2018/12/14 20:54 +00:00)
- [18ab8a1](https://github.com/davglass/license-checker/commit/18ab8a1eb478d1354429ca4318c1df3de3e4cbb1) 24.1.0 (@davglass)
- [1dca0f6](https://github.com/davglass/license-checker/commit/1dca0f616aebdef2d398c130a2a4f86c2b4e88c8) Changelog (@davglass)
- [#188](https://github.com/davglass/license-checker/pull/188) Fix for #153: remove deprecated package 'spdx' (#188) (@rogierschouten)
- [d1d34b1](https://github.com/davglass/license-checker/commit/d1d34b1a8894987807419c093c3ec10b4f06db3d) Fix typo in package.json description (@theboolean)
- [f5c9008](https://github.com/davglass/license-checker/commit/f5c9008a6d20b503e21c0d8130e52be526a5bfe8) Fix: Allow excluding packages and private packages together
(@theboolean)
- [98c4dc6](https://github.com/davglass/license-checker/commit/98c4dc670fdebb6e58b62b38ebcb12302e5b1db5) changes (@davglass)

v24.0.1 (2018/10/11 16:40 +00:00)
- [d72eae8](https://github.com/davglass/license-checker/commit/d72eae8bcb80d8582e6d12c5e2664e9c19135709) 24.0.1 (@davglass)
- [9433e64](https://github.com/davglass/license-checker/commit/9433e640ea9f629aad5f00c224a9f61026b8116d) [Fixes #181] - Removed extra line break with --cvs (@davglass)
- [65baa28](https://github.com/davglass/license-checker/commit/65baa28f532f87ebb75a32578c7ac5837806d12f) contrib and changes (@davglass)

v24.0.0 (2018/10/09 21:12 +00:00)
- [84d64a2](https://github.com/davglass/license-checker/commit/84d64a28fa971c3bfb20b9e9de27cafbe6e8481b) 24.0.0 (@davglass)
- [#180](https://github.com/davglass/license-checker/pull/180) Feature: Exclude Private Packages (#180) (Jonny Reeves)
- [#179](https://github.com/davglass/license-checker/pull/179) Merge pull request #179 from jonny-improbable/fix/fix-strict-checks
(@jonny-improbable)
- [179077d](https://github.com/davglass/license-checker/commit/179077d079acbcd0183aa6691cfe5c2ec0f93f07) Fixes 176, Packages are not ignored when using --onlyAllow and --excludePackages. (@jonny-improbable)
- [890ca17](https://github.com/davglass/license-checker/commit/890ca17d179bc43a6cb7cff962d69d1521dc9ac2) changelog (@davglass)

v23.0.0 (2018/10/09 14:37 +00:00)
- [f243287](https://github.com/davglass/license-checker/commit/f243287fbce6da33838a226ddfe8c412535390d4) 23.0.0 (@davglass)
- [#178](https://github.com/davglass/license-checker/pull/178) Merge pull request #178 from jonny-improbable/fix/filtering (@jonny-improbable)

- [#175](https://github.com/davglass/license-checker/pull/175) Merge pull request #175 from jonny-improbable/patch-1 (@jonny-improbable)
- [f2c6611](https://github.com/davglass/license-checker/commit/f2c6611d6c68e50b2b6f56260026837e7167f44a) Fixes #177, --packages and --excludePackages filtering (@jonny-improbable)
- [0a598df](https://github.com/davglass/license-checker/commit/0a598df55c3ec33803ef33be07cc47a910eee961) Improve --onlyAllow violation Error
- [ee723af](https://github.com/davglass/license-checker/commit/ee723af79889a4d98ed067494a58f6aa41a44ac7) changes (@davglass)

v22.0.0 (2018/10/08 19:00 +00:00)
- [bd398c3](https://github.com/davglass/license-checker/commit/bd398c3bce0279699c9aad1dc4b592f398a75766) 22.0.0 (@davglass)
- [#172](https://github.com/davglass/license-checker/pull/172) Merge pull request #172 from fzaninotto/exclude-packages (@fzaninotto)
- [014fd96](https://github.com/davglass/license-checker/commit/014fd9613fe5460e0b7a0fc118a659a337e25e2c) added changes (@davglass)

v21.0.0 (2018/10/06 13:24 +00:00)
- [d75fe43](https://github.com/davglass/license-checker/commit/d75fe43d61a9d5b6696d71a663e25a53fd3d44f7) 21.0.0 (@davglass)
- [05cb221](https://github.com/davglass/license-checker/commit/05cb221359de4ffe1039f586cd9e8fb7cb9d6398) [Fixes #174] - Moved private and unknown
detection above filtering (@davglass)
- [b1d5700](https://github.com/davglass/license-checker/commit/b1d570088236dfb90253bdac27763523b2e74ffb) Add an excludePackages option (@fzaninotto)
- [231bd3f](https://github.com/davglass/license-checker/commit/231bd3f2412507be1d702ad100b23c1b1fe93602) updated readme (@davglass)
- [6c61a7b](https://github.com/davglass/license-checker/commit/6c61a7bd102466c702065d42706392c11717cc1d) changelog (@davglass)

v20.2.0 (2018/07/30 13:49 +00:00)
- [28dc521](https://github.com/davglass/license-checker/commit/28dc5218dec3340778bd801593275ad1b222e53f) 20.2.0 (@davglass)
- [#169](https://github.com/davglass/license-checker/pull/169) Merge pull request #169 from codepunkt/restrict_packages (@codepunkt)
- [5e4b274](https://github.com/davglass/license-checker/commit/5e4b274e955485fb2aba37e65fec913b8042f38d) refactor: restore previous code style (@codepunkt)
- [ed25d68](https://github.com/davglass/license-checker/commit/ed25d6829602793e13233d3da2d97b92ee2044c6) test: add test for --packages flag (@codepunkt)
- [0f53922](https://github.com/davglass/license-checker/commit/0f53922088be0b0dfd4f8db7ea884b53d0137e45) feat: allow restricting output to specified packages (@codepunkt)
- [5f63f87](https://github.com/davglass/license-checker/commit/5f63f8766a17e589b57db99bda4eb54d91b85b77) changes and contrib (@davglass)

v20.1.0 (2018/06/07 14:33 +00:00)
- [970882a](https://github.com/davglass/license-checker/commit/970882a09b345c7f32496431e5ca4c069ad7e320) 20.1.0 (@davglass)
- [#165](https://github.com/davglass/license-checker/pull/165) Merge pull request #165 from santiagocanti/fix-

exclude-not-adding-custom-licenses (@santiagocanti)
- [89e48a9](https://github.com/davglass/license-checker/commit/89e48a9d3d0c9f2e48bfcee0dc3563ce4b652e22) Fix exclude not including custom licenses (@santiagocanti)

v20.0.0 (2018/05/17 14:14 +00:00)
- [0e89310](https://github.com/davglass/license-checker/commit/0e8931021df777cb401d9a332fa2a8c9a2c49eb2) 20.0.0 (@davglass)
- [c36a5c9](https://github.com/davglass/license-checker/commit/c36a5c99bb4f68816e4e19cad5090ba3c7ba67a4) changes (@davglass)
- [ccb66f3](https://github.com/davglass/license-checker/commit/ccb66f3410a4589e6f2b7cf1c3aefb1446bab460) contributors (@davglass)
- [#156](https://github.com/davglass/license-checker/pull/156) Merge pull request #156 from zodiac403/z4/copyright (@zodiac403)
- [56414b4](https://github.com/davglass/license-checker/commit/56414b4a67cbb25bcc8eb8cc05b0ac712b677dc2) Add unit test for Copyright statement. (@zodiac403)
- [3eafe24](https://github.com/davglass/license-checker/commit/3eafe249ad662af727a9b7472f7ad6c1b9a73ade) fixing test coverage with switch to nyc from istanbul (@davglass)

v19.0.0 (2018/04/30 14:51 +00:00)
- [7e83a06](https://github.com/davglass/license-checker/commit/7e83a069d23c104c3cd8257eb64666704ecca465) 19.0.0 (@davglass)
- [e5eb49b](https://github.com/davglass/license-checker/commit/e5eb49bcb5546dbc681f736f159d63908cd39ce9) upgrading packages (@davglass)
- [442aee6](https://github.com/davglass/license-checker/commit/442aee69b5d44e47bfd2e441c4e1f86d387e49c6) Changlog (@davglass)

v18.1.0 (2018/04/30 14:16 +00:00)
- [82ec91b](https://github.com/davglass/license-checker/commit/82ec91bb02e6bf998164b62b4aa827198156ad4c) 18.1.0 (@davglass)
- [4b546d3](https://github.com/davglass/license-checker/commit/4b546d38ce91bcbe8d21e7bc53e44635b0447fc2) contrib (@davglass)
- [#155](https://github.com/davglass/license-checker/pull/155) Merge pull request #155 from ktmouk/supress-path-property (@ktmouk)
- [#160](https://github.com/davglass/license-checker/pull/160) Merge pull request #160 from helio-frota/pr (@helio-frota)
- [8b068f2](https://github.com/davglass/license-checker/commit/8b068f25fe910d087c06e29312bc250b49aba4c7) fix: Updating debug dependency to fix a security warning (@helio-frota)
- [040dd94](https://github.com/davglass/license-checker/commit/040dd9468261966c5c40e4a418aa9ba8f716c3a2) Copyright statement: Handle multi-line stagements (@zodiac403)
- [0480750](https://github.com/davglass/license-checker/commit/04807506d61aa1d704e8b51da3a289baa025b510) Fix layout issue. (@zodiac403)
- [9cb45f2](https://github.com/davglass/license-checker/commit/9cb45f2b9ce2c1142c0d1f556f01f7d754737a4c) Link with customFormat (@zodiac403)
- [f83aaae](https://github.com/davglass/license-checker/commit/f83aaae85ad4cc2e9880802951dfacbc86dc2d7f) Merge branch 'z4/copyright' of https://github.com/zodiac403/license-checker into z4/copyright (@zodiac403)

- [7536af9](https://github.com/davglass/license-checker/commit/7536af935d91078657f0e169ed82383f099607f6) Trim output. (@zodiac403)
- [8716845](https://github.com/davglass/license-checker/commit/87168456cae35263882bd2b6d6d0081f228b6b66) Suppress path property (@ktmouk)
- [be57ee8](https://github.com/davglass/license-checker/commit/be57ee8f76c8aada0d227913b7d0e12aca0dc640) Add example for (c) statement. (@zodiac403)
- [fe17f7c](https://github.com/davglass/license-checker/commit/fe17f7c76dbdae0cbf689a0cd260a746698f3281) Parse (c) statements from LICENSE file. (@zodiac403)
- [#149](https://github.com/davglass/license-checker/pull/149) Merge pull request #149 from honzajavorek/patch-1 (@honzajavorek)
- [955bbf6](https://github.com/davglass/license-checker/commit/955bbf6070ffcd9f0d01ef37bb84ffbac65e007b) remove the old status badge (@honzajavorek)

v18.0.0 (2018/03/20 12:30 +00:00)
- [315de0b](https://github.com/davglass/license-checker/commit/315de0b1a881cf8737c3c0131c217c4820df13a8) 18.0.0 (@davglass)
- [76655d5](https://github.com/davglass/license-checker/commit/76655d59bad95c2e52724aaa3a0cf036f0e60bd6) changelog (@davglass)
- [c8aa823](https://github.com/davglass/license-checker/commit/c8aa823342b7a250d510582c8a03dd76af50bd9c) added contributors (@davglass)
- [#147](https://github.com/davglass/license-checker/pull/147) Merge pull request #147 from honzajavorek/honzajavorek/license-files (@honzajavorek)
- [#148](https://github.com/davglass/license-checker/pull/148) Merge pull request #148 from honzajavorek/honzajavorek/use-stderr (@honzajavorek)
- [#146](https://github.com/davglass/license-checker/pull/146) Merge pull request #146 from honzajavorek/honzajavorek/fix-e2e-test (@honzajavorek)
- [#145](https://github.com/davglass/license-checker/pull/145) Merge pull request #145 from honzajavorek/honzajavorek/drop-4-add-8 (@honzajavorek)
- [0105f7d](https://github.com/davglass/license-checker/commit/0105f7dcf01a67b8f7c34371d95a1d76b191d5ed) use stderr where applicable (@honzajavorek)
- [0ff8d91](https://github.com/davglass/license-checker/commit/0ff8d917c659446256074c0940ae43dd84930233) add support for LICENSE-MIT and similar (@honzajavorek)
- [f02589e](https://github.com/davglass/license-checker/commit/f02589e62c0ba8221081b8b1799d561c3ff20500) isolate and test the license file detection (@honzajavorek)
- [f0da0fe](https://github.com/davglass/license-checker/commit/f0da0fe2ab28f1658e4ed504bb034fb1536b9ff8) add warning about commas and test it (@honzajavorek)
- [3db0b6f](https://github.com/davglass/license-checker/commit/3db0b6f05a68ccfff4181503ca87edce4ef10cd7) fix e2e test (transition from comma delimiter to semicolon) (@honzajavorek)
- [cec3b73](https://github.com/davglass/license-checker/commit/cec3b73505ac40a2dca211e78427624d009585dc) let Travis CI to cache node_modules (@honzajavorek)
- [8cea3dc](https://github.com/davglass/license-checker/commit/8cea3dccf1d185dc3ae3f37f44a82d7e123a1988) add Travis CI badge to the README (@honzajavorek)
- [8f59c3b](https://github.com/davglass/license-checker/commit/8f59c3b494f69b1d51535bcff80c0e006d0ef6bb) drop support for node 4, add support for node 8 (@honzajavorek)

v17.0.0 (2018/03/19 13:26 +00:00)
- [cd5fdd8](https://github.com/davglass/license-checker/commit/cd5fdd8e94267d7d8f29e86dd9cbf8b694c037f1)

17.0.0 (@davglass)
- [13c11ee](https://github.com/davglass/license-checker/commit/13c11eeea1b1a3e012de62536100fce91c355c8b) updated readme and help text (@davglass)
- [#144](https://github.com/davglass/license-checker/pull/144) Merge pull request #144 from creising/parser-fixes (@creising)
- [d2ab8df](https://github.com/davglass/license-checker/commit/d2ab8df30bc3e6b38b321a1e12a70cf477a69eb0) added support for lic with commas and spaces (@creising)
- [2075208](https://github.com/davglass/license-checker/commit/20752083c6029823fb389a30a1ed4d7d90fa9297) contrib and changelog (@davglass)
- [6c5274c](https://github.com/davglass/license-checker/commit/6c5274c6064d318844cf36185dea395e0893ff08) [fixes #132] - Fixed issue with asFiles and path issues (@davglass)
- [a46c448](https://github.com/davglass/license-checker/commit/a46c4483f872c3db9498a65b7ae3dc6d8164de0a) 16.0.0 (@davglass)
- [38d63e2](https://github.com/davglass/license-checker/commit/38d63e2c2c3fd6c11012fb69b1470b2ba06d5554) [fixes #128] - Added --onlyAllow option (@davglass)

v16.0.0 (2018/01/18 15:02 +00:00)
- [#131](https://github.com/davglass/license-checker/pull/131) Merge pull request #131 from mischah/patch-1 (@mischah)
- [e341d17](https://github.com/davglass/license-checker/commit/e341d1701092be87309ec4b51fa6eb23f7e9a589) Fix typo in Readme (@mischah)
- [cc38a20](https://github.com/davglass/license-checker/commit/cc38a2047bf41b6fe25266114a13a9bf54133e04) updated license text (@davglass)

v15.0.0 (2017/10/19 14:24 +00:00)
- [a9bd001](https://github.com/davglass/license-checker/commit/a9bd001b649bfa186bae5598bb8c67ff56383599) 15.0.0 (@davglass)
- [db621fa](https://github.com/davglass/license-checker/commit/db621fa6beeff870699c33be484bf49816ab7866) changelog (@davglass)
- [#124](https://github.com/davglass/license-checker/pull/124) Merge pull request #124 from neverendingqs/app/stricterguesses (@neverendingqs)
- [#126](https://github.com/davglass/license-checker/pull/126) app - output now includes path to dependency. (#126) (@neverendingqs)
- [9f68b29](https://github.com/davglass/license-checker/commit/9f68b29bbfa73278cdab92e221be6ccbab191932) app - strengthening license guessing; resolves #123. (@neverendingqs)
- [3061c87](https://github.com/davglass/license-checker/commit/3061c87363f3416d86ca6c2ba7b2bfa77def0e73) changes (@davglass)

v14.0.0 (2017/08/28 13:22 +00:00)
- [b2a4403](https://github.com/davglass/license-checker/commit/b2a440309c1537c52e5c5a2106f11e72d5b784ec) 14.0.0 (@davglass)
- [#122](https://github.com/davglass/license-checker/pull/122) Added --failOn [list] mode (#122) (@tobilg)

v13.1.0 (2017/08/25 15:00 +00:00)
- [ee25265](https://github.com/davglass/license-checker/commit/ee25265f92fe0d3b603da6b8c88d175e0d1f2fa5) 13.1.0 (@davglass)
- [5bb9a17](https://github.com/davglass/license-checker/commit/5bb9a17f89d7e180b3a9d929ebc073135262bd2f)

changes (@davglass)
- [b1e0392](https://github.com/davglass/license-checker/commit/b1e0392afa4b511b7c532125cd3165a828d3d4e3) added contrib (@davglass)
- [#121](https://github.com/davglass/license-checker/pull/121) Add `--summary` mode to show a summary with counts of the used licenses (#121)
(@tobilg)
- [#119](https://github.com/davglass/license-checker/pull/119) Fix minor spelling mistakes (#119) (@tobiasbueschel)
- [#118](https://github.com/davglass/license-checker/pull/118) Minor readme text improvements (#118) (@peteruithoven)
- [d2bc5ea](https://github.com/davglass/license-checker/commit/d2bc5ea91ab50becea91d5f0f050955fe9a6ac59) added license parsing info to README (@davglass)
- [3e9d320](https://github.com/davglass/license-checker/commit/3e9d320acb2e9f14297d6a4355680f34a9b0609d) changes (@davglass)

v13.0.3 (2017/08/04 17:15 +00:00)
- [2caf76b](https://github.com/davglass/license-checker/commit/2caf76be7f2849e153ee28410f3b7a41df3283b5) 13.0.3 (@davglass)
- [fadddc8](https://github.com/davglass/license-checker/commit/fadddc895ef9c6f182e2283c5605a8c1d8fa8a25) [fixes #117] fixed minor URL parsing (@davglass)
- [e58a868](https://github.com/davglass/license-checker/commit/e58a868268aefd97d735b364bd87d03140d76482) changes (@davglass)

v13.0.2 (2017/07/18 16:24 +00:00)
-
[2c712b7](https://github.com/davglass/license-checker/commit/2c712b7c7e6efe916d60f3ef3125f7f019c46d59) 13.0.2 (@davglass)
- [ef812c1](https://github.com/davglass/license-checker/commit/ef812c1168901d08b97dbd450a64ca03bb7062ad) [fixes #114] - Custom URL/File parsing skipped if file found on disk (@davglass)

v13.0.1 (2017/07/17 12:48 +00:00)
- [a1bf8f1](https://github.com/davglass/license-checker/commit/a1bf8f152b100d81b44757b3b7e141df6a971c44) 13.0.1 (@davglass)
- [e6d0c89](https://github.com/davglass/license-checker/commit/e6d0c893b8a86e12493f7a5c22fd74ef26267994) contrib & changes (@davglass)
- [#113](https://github.com/davglass/license-checker/pull/113) Use LICENSE file in preference to README (#113) (@ibeucaly)
- [6b7f79f](https://github.com/davglass/license-checker/commit/6b7f79f654e21903ea37e4391fba3601ece32e90) changes (@davglass)

v13.0.0 (2017/07/14 12:49 +00:00)
- [dd9e880](https://github.com/davglass/license-checker/commit/dd9e880abd234d683d8c1e57e7a5f889c9156de4) 13.0.0 (@davglass)
- [051b20b](https://github.com/davglass/license-checker/commit/051b20b0c4b35f223f724705a0025dafc809373f) cleaned up some tests (@davglass)
- [#110](https://github.com/davglass/license-checker/pull/110) FEATURE: Recognise some custom licenses by file or url (#110) (@dancrumb)
- [#111](https://github.com/davglass/license-checker/pull/111) Resolves #60 (#111) Adding support for GPL and

LGPL (@dancrumb)
- [#109](https://github.com/davglass/license-checker/pull/109) FEATURE: Improve license exclusion (#109) (@dancrumb)
- [#108](https://github.com/davglass/license-checker/pull/108) FEATURE: Detect private modules and report them as UNLICENSED (#108) (@dancrumb)

v12.1.0 (2017/07/12 16:48 +00:00)
- [dc944e5](https://github.com/davglass/license-checker/commit/dc944e54d55d77b0ef6b6321d9abee847662ccb8) 12.1.0 (@davglass)
- [d415c58](https://github.com/davglass/license-checker/commit/d415c580b04bc5eefa592dc9f9a0a31b244c1bd3) updated contrib and changes (@davglass)
- [#107](https://github.com/davglass/license-checker/pull/107)
 Merge pull request #107 from dancrumb/feature/support-for-public-domain-licenses (@dancrumb)
- [0c55770](https://github.com/davglass/license-checker/commit/0c55770294167161c48b79cc82a15a6545154a87) FEATURE: Add support for Public Domain licenses (@dancrumb)

v12.0.0 (2017/07/05 13:33 +00:00)
- [8b74fa1](https://github.com/davglass/license-checker/commit/8b74fa1fe3b5edb0d217aa3ce86f4662eb024621) 12.0.0 (@davglass)
- [4f3367c](https://github.com/davglass/license-checker/commit/4f3367c2bf2e9713a6cccd11341f7f4fa70ed400) changes & contrib (@davglass)
- [#106](https://github.com/davglass/license-checker/pull/106) Merge pull request #106 from helio-frota/licensefile-readme (@helio-frota)
- [a229507](https://github.com/davglass/license-checker/commit/a2295073d0178dca1b88e85ea8f52c21d35e52fc) src: the README is added as licenseFile (@helio-frota)
- [b59d90d](https://github.com/davglass/license-checker/commit/b59d90d8705f6f728c817b89936f95097d26857b)
 changes & contrib (@davglass)

v11.0.0 (2017/05/30 13:33 +00:00)
- [258df10](https://github.com/davglass/license-checker/commit/258df102da484943088da8e0b6160b80c0e703cd) 11.0.0 (@davglass)
- [#102](https://github.com/davglass/license-checker/pull/102) Merge pull request #102 from xswordsx/multiple-licenses (@xswordsx)
- [c5c8b0f](https://github.com/davglass/license-checker/commit/c5c8b0f408f2a26259a7b1109f7cc135ed5bf9c4) Check for SPDX-compatible licenses (@xswordsx)

v10.1.0 (2017/05/25 16:16 +00:00)
- [b52a16d](https://github.com/davglass/license-checker/commit/b52a16d0ba414e7287f82325dd65619cd76afdd1) 10.1.0 (@davglass)
- [f911a99](https://github.com/davglass/license-checker/commit/f911a9919033254945ecbbf69362cb171436688e) contrib & changes (@davglass)
- [#100](https://github.com/davglass/license-checker/pull/100) Suppress JSON properties with custom format (#100) (@tbbstny)
- [ed5b3ab](https://github.com/davglass/license-checker/commit/ed5b3ab50825f0be032958f8233dd3000ee98e85)
 changelog (@davglass)

v10.0.0 (2017/05/17 13:51 +00:00)
- [b2c2283](https://github.com/davglass/license-checker/commit/b2c2283cf5a937e64a07ab200ec2379e481903b6)

10.0.0 (@davglass)
- [a0406ac](https://github.com/davglass/license-checker/commit/a0406ac2c7a0b1037ca31b47e36d316b9c088938) [fixes #96] - do not replace newline, etc in licenses for exporting to json/markdown (@davglass)
- [98a03fa](https://github.com/davglass/license-checker/commit/98a03fa700ef6d038cc2f9104ea5cf17c82a10ad) [fixes #97] - Added a newline to the output file (@davglass)
- [#98](https://github.com/davglass/license-checker/pull/98) Merge pull request #98 from davglass/eslint (@davglass)
- [10fe441](https://github.com/davglass/license-checker/commit/10fe441a2e70e549e57f7da99d2287fc55355500) moved to eslint (@davglass)
- [f82b535](https://github.com/davglass/license-checker/commit/f82b535d3b7f152fa00bb4680e94af18d1c1421d) changelog (@davglass)

v9.0.3 (2017/04/10 13:42 +00:00)
- [a0fd60f](https://github.com/davglass/license-checker/commit/a0fd60f972b7c84a32117b3dfc1f95bfa2282f27) 9.0.3 (@davglass)
- [#95](https://github.com/davglass/license-checker/pull/95) Merge pull request #95 from abtris/prefix-component (@abtris)
- [3b80272](https://github.com/davglass/license-checker/commit/3b80272a217687c2f0cd7a0c1e98775064d820ff) test: add test for csvComponentPrefix (@abtris)
- [d593554](https://github.com/davglass/license-checker/commit/d593554c1a6b4f7e004e4a23fca88cb7294f8351) feat: add support for csvComponentPrefix (@abtris)
- [5b2eea1](https://github.com/davglass/license-checker/commit/5b2eea12d8c54068a01a2cf1fd9bdeca8c1f0fa2) added contrib (@davglass)

v9.0.2 (2017/04/05 14:55 +00:00)
- [f24833b](https://github.com/davglass/license-checker/commit/f24833bce846f608ec3d8c327d335da56c42b895) 9.0.2 (@davglass)
- [#94](https://github.com/davglass/license-checker/pull/94) Merge pull request #94 from timbru31/fix-comma-exclude (@timbru31)
- [2d08a77](https://github.com/davglass/license-checker/commit/2d08a77030362c7ab03ac12358dd524c0be47eee) contrib & changelog (@davglass)

v9.0.1 (2017/04/05 13:09 +00:00)
- [9f1a1f3](https://github.com/davglass/license-checker/commit/9f1a1f32194a9bb312858f624e303af1ad4f61ca) 9.0.1 (@davglass)
- [c99f612](https://github.com/davglass/license-checker/commit/c99f612fee22d9eb03db0ad41e7918fbaf6e8ed9) added test for licenseText (@davglass)
- [#93](https://github.com/davglass/license-checker/pull/93) Merge pull request #93 from abtris/licenseText-just-in-customFormat (@abtris)
- [8d7fb2f](https://github.com/davglass/license-checker/commit/8d7fb2f85fc585d8e75ab1459e0b0cef43993ba4) fix: allow escaped commas in exclude string (@timbru31)
- [da4d73c](https://github.com/davglass/license-checker/commit/da4d73c0feb22f50ddbce54364eef5b7bcc7f1a4) test: fix test, remove check from non custom format (@abtris)
- [dcd3b59](https://github.com/davglass/license-checker/commit/dcd3b59bb9457df354fa3095189235b6e030df1a) feat: add licenseText
only for customFormat
- [4e02eca](https://github.com/davglass/license-checker/commit/4e02eca6e8bd332ff6d90e5039cacb50f0df1bf3) updated contribs and changelog (@davglass)

v9.0.0 (2017/04/04 12:26 +00:00)
- [267c80e](https://github.com/davglass/license-checker/commit/267c80efac89eef70c71a12b8f12b3dc8e6d58dd) 9.0.0 (@davglass)
- [057af47](https://github.com/davglass/license-checker/commit/057af47bc52ac526f646ba21496f338689801809) added licenseFile assertion to tests (@davglass)
- [#92](https://github.com/davglass/license-checker/pull/92) Merge pull request #92 from abtris/includeFileContent (@abtris)
- [1cda118](https://github.com/davglass/license-checker/commit/1cda118e1aa18cc391ba2765dccae89172943a0f) fix: replace problematics chars for easy import to Excel (@abtris)
- [dd6ecab](https://github.com/davglass/license-checker/commit/dd6ecab1a7b1354c4d1d001491f58dbe0f5e3e63) feat: add licenseText (@abtris)
- [6395498](https://github.com/davglass/license-checker/commit/639549890c54a12043244579ad0c0d5972309fb2) changes and contrib (@davglass)

v8.0.4 (2017/02/15 16:21 +00:00)
- [28d379a](https://github.com/davglass/license-checker/commit/28d379aca51da7a47af324bc6feb63736ea02295) 8.0.4 (@davglass)
- [#89](https://github.com/davglass/license-checker/pull/89) Merge pull request #89 from Pawamoy/master (@Pawamoy)
- [#90](https://github.com/davglass/license-checker/pull/90) Merge pull request #90 from drewfish/bsd-source-code (@drewfish)
- [b704bc1](https://github.com/davglass/license-checker/commit/b704bc18a43de246302b8ff6933f8fe5f96ee3a6) guess BSD-Source-Code license (@drewfish)
- [8d31eab](https://github.com/davglass/license-checker/commit/8d31eabfb671d32e6f3e63215d6530d7fb4acc59) Add docs about customFormat option (@pawamoy)
- [2529d31](https://github.com/davglass/license-checker/commit/2529d3118dfae53f1e01056ec99f5c542cb8d63e) changes (@davglass)

v8.0.3 (2016/11/10 17:04 +00:00)
- [66fd7b5](https://github.com/davglass/license-checker/commit/66fd7b5ad5577cc2c85668a7c6607365c86a2c85) 8.0.3 (@davglass)
- [#87](https://github.com/davglass/license-checker/pull/87) Merge pull request #87 from drewfish/guess-cc0 (@drewfish)
- [668bbd3](https://github.com/davglass/license-checker/commit/668bbd38fd5148f99c5263f4e0506e04d5e3f8a0) guess CC0-1.0, upgraded jshint (@drewfish)

v8.0.2 (2016/11/09 21:57 +00:00)
- [0bdedd8](https://github.com/davglass/license-checker/commit/0bdedd8cb990e1f5ffacde1c12cc708185a5b866) 8.0.2 (@davglass)
- [ef67bb4](https://github.com/davglass/license-checker/commit/ef67bb454373352343faa49d4dc978a295bd1544) updated semver (@davglass)
- [14b5c85](https://github.com/davglass/license-checker/commit/14b5c8551ccbb5c5ce8aa76fb5367857c891d013) Changelog (@davglass)

v8.0.1 (2016/11/09 21:51 +00:00)
- [594871d](https://github.com/davglass/license-checker/commit/594871d6197a030121f940500495e6ca7d82f02c) 8.0.1 (@davglass)

- [c243663](https://github.com/davglass/license-checker/commit/c243663b0ab8a0126251292a57b2c47369a51ebf) added
 contrib (@davglass)
- [#86](https://github.com/davglass/license-checker/pull/86) Merge pull request #86 from drewfish/copying (@drewfish)
- [380aa26](https://github.com/davglass/license-checker/commit/380aa26799cb527739907484e69c6dae26d5f17a) also support COPYING file (@drewfish)
- [329c367](https://github.com/davglass/license-checker/commit/329c3676d0cd5c5947a53fd205ff23b767b7f882) handling undefined@undefined error better (@davglass)
- [1f93a07](https://github.com/davglass/license-checker/commit/1f93a072632aad0660b63f61c56c3bd2fe109474) changelog (@davglass)

v8.0.0 (2016/09/09 13:23 +00:00)
- [44c2c48](https://github.com/davglass/license-checker/commit/44c2c48ae177915523fdf89a74474fe0953408bf) 8.0.0 (@davglass)
- [b5f5c6a](https://github.com/davglass/license-checker/commit/b5f5c6ae03a8c60c52fdd308f1721744a4baaa99) [fixes #78] - include notice file if found (@davglass)
- [dfcbd6f](https://github.com/davglass/license-checker/commit/dfcbd6f4966adc74e065f71e45cbd08ba8fe62ab) changelog
 (@davglass)
- [99976d0](https://github.com/davglass/license-checker/commit/99976d07980e241384be10341d0305d08de9cea5) 7.1.1 (@davglass)
- [ef857b7](https://github.com/davglass/license-checker/commit/ef857b7e9bab706299a1cc565ec5d144893af424) [fixes #77] fixed readme file name parsing, made it more strict (@davglass)

v7.1.1 (2016/09/07 19:16 +00:00)
- [28be6d4](https://github.com/davglass/license-checker/commit/28be6d4128a3625cf8ed37ba149e79ed3a41b4fa) changelog (@davglass)

v7.1.0 (2016/09/07 15:12 +00:00)
- [9f8b7f1](https://github.com/davglass/license-checker/commit/9f8b7f1c367dfe86342ee5f5cc97171bf97281aa) 7.1.0 (@davglass)
- [60fce1a](https://github.com/davglass/license-checker/commit/60fce1a24a4ef5add98a08dd8c8a85870db3f4a6) Fixed order of operations for parsing (@davglass)
- [9d4db11](https://github.com/davglass/license-checker/commit/9d4db112794b8110a1bfe0abfe2d3e63bc812299) Updated changelog (@davglass)

v7.0.0 (2016/09/06 14:50 +00:00)
- [a3a08da](https://github.com/davglass/license-checker/commit/a3a08da70b680d724045f655e107f36b16b45fea) 7.0.0 (@davglass)
- [b993399](https://github.com/davglass/license-checker/commit/b9933994472162cc9c4292cb42f2900e17a5167f) added contrib (@davglass)
- [d783029](https://github.com/davglass/license-checker/commit/d7830297b053496e45b7145b3cfa5809ac8ab1d1) Fixes #76 - If readme data not found, look for it on disk (@davglass)
- [#75](https://github.com/davglass/license-checker/pull/75) Merge pull request #75 from revov/master (@revov)
- [6204a24](https://github.com/davglass/license-checker/commit/6204a244ee71ae0329b4f2c1ca6cf37713741f32) Fix incorrect example in README (@revov)
- [90e24ac](https://github.com/davglass/license-checker/commit/90e24ac9ad20591d5ac166cc2974034fb997b30a)

Added changelog (@davglass)
- [dd768c6](https://github.com/davglass/license-checker/commit/dd768c6c8cbc39b596881a2eca582ad4bb816879) Added contributors (@davglass)

v6.0.0 (2016/08/26 19:46 +00:00)
- [4bca140](https://github.com/davglass/license-checker/commit/4bca140db752b7b98ad1e261e5ee965d84995741) 6.0.0 (@davglass)
- [889ff17](https://github.com/davglass/license-checker/commit/889ff171aeb01a2180f4c9100ca9ea528a264d81) updating tests (@davglass)
- [ed18801](https://github.com/davglass/license-checker/commit/ed188010351c4afb44db0d32dfa1025de53bf10f) Merge branch 'nodeback' of git://github.com/bengl/license-checker into bengl-nodeback (@davglass)
- [34bb266](https://github.com/davglass/license-checker/commit/34bb26677cd0e25500fa545d4f1e8aef216b8cc7) dropping node 0.10 and adding node 6.0 to travis (@davglass)
- [1d30667](https://github.com/davglass/license-checker/commit/1d306674a7fface2cad31f2bd76d7584c7922bbc) updating tests (@davglass)
- [65d7c73](https://github.com/davglass/license-checker/commit/65d7c73f967111003fcc71ae24a4a5391bd48046) Cleaned up some code (@davglass)
- [f753998](https://github.com/davglass/license-checker/commit/f753998a06cbb5fd9fff6430b3588a3b3cf81339) Merge branch 'master' of git://github.com/amittkSharma/license-checker into amittkSharma-master (@davglass)
- [28e4462](https://github.com/davglass/license-checker/commit/28e4462543724685080c1623dc2dbd57cabb1c30) Added tests and cleaned up linting (@davglass)
- [153857a](https://github.com/davglass/license-checker/commit/153857a251a97d14c883f6479579844b2980b5aa) Publisher Information incorporated.
- [1265cb3](https://github.com/davglass/license-checker/commit/1265cb38d186ab1609dbdfa4124f237f8aa15846) Added ability to output individual license files (@aweber1)
- [49e11d0](https://github.com/davglass/license-checker/commit/49e11d049645d565b7ef6d3c778af54eb13af888) fix tests (@bengl)
- [26ffc6f](https://github.com/davglass/license-checker/commit/26ffc6f63d43c372c9a18f9c0c137608b3d5e4fa) use nodeback/errback (@bengl)

v5.1.2 (2016/05/04 18:32 +00:00)
- [7101c77](https://github.com/davglass/license-checker/commit/7101c77667ad134fe01f02c298e7df2a4080e311) 5.1.2 (@davglass)
- [#67](https://github.com/davglass/license-checker/pull/67) Merge pull request #67 from graingert/patch-2 (@graingert)
- [a6ee290](https://github.com/davglass/license-checker/commit/a6ee2904eb7fcced220dcfe8548f80ec74fde3a2) Upgrade read-installed (@graingert)
- [42e29c6](https://github.com/davglass/license-checker/commit/42e29c637940959121842762d74921bece5e8d93) migrating tests from vows to mocha (@davglass)

v5.1.1 (2016/04/14 13:20 +00:00)
- [6ae0334](https://github.com/davglass/license-checker/commit/6ae03348ca8e5835ac732028afdab664a381cfc4) 5.1.1 (@davglass)
- [0720a46](https://github.com/davglass/license-checker/commit/0720a46569f3e12eb398165526944f307e08aad6) Fixes #64 - Turn off color for --json/markdown/csv options (@davglass)

v5.1.0 (2016/03/09 15:50 +00:00)

- [86772d2](https://github.com/davglass/license-checker/commit/86772d202b63d4a4c6729b9a774193ca6ef5cb3f) 5.1.0 (@davglass)
- [#61](https://github.com/davglass/license-checker/pull/61) Merge pull request #61 from sgtdck/master (@sgtdck)
- [6547ac1](https://github.com/davglass/license-checker/commit/6547ac1ded58560c7c4abdfc68fa69d17b81fe1e) Removed obsolete d[key].name assignment from tests (@sgtdck)
- [00b18a6](https://github.com/davglass/license-checker/commit/00b18a6012387e1a4a8284c07bf2d08740e03ddd) Added a --relativeLicensePath option to display the license file relatively to the current path. (@sgtdck)
- [629da20](https://github.com/davglass/license-checker/commit/629da201e0d1170057fd9efe05efcb293d2f1bda) Added latest contributors (@davglass)

v5.0.1 (2016/02/08 15:57 +00:00)
- [33731fc](https://github.com/davglass/license-checker/commit/33731fca482936a7a18fffe3fca2f3cd41e3a625) 5.0.1 (@davglass)
- [fe06eae](https://github.com/davglass/license-checker/commit/fe06eaef8844d050ad0f80d576a221dd605131de) Fixed repplace (@davglass)
- [997914f](https://github.com/davglass/license-checker/commit/997914fd6f94030452d4d9bf549eb156ae8ef7c0) fix git+https URLs (@graingert)
- [#57](https://github.com/davglass/license-checker/pull/57) Merge pull request #57 from Damien-Larmine/doc-license-asterisk (@Damien-Larmine)
- [2adff2d](https://github.com/davglass/license-checker/commit/2adff2da98a5af79479a162e4998eb5892ab31c3) Explicit the asterisk in license report (@Damien-Larmine)
- [b2fc9cf](https://github.com/davglass/license-checker/commit/b2fc9cf2a8eaa008c7593037d046f245a7ce7f25) 5.0.0 (@davglass)
- [7f71c53](https://github.com/davglass/license-checker/commit/7f71c53833cf1318ffe84215fcb1291f9ce4fbd5) updated contributors (@davglass)

v5.0.0 (2016/01/22 15:31 +00:00)
- [#55](https://github.com/davglass/license-checker/pull/55) Merge pull request #55 from davglass/devflag (@davglass)
- [ff1d8f2](https://github.com/davglass/license-checker/commit/ff1d8f20d5d7248a4f61e2fc9279fdfea91a6ec6) supporting --production and --development flags (@davglass)
- [#53](https://github.com/davglass/license-checker/pull/53) Merge pull request #53 from swashcap/enhancement/#46-verbose-output (@swashcap)
- [#54](https://github.com/davglass/license-checker/pull/54) Merge pull request #54 from davglass/travis-updates (@davglass)
- [2c80d9d](https://github.com/davglass/license-checker/commit/2c80d9d2dcc5934069863014425609 6a91e23f22) fixing tests in other node versions (@davglass)
- [78820ac](https://github.com/davglass/license-checker/commit/78820ac33ab8aed74809c8a5f8847705c8b2848e) travis config updates (@davglass)
- [f94263b](https://github.com/davglass/license-checker/commit/f94263b203046e2f53d64997b0261498010eb38d) Update documentation for debug use. (@swashcap)
- [429e44d](https://github.com/davglass/license-checker/commit/429e44d697527221ef22bb03af9d67820015446f) Change `console.error` call to use debug module. (@swashcap)
- [7312daf](https://github.com/davglass/license-checker/commit/7312daf7af195a1b9d1b1f290fae15963fbb2ab4) Add debug to project. (@swashcap)

v4.2.0 (2015/10/20 13:44 +00:00)
- [3583d92](https://github.com/davglass/license-checker/commit/3583d925e96fc9f63b3bbf0110b11c8448aed0e7)

4.2.0 (@davglass)
- [981eeda](https://github.com/davglass/license-checker/commit/981eeda898084dea88d54ea29c5bda93c5313fb6) Fixes #49: Default to unknown if licenses null and added ISC support (@davglass)

v4.1.2 (2015/09/29 13:46 +00:00)
- [ba946dd](https://github.com/davglass/license-checker/commit/ba946dd1065e762c36b27dcecdd9bb7389ad18d4) 4.1.2 (@davglass)
- [#48](https://github.com/davglass/license-checker/pull/48) Merge pull request #48 from CantemoInternal/master (@CantemoInternal)
- [e314a6d](https://github.com/davglass/license-checker/commit/e314a6d1f505d19478c33871640a763fabff6abd) Fix json, csv and markdown output for license-checker (@mattiasa)

v4.1.1 (2015/09/12 14:39 +00:00)
- [c918314](https://github.com/davglass/license-checker/commit/c918314bfc687b647d1d288bb5857dd1caac1393) 4.1.1 (@davglass)
- [#47](https://github.com/davglass/license-checker/pull/47) Merge pull request #47 from tmpvar/ensure-bin-runs (@tmpvar)
- [a842eca](https://github.com/davglass/license-checker/commit/a842ecae4f008c07df3039dcaacd4641d7273625) add missing } (@tmpvar)
- [1d513bb](https://github.com/davglass/license-checker/commit/1d513bb673d726f34286061446f965e46d96170e) ensure bin/license-checker works at a high-level (@tmpvar)

v4.1.0 (2015/09/09 14:52 +00:00)
- [a4bb437](https://github.com/davglass/license-checker/commit/a4bb437ffa806c0832f877da2de7a107863d0a1f) 4.1.0 (@davglass)
- [ddd317a](https://github.com/davglass/license-checker/commit/ddd317a5a09344f0021812b8dee2f39bbbbf07a0) fixed all of the windows line endings (@davglass)
- [11e6487](https://github.com/davglass/license-checker/commit/11e64870484435e1e6f8efb9b0f13e6b2f737a6b) Fix issues caused by merge (@ptusch)
- [313a7ed](https://github.com/davglass/license-checker/commit/313a7edc3dbdf8d50e43ba8da89306d3c89326bc) Merge remote-tracking branch 'remotes/upstream/master' into ft_custom_format (@ptusch)
- [1f5e326](https://github.com/davglass/license-checker/commit/1f5e326dbca91fc8a396b9e02efe3eac9fd82a82) added contributors to package.json
(@davglass)
- [#45](https://github.com/davglass/license-checker/pull/45) Merge pull request #45 from hufsm/ft_error_handling (@hufsm)
- [c806034](https://github.com/davglass/license-checker/commit/c806034ab6feaecf297d0c23afb536b290ba8c81) Remove unused var statement (@ptusch)
- [778b1fa](https://github.com/davglass/license-checker/commit/778b1fa1a9c1be0c816545165020522d2dbf17ef) More tests to fulfill the required % (@ptusch)
- [22257d9](https://github.com/davglass/license-checker/commit/22257d95490765db816578cc48c2b5b62699f1aa) Add tests for licenses (WTFPL) (@ptusch)
- [0fe7561](https://github.com/davglass/license-checker/commit/0fe75611a73970fe9e9e0aab2d4bdee5250435b2) Remove unused filter option (never used) (@ptusch)
- [83caa10](https://github.com/davglass/license-checker/commit/83caa10493a5a05ffba6c0e80b5c03f9cd4f65d6) Change license shortcut for WTFPL (@ptusch)
- [3e348db](https://github.com/davglass/license-checker/commit/3e348dbe5feeb7bd356ebef3cd34e69329dbc8c1) More

tests for the custom formatter (@ptusch)
- [96c2d6f](https://github.com/davglass/license-checker/commit/96c2d6f24c509df2bf3f6bd8b83a613fea8d9ecc) Add tests for customFormatter (@ptusch)
- [c9948c4](https://github.com/davglass/license-checker/commit/c9948c4b7b2cccdd053ba63f4fd2a6a6d0a46493) Add test configs (@ptusch)
- [4b2dea0](https://github.com/davglass/license-checker/commit/4b2dea0c124f6aba63abd2129625825c3b5a6570) Fix merge issues - semicolon slipped through (@ptusch)
- [cc7662a](https://github.com/davglass/license-checker/commit/cc7662a46719c97745410e3ac2b782f937dc54ef) Merge branch 'master' into ft_error_handling (@ptusch)
- [04a2294](https://github.com/davglass/license-checker/commit/04a2294b82a8227cccb83d76f73cbd7cf62af533) Add additional test (@ptusch)
- [52fa91c](https://github.com/davglass/license-checker/commit/52fa91c5cbc345736ebe6e97f400a27a773502d2) Add parseJson test (@ptusch)
- [d846c5e](https://github.com/davglass/license-checker/commit/d846c5e6970737dd3085688e7b601e9ea4546417) Fix tests after merge conflict (@ptusch)
- [7eac458](https://github.com/davglass/license-checker/commit/7eac4583f8003b5bda4ef966768bbb457fe8dc44) Merge branch 'master' into ft_custom_format (@ptusch)
- [4aa7065](https://github.com/davglass/license-checker/commit/4aa7065c5eef88d49c3684369b2edd9802c3f374) Add tests for customFormat (@ptusch)

v4.0.0 (2015/09/04 13:40 +00:00)
- [3fbba5b](https://github.com/davglass/license-checker/commit/3fbba5bd5a489ea8c17328eabf71c4d5e9beb17e) 4.0.0 (@davglass)
- [ce8d661](https://github.com/davglass/license-checker/commit/ce8d66108a49af7855c16231ce675c567a2ffe7f) tests: added 100% coverage for license file (@davglass)
- [#42](https://github.com/davglass/license-checker/pull/42) Merge pull request #42 from ptusch/ft_onlyunknown (@ptusch)
- [8929e90](https://github.com/davglass/license-checker/commit/8929e90413be0362f19e755048e9218c372abf68) Add tests for the error generation (@ptusch)
- [1a93a41](https://github.com/davglass/license-checker/commit/1a93a41569a53a1580c94c2c903a5bc127ad2692) Add error handling (@ptusch)
- [6b79145](https://github.com/davglass/license-checker/commit/6b791457463dca71b22b09eecff16bbf982db682) Add additional check to negate the test (@ptusch)
- [559e72c](https://github.com/davglass/license-checker/commit/559e72ccab2420bc42bf28b498702dad13ef967a) Add test for the first function call. (@ptusch)
- [faf8ffd](https://github.com/davglass/license-checker/commit/faf8ffd69fd8ae475484a9b47b57a7b6ea738856) Remove trivial UNKNOWN check (@ptusch)
- [6fa44ef](https://github.com/davglass/license-checker/commit/6fa44ef8c045ab2b0a1291b45990edf52adfc0e2) Merge branch 'master' into ft_custom_format (@ptusch)
- [efe23d9](https://github.com/davglass/license-checker/commit/efe23d991cfcb40dc6980fbf13461408da822b1f) Merge branch 'master' into ft_onlyunknown (@ptusch)
- [c287959](https://github.com/davglass/license-checker/commit/c2879592858805d7ecd0304a39c5cf079efe6a7c) Add option to only show unknown licenses (@ptusch)
-
[#43](https://github.com/davglass/license-checker/pull/43) Merge pull request #43 from senotrusov/master (@senotrusov)
- [d7a663f](https://github.com/davglass/license-checker/commit/d7a663f9deeb4d7a648a6d2cb9db84d5667ee540) Add test for exclude option. (@senotrusov)

- [45a27de](https://github.com/davglass/license-checker/commit/45a27de02a3c1d57a86e3f8e14b6e335788c23ba) Add option to exclude from the output modules which licenses are in the comma-separated list (@senotrusov)
- [#41](https://github.com/davglass/license-checker/pull/41) Merge pull request #41 from ptusch/ft_path_to_unknown_dependency (@ptusch)
- [1ff5f22](https://github.com/davglass/license-checker/commit/1ff5f225fd2ba97edfd3ef3f6462981832740c19) Add option to see the path of a dependency if unknown (@ptusch)
- [ea4d629](https://github.com/davglass/license-checker/commit/ea4d6297de32d94201bb4786da7ba824d928c8f2) Add additional 'undefined' checks (@ptusch)
- [af043a2](https://github.com/davglass/license-checker/commit/af043a2c11af45d28bfe71914cd10672855b3297) Merge branch 'master' into ft_custom_format (@ptusch)
- [2d94a19](https://github.com/davglass/license-checker/commit/2d94a19ece177836345a4227893a82d956141b2e) updating the docs for --unknown to make it clear (@davglass)
- [38a2bd2](https://github.com/davglass/license-checker/commit/38a2bd28a9597fdb06d844258f1070054b38bbcf) Fix codestyle and whitespaces (@ptusch)
- [dd173ba](https://github.com/davglass/license-checker/commit/dd173badc65368dc6140476ffe5ae3768fbf9618) Add --customPath in README.md (@ptusch)
- [911fc1c](https://github.com/davglass/license-checker/commit/911fc1c6b5cc27a32aac60bb409c08be138bc707) Finalize the customFormat (markdown) (@ptusch)
- [8102091](https://github.com/davglass/license-checker/commit/8102091f7949fa8b73cfc803e4aead3624b81148) Add functionality to add a custom format (@ptusch)

v3.1.0 (2015/06/29 14:25 +00:00)
- [59e1e58](https://github.com/davglass/license-checker/commit/59e1e58ca0bea1cd38e3da1712fe7ca624d860b0) 3.1.0 (@davglass)
- [0e33f7a](https://github.com/davglass/license-checker/commit/0e33f7a2cb9fa69d13d1e2b5c69f70f885e09e08) reformatted code, fixed lint issues and added tests (@davglass)
- [83a7f09](https://github.com/davglass/license-checker/commit/83a7f0933d1cc1f331279e53fcce13e4efface91) Merge branch 'asMarkdown' of git://github.com/ptusch/license-checker into ptusch-asMarkdown (@davglass)
- [703ad47](https://github.com/davglass/license-checker/commit/703ad4714173559e05267e8fd24c74e5b9d3aee0) fixing tests (@davglass)
- [2d9fffd](https://github.com/davglass/license-checker/commit/2d9fffd75192e9812692c9099481d23e265bb493) Added Markdown Option (@ptusch)
- [67dca36](https://github.com/davglass/license-checker/commit/67dca365b941a7265e4a98d2de533b22c761b169) Remove color tags (@ptusch)

v3.0.3 (2015/06/03 13:35 +00:00)
- [7475c12](https://github.com/davglass/license-checker/commit/7475c129bf291289e4616d9692a962ae537401e8) 3.0.3 (@davglass)
- [c7dae0f](https://github.com/davglass/license-checker/commit/c7dae0fe5317a17b3aef61e8c118fafc6bb43a56) spdx license (@davglass)

v3.0.2 (2015/05/12 20:29 +00:00)
- [01f3b53](https://github.com/davglass/license-checker/commit/01f3b5384998be6243d38e0d95a4478e5fe3cfa5) 3.0.2 (@davglass)
- [fc0c083](https://github.com/davglass/license-checker/commit/fc0c0832ee291c55e53efe6b37a7b9d89f191bc7) defensive code, fixes #34 (@davglass)

v3.0.1 (2015/05/04 12:28 +00:00)

- [0479570](https://github.com/davglass/license-checker/commit/0479570faf87eccc9b37fbb25afaee7faaec6636)
3.0.1 (@davglass)
- [d85e355](https://github.com/davglass/license-checker/commit/d85e355b55998952facf202eabf8d374fec69a7e)
Checking for valid path first (@davglass)

v3.0.0 (2015/04/24 14:38 +00:00)
- [e22b61d](https://github.com/davglass/license-checker/commit/e22b61d5d32fef7ffb18627f55a97e1863a78096)
3.0.0 (@davglass)
- [fde9635](https://github.com/davglass/license-checker/commit/fde963583dd207eca4badffb3e0d033a038f17b5)
always try to find and log the
license file (@davglass)

v2.0.2 (2015/01/26 18:18 +00:00)
- [490f31d](https://github.com/davglass/license-checker/commit/490f31d6820f068814cfe27adf3af1ac6d58f733)
2.0.2 (@davglass)
- [a3fefdb](https://github.com/davglass/license-checker/commit/a3fefdb8fafd7ec64714defb793d757a9e8ad065)
fixes #30 (@davglass)

v2.0.1 (2015/01/12 18:34 +00:00)
- [898fbd5](https://github.com/davglass/license-checker/commit/898fbd53fa289338cf8a9a1735eea440c2a6c525)
2.0.1 (@davglass)
- [2da23db](https://github.com/davglass/license-checker/commit/2da23db2f240e7e73efdf93cc554e4d7783af225)
cleaned up spacing and moved vars around (@davglass)
- [d47dbe4](https://github.com/davglass/license-checker/commit/d47dbe45c992dbbdb15bfb45e8af7f18ee0ca737)
fixes #29 (@davglass)

v2.0.0 (2014/12/04 16:34 +00:00)
- [f94edfe](https://github.com/davglass/license-checker/commit/f94edfec7a9914b4a36f455e8bffc6230d6f7a5e)
2.0.0 (@davglass)
- [f4c7b1a](https://github.com/davglass/license-checker/commit/f4c7b1a3d4e9c0e4753a9b267e51714fe7f7051e)
syntax cleanup (@davglass)
- [d189623](https://github.com/davglass/license-checker/commit/d1896234a5649621ee57ff9a901877d769217194)
Document CLI options in Readme. (@timoxley)
- [11e204c](https://github.com/davglass/license-checker/commit/11e204c5c078eaee1f165fa010da229d2a9fb4b5)
Default to --no-colour for json, csv & file output. (@timoxley)
- [7e80d50](https://github.com/davglass/license-checker/commit/7e80d50c733f8ee42c7b4a79dc3344b3dd330cff)
Add --out flag for writing an output file. (@timoxley)
- [47bffc9](https://github.com/davglass/license-checker/commit/47bffc9e0e249b2847c8ed4f3eaadb0dcdd731b9)
Always print to stdout, don't write files. (@timoxley)
- [b725080](https://github.com/davglass/license-checker/commit/b725080d2dbdfddbf0994867577d4c5e3dc0ee2a)
Don't print info messages to stdout. (@timoxley)

v1.0.1 (2014/11/27 15:23 +00:00)
- [e60f792](https://github.com/davglass/license-checker/commit/e60f792159351aa7ccff1f7af73e289afee261a5)
1.0.1 (@davglass)
-
[3f74178](https://github.com/davglass/license-checker/commit/3f7417822dc8804978d1bae4ed84190d327df15c)
Merge branch 'fixinfiniterecursion' of github.com:yzapuchlak/license-checker into yzapuchlak-fixinfiniterecursion

(@davglass)
- [dc78ea0](https://github.com/davglass/license-checker/commit/dc78ea0dca546283440c89fec2dc6818dc4cc1c1) sticking vows 0.8.0 for testing (@davglass)
- [bd549b3](https://github.com/davglass/license-checker/commit/bd549b3b68e74fddd0e08dac10d5f88a8bb51ca6) Fixed issue where circular dependencies in dependency tree would cause the flatten function to infinitely recurse. If the current key is found to be already in the data object (which means it was already processed), we stop processing that key and return the data object. (@yzapuchlak)

v1.0.0 (2014/11/21 13:56 +00:00)
- [917193d](https://github.com/davglass/license-checker/commit/917193dab27147534976b71307a77f48198ca322) 1.0.0 (@davglass)
- [63e5f9c](https://github.com/davglass/license-checker/commit/63e5f9c77e348720b3867171bcc67541e846d088) added options.filter to checker.init (@davglass)

v0.1.2 (2014/11/20 15:48 +00:00)
- [8e5f5f0](https://github.com/davglass/license-checker/commit/8e5f5f0e7f83252e4039f6c7d16cc266acc1a33a) 0.1.2 (@davglass)
- [3d7a74e](https://github.com/davglass/license-checker/commit/3d7a74e90122f908057b2008ab29d8bd49011291) fixed lint issue (@davglass)

v0.1.1 (2014/11/20 15:47 +00:00)
- [750d507](https://github.com/davglass/license-checker/commit/750d5079d32b44ecc984ff7ed672498d1b197235) 0.1.1 (@davglass)
- [94522e0](https://github.com/davglass/license-checker/commit/94522e099434dfdf163c3f2c5cacb3e6aa196cf8) fixed merge issues (@davglass)

v0.1.0 (2014/11/20 15:41 +00:00)
- [8127f5e](https://github.com/davglass/license-checker/commit/8127f5e79eeceb7dfd86cd5f694080e4183dcb11) 0.1.0 (@davglass)
- [76c71ac](https://github.com/davglass/license-checker/commit/76c71ac46baeca8c349fe5892dcb659e859b9608) Updated to newer read-installed (@davglass)

###
v0.0.10 (2014/08/12 12:48 +00:00)
- [807507d](https://github.com/davglass/license-checker/commit/807507df1a293bc0360adffd725a9f911331ff2b) 0.0.10 (@davglass)
- [e39ad9b](https://github.com/davglass/license-checker/commit/e39ad9bce6bcd545772c241e2e7aba8f40d5bbbb) Added checking that the license file is a normal file, because otherwise an appropriately named directory crashes the license-checker through EISDIR, illegal operation on a directory.
- [40ca4da](https://github.com/davglass/license-checker/commit/40ca4dadbc163ca774c87b1de249bd295952faa9) colorize (@couchand)

v0.0.9 (2014/07/29 01:48 +00:00)
- [c14ef79](https://github.com/davglass/license-checker/commit/c14ef79f10f950ff0985e7e0b3138147b98ab1ec) 0.0.9 (@davglass)
- [ba1b66b](https://github.com/davglass/license-checker/commit/ba1b66b6172a2f9f8dbcdc56f40206820bc0916b) Fixes #12 - Using some nicer regexes (@davglass)
- [bce94d5](https://github.com/davglass/license-checker/commit/bce94d5a8ab2f146356851776b2543df65fbf750)

case insensative
check (@davglass)
- [87c3406](https://github.com/davglass/license-checker/commit/87c3406aee2507eaf1d00d592f6dcb59a16e7c48) Allow for LICENCE (@gdw2)

v0.0.8 (2014/07/07 20:10 +00:00)
- [6ad6ee2](https://github.com/davglass/license-checker/commit/6ad6ee21813e698e7f995e98dcadafbd961f6a33) 0.0.8 (@davglass)
- [b8c5815](https://github.com/davglass/license-checker/commit/b8c58151135f57d91fb0d1cfb194d034c012073f) added tests and refactored the code a little (@davglass)
- [275f276](https://github.com/davglass/license-checker/commit/275f276dc6e6d5635f9cb5b7e9a978e286f2d174) Added --csv option to readme file
- [d91eb72](https://github.com/davglass/license-checker/commit/d91eb7289466853ae6e88448b953b4d3d98ebab5) Apparently abbrev is now at version 1.0.5 which caused the unit test to fail.
- [40b4a42](https://github.com/davglass/license-checker/commit/40b4a420e520c2008b9395d1a8fdf38b56f846f5) Modified changes based on lshint output during Travis build
- [54e2390](https://github.com/davglass/license-checker/commit/54e2390cefd1dc664a15cd3a84347227f889f48b) Added csv output option similar to the existing JSON output option. Requires an output filename.

v0.0.7 (2014/02/26 04:52 +00:00)
- [1ce6d42](https://github.com/davglass/license-checker/commit/1ce6d42147b2d0237870818e8059003b331816cf) 0.0.7 (@davglass)
- [7d04195](https://github.com/davglass/license-checker/commit/7d041959450c68b3c5f427007c43cd6c73c6adfb) Added not check and a proper test (@davglass)
- [40d6e25](https://github.com/davglass/license-checker/commit/40d6e2580946c3cee1d408ebe28ff523852e8eb2) Undefined handling (@garrows)
- [90217d0](https://github.com/davglass/license-checker/commit/90217d070fd62cf76eb4e7b1610ed5eef6ae840d) travis Stuff (@davglass)
- [2bd76c8](https://github.com/davglass/license-checker/commit/2bd76c894f740cd83f6246e0e7341832c6432d8b) 0.0.6 (@davglass)
- [6f390ff](https://github.com/davglass/license-checker/commit/6f390fff60b31a07939e6d325796bdcbfefb5907) Added some better tests
(@davglass)
- [2dbcac3](https://github.com/davglass/license-checker/commit/2dbcac37b5795ceb6db53452d0e41d1c4bc3153f) Looking for WTFPL as well as the string (@davglass)
- [5d91a07](https://github.com/davglass/license-checker/commit/5d91a073a8b76ec9a497c1e3b83198ce97e144fd) Flattened array of one (@davglass)
- [e95da82](https://github.com/davglass/license-checker/commit/e95da820c63e0d56c4567f1cfad07142d3110eca) Fixed extra var (@davglass)
- [fe8f2f7](https://github.com/davglass/license-checker/commit/fe8f2f7d39d520c0c4d87d34c9d4f55d59f4222d) Removing unecessary log statement (@paulmand3l)
- [72a6f24](https://github.com/davglass/license-checker/commit/72a6f2403de43ecf5ec07bb504cb931c0e53f6a3) Adding license checks in the LICENSE file (and variations) (@paulmand3l)
- [#7](https://github.com/davglass/license-checker/pull/7) Merge pull request #7 from jamesbloomer/master (@jamesbloomer)
- [a81eee0](https://github.com/davglass/license-checker/commit/a81eee0a27f580688e371cc15015e848f591bb92) Fixed missing "install" in npm -g (@jamesbloomer)
- [416b012](https://github.com/davglass/license-checker/commit/416b01219e07a8274e05cd883ec050376902adeb)

Updated Version (@davglass)
- [6d9bd1e](https://github.com/davglass/license-checker/commit/6d9bd1e195202c871693d4b1e9bac8c055683e8b)
Fixed lint issue and added a test placeholder. Will add more tests soon (@davglass)
- [655a316](https://github.com/davglass/license-checker/commit/655a316f6448daf3c449f8b88e8878a95a8b153e)
Added Travis test file (@davglass)
- [99895df](https://github.com/davglass/license-checker/commit/99895df6d3ac0f9ae4e8c935311fb1b3f88a688e)
Version Bump (@davglass)
- [#4](https://github.com/davglass/license-checker/pull/4) Merge pull request #4 from badunk/refactor (@badunk)
- [1123a1b](https://github.com/davglass/license-checker/commit/1123a1baefc1975f8c36cb59952254cd66c31017)
Merge branch 'master' of https://github.com/davglass/license-checker (@badunk)
- [191612e](https://github.com/davglass/license-checker/commit/191612e5c21a01bd453368299a14cc5ff1c6fb13)
Version Bump (@davglass)
- [#2](https://github.com/davglass/license-checker/pull/2) Merge pull request #2 from badunk/circular (@badunk)
- [9b5a117](https://github.com/davglass/license-checker/commit/9b5a1175892254e96d72f3d8dc793dcc4e2bde37)
fixed special case when an empty array is passed to license/licenses (@badunk)
- [025668b](https://github.com/davglass/license-checker/commit/025668b0a62b0d5b58662ce6aeed91de909a6fef)
fixed bug with multiple licenses objects not showing (@badunk)
- [e6bdf52](https://github.com/davglass/license-checker/commit/e6bdf52a8e5f9ebed29982014fa4d4586f63d06a)
cleaned up the code (@badunk)
- [efb62f2](https://github.com/davglass/license-checker/commit/efb62f2f52a29e9a37a7f387b280fc17ab0a5f19)
added check for circular dependencies (@badunk)
- [825b40c](https://github.com/davglass/license-checker/commit/825b40cb61fee36dd60751daa9d44e28853587ac)
Version Bump (@davglass)
- [#1](https://github.com/davglass/license-checker/pull/1)
Merge pull request #1 from mwilliamson/master (@mwilliamson)
- [2f24319](https://github.com/davglass/license-checker/commit/2f24319dd8dd212a1f78ad91af7fee21d50ab762)
Don't ignore license field if it's a string (@mwilliamson)
- [7b8c34f](https://github.com/davglass/license-checker/commit/7b8c34f75b04a7541bf23d596bbaae5447492c53)
Initial Commit (@davglass)

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must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

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

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

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

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not.

Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

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

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

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

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

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

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system,

rather than copying library functions into the executable, and (2)
will operate properly
with a modified version of the library, if
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c) Accompany the work with a written offer, valid for at least
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d) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
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e) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library" must include any data and utility programs needed for
reproducing the executable from it. However, as a special exception,
the materials to be distributed need not include anything that is
normally
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components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies
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This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
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medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
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1.10 zstd 1.4.4

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"Source code" for a work means the preferred form of the work for

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

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

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

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under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

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

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

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

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

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

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

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work

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

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

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

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

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For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for

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1.13 kelseyhightower-envconfig 1.4.0

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

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

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

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

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

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

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1.19 gzip 1.12-1

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1.21 libsemanage-common 3.4-1

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1.22 libhogweed6 3.8.1-2

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the same way through the same place at no
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1.28 coreutils 9.1-1

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Version 3, 29 June 2007

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more than your reasonable cost of physically performing this
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alternative is allowed only occasionally and noncommercially, and
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with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
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the same way through the same place at no
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A separable portion of the object code, whose source code is excluded
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1.32 bzip2 1.0.8-5+b1

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Julian Seward, jseward@acm.org
bzip2/libbzip2 version 1.0.8 of 13 July 2019

1.33 gdbm 1.23-3

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written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
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Corresponding Source in the same way through the same place at no
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You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
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available for as long as needed to satisfy these requirements.

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1.34 libassuan 2.5.5-5

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline

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

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The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

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1.46 keyutils 1.6.3-2

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1.47 libksba 1.6.3-2

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1.49 libpkit 0.24.1-2

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1.55 attr 2.5.1-4

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1.56 libxcrypt 4.4.33-2

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Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

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1.60 xz 5.12.0

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<signature of Ty Coon>, 1 April 1989
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1.62 binutils 2.40-2

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(This file is under construction.) -*- text -*-

If you've contributed to gas and your name isn't listed here, it is
not meant as a slight. I just don't know about it. Email me,
nickc@redhat.com and I'll correct the situation.

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the documentation, and info on specific files will go into an AUTHORS
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++++++++++++++++

Dean Elsner wrote the original gas for vax. [more details?]

Jay Fenlason maintained gas for a while, adding support for
gdb-specific debug information and the 68k series machines, most of

the preprocessing pass, and extensive changes in messages.c,
input-file.c, write.c.

K. Richard Pixley maintained gas for a while, adding various
enhancements and many bug fixes, including merging support for several
processors, breaking gas up to handle multiple object file format
backends (including heavy rewrite, testing, an integration of the coff
and b.out backends), adding configuration
 including heavy testing and
verification of cross assemblers and file splits and renaming,
converted gas to strictly ansi C including full prototypes, added
support for m680[34]0 & cpu32, considerable work on i960 including a
coff port (including considerable amounts of reverse engineering), a
sparc opcode file rewrite, decstation, rs6000, and hp300hpux host
ports, updated "know" assertions and made them work, much other
reorganization, cleanup, and lint.

Ken Raeburn wrote the high-level BFD interface code to replace most of
the code in format-specific I/O modules.

The original Vax-VMS support was contributed by David L. Kashtan.
Eric Youngdale and Pat Rankin have done much work with it since.

The Intel 80386 machine description was written by Eliot Dresselhaus.

Minh Tran-Le at IntelliCorp contributed some AIX 386 support.

The Motorola 88k machine description was contributed by Devon Bowen of
Buffalo University and Torbjorn Granlund of the Swedish Institute of
Computer Science.

Keith
 Knowles at the Open Software Foundation wrote the original MIPS
back end (tc-mips.c, tc-mips.h), and contributed Rose format support
that hasn't been merged in yet. Ralph Campbell worked with the MIPS
code to support a.out format.

Support for the Zilog Z8k and Hitachi H8/300, H8/500 and SH processors
(tc-z8k, tc-h8300, tc-h8500, tc-sh), and IEEE 695 object file format
(obj-ieee), was written by Steve Chamberlain of Cygnus Solutions.
Steve also modified the COFF back end (obj-coffbfd) to use BFD for
some low-level operations, for use with the Hitachi, 29k and Zilog
targets.

John Gilmore built the AMD 29000 support, added .include support, and
simplified the configuration of which versions accept which
pseudo-ops. He updated the 68k machine description so that Motorola's
opcodes always produced fixed-size instructions (e.g. jsr), while

synthetic instructions remained shrinkable (jbsr). John fixed many bugs, including true tested cross-compilation support, and one bug in relaxation
that took a week and required the proverbial one-bit fix.

Ian Lance Taylor of Cygnus Solutions merged the Motorola and MIT syntaxes for the 68k, completed support for some COFF targets (68k, i386 SVR3, and SCO Unix), wrote the ECOFF support based on Michael Meissner's mips-tfile program, wrote the PowerPC and RS/6000 support, and made a few other minor patches. He handled the binutils releases for versions 2.7 through 2.9.

David Edelsohn contributed fixes for the PowerPC and AIX support.

Steve Chamberlain made gas able to generate listings.

Support for the HP9000/300 was contributed by Glenn Engel of HP.

Support for ELF format files has been worked on by Mark Eichin of Cygnus Solutions (original, incomplete implementation), Pete Hoogenboom at the University of Utah (HPPA mainly), Michael Meissner of the Open Software Foundation (i386 mainly), and Ken Raeburn of Cygnus Solutions (sparc, initial 64-bit support).

Several engineers at Cygnus Solutions have also provided many
small
bug fixes and configuration enhancements.

The initial Alpha support was contributed by Carnegie-Mellon University. Additional work was done by Ken Raeburn of Cygnus Solutions. Richard Henderson then rewrote much of the Alpha support.

Ian Dall updated the support code for the National Semiconductor 32000 series, and added support for Mach 3 and NetBSD running on the PC532.

Klaus Kaempf ported the assembler and the binutils to openVMS/Alpha.

Steve Haworth contributed the support for the Texas Instruction c30 (tms320c30).

H.J. Lu has contributed many patches and much testing.

Alan Modra reworked much of the i386 backend, improving the error checking, updating the code, and improving the 16 bit support, using patches from the work of Martynas Kunigelis and H.J. Lu.

Many others have contributed large or small bugfixes and enhancements. If you've contributed significant work and are not mentioned on this list, and

want to be, let us know. Some of the history has been lost;
 we aren't
intentionally leaving anyone out.

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your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

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

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

Once this change is made in a given copy, it is irreversible for

that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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

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

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

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

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

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

Otherwise, if the work is a derivative of the Library, you may

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

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

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

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

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

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

d) If distribution of the work is made by offering access to copy

from a designated place, offer equivalent access to copy the above specified materials from the same place.

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

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

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

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

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[This is the first released version of the library GPL. It is
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patents. We wish to avoid the danger that companies distributing free
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we have made it clear that any patent must be licensed
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 Most GNU software, including some libraries, is covered by the ordinary
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license, the GNU Library General Public License, applies to certain
designated libraries. This license is quite different from the ordinary
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the same as in the ordinary license.

 The reason we have a separate public license for some libraries is that
they blur the distinction we usually make between modifying or adding to a
program and simply using it. Linking a program with a library, without
changing the library, is in some sense simply using the library, and is
analogous to running a utility program or application program. However, in
a textual and legal sense, the linked executable is a combined work, a
derivative of the original library, and the ordinary General Public License
treats it as such.

 Because
 of this blurred distinction, using the ordinary General
Public License for libraries did not effectively promote software
sharing, because most developers did not use the libraries. We
concluded that weaker conditions might promote sharing better.

 However, unrestricted linking of non-free programs would deprive the

users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

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

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

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

Activities other than copying, distribution and modification are not

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

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

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

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

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

root function must still compute square roots.)

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

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

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

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

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

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Library into a program that is not a library.

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

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

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

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

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

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

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

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1.65 jansson 2.14-2

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1.67 github.com/disintegration/imaging 1.6.2

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1.72 cmd/test2json (devel)

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1.73 cmd/gofmt (devel)

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package p

// Slices have nil Len values in the corresponding ast.ArrayType
// node and reflect.NewValue(slice.Len) is an invalid reflect.Value.
// The rewriter must not crash in that case. Was issue 1696.
func f() []int {}

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```
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//gofmt

package typeparams

type T[  P any] struct{}
type T[P1, P2, P3 any] struct{}

type T[P C] struct{}
type T[P1,P2, P3 C] struct{}

type T[P C[P]] struct{}
type T[P1, P2, P3 C[P1,P2,P3]] struct{}

func f[P any](x P)
func f[P1, P2, P3 any](x1 P1, x2 P2, x3 P3) struct{}

func f[P interface{}](x P)
func f[P1, P2, P3 interface{ m1(P1); ~P2|~P3 }](x1 P1, x2 P2, x3 P3) struct{}
func f[P any](T1[P], T2[P]) T3[P]

func (x T[P]) m()
func ((T[P])) m(x T[P]) P

func _() {
 type _ []T[P]
 var _ []T[P]
 _ = []T[P]{}
}
```

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```
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//gofmt

package main

var _ = []struct{
 S       string
 Integer int
}{
 {
```

```
 S: "Hello World",
 Integer: 42,
},
{
 S: "\t",
 Integer: 42,
},
{
 S: " ", // an actual <tab>
 Integer: 42,
},
{
 S: ` `, // an actual <tab>
 Integer: 42,
},
{
 S: "\u0009",
 Integer: 42,
},
}
```

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```
//gofmt -r=int->bool

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package p

// Slices have nil Len values in the corresponding ast.ArrayType
// node and reflect.NewValue(slice.Len) is an invalid reflect.Value.
// The rewriter must not crash in that case. Was issue 1696.
func f() []bool {}
```

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* /gofmt-zip/gofmt/testdata/rewrite2.golden
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```
//gofmt -r=a&&b!=2->a

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```

```
// Issue 18987.

package p

const _ = x != 1 && x != 2
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite9.input
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```
//gofmt -r=(x)->x

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// Rewriting of parenthesized expressions (x) -> x
// must not drop parentheses if that would lead to
// wrong association of the operands.
// Was issue 1847.

package main

// From example 1 of issue 1847.
func _() {
 var t = (&T{1000}).Id()
}

// From example 2 of issue 1847.
func _() {
    fmt.Println((*xpp).a)
}

// Some more test cases.
func _() {
 _ = (-x).f
 _ = (*x).f
 _ = (&x).f
 _ = (!x).f
 _ = (-x.f)
 _ = (*x.f)
 _ = (&x.f)
 _ = (!x.f)
 (-x).f()
 (*x).f()
 (&x).f()
 (!x).f()
 _ = (-x.f())
```

```
 _ = (*x.f())
 _ = (&x.f())
 _ = (!x.f())

 _ = ((-x)).f
 _ = ((*x)).f
 _ = ((&x)).f
 _ = ((!x)).f
 _ = ((-x.f))
 _ = ((*x.f))
 _ = ((&x.f))
 _ = ((!x.f))
((-x)).f()
((*x)).f()
((&x)).f()
((!x)).f()
 _ = ((-x.f()))
 _ = ((*x.f()))
 _ = ((&x.f()))
 _
 = ((!x.f()))

 _ = -(x).f
 _ = *(x).f
 _ = &(x).f
 _ = !(x).f
 _ = -x.f
 _ = *x.f
 _ = &x.f
 _ = !x.f
 _ = -(x).f()
 _ = *(x).f()
 _ = &(x).f()
 _ = !(x).f()
 _ = -x.f()
 _ = *x.f()
 _ = &x.f()
 _ = !x.f()
}
```

Found in path(s):
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```
//gofmt -r=(x)->x

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```

```
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// Rewriting of parenthesized expressions (x) -> x
// must not drop parentheses if that would lead to
// wrong association of the operands.
// Was issue 1847.

package main

// From example 1 of issue 1847.
func _() {
 var t = (&T{1000}).Id()
}

// From example 2 of issue 1847.
func _() {
 fmt.Println((*xpp).a)
}

// Some more test cases.
func _() {
 _ = (-x).f
 _ = (*x).f
 _ = (&x).f
 _ = (!x).f
 _ = -x.f
 _ = *x.f
 _ = &x.f
 _ = !x.f
 (-x).f()
 (*x).f()
 (&x).f()
 (!x).f()
 _ = -x.f()
 _ = *x.f()
 _ = &x.f()
 _ = !x.f()

 _ = (-x).f
 _ = (*x).f
 _ = (&x).f
 _ = (!x).f
 _ = -x.f
 _ = *x.f
 _ = &x.f
 _ = !x.f
 (-x).f()
 (*x).f()
```

```
(&x).f()
(!x).f()
_ = -x.f()
_ = *x.f()
_ = &x.f()
_ = !x.f()

_ = -x.f
_ = *x.f
_ = &x.f
_ = !x.f
_ =
-x.f
_ = *x.f
_ = &x.f
_ = !x.f
_ = -x.f()
_ = *x.f()
_ = &x.f()
_ = !x.f()
_ = -x.f()
_ = *x.f()
_ = &x.f()
_ = !x.f()
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite4.golden
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```
//gofmt -r=a&&b!=2->a

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// Issue 18987.

package p

const _ = x != 1
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite9.golden
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```
//gofmt -r=fun(x...)->Fun(x)
```

```
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// Rewriting of calls must take the ... (ellipsis)
// attribute for the last argument into account.

package p

func fun(x []int) {}

func g(x []int) {
 fun(x)    // -r='fun(x...)->Fun(x)' should not rewrite this
 fun(x...) // -r='fun(x...)->Fun(x)' should rewrite this to Fun(x)
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite7.input
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```
//gofmt -r=a->a

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// Issue 33103, 33104, and 33105.

package pkg

func fn() {
 _ = func() {
  switch {
  default:
  }
 }
 _ = func() string {}
 _ = func() { var ptr *string; println(ptr) }
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite10.input
* /gofmt-zip/gofmt/testdata/rewrite10.golden
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```
//gofmt -r=fun(x)->Fun(x)

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```

```
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// Rewriting of calls must take the ... (ellipsis)
// attribute for the last argument into account.

package p

func fun(x []int) {}

func g(x []int) {
 Fun(x)    // -r='fun(x)->Fun(x)' should rewrite this to Fun(x)
 fun(x...) // -r='fun(x)->Fun(x)' should not rewrite this
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite6.golden
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```
//gofmt -r=fun(x...)->Fun(x)

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// Rewriting of calls must take the ... (ellipsis)
// attribute for the last argument into account.

package p

func fun(x []int) {}

func g(x []int) {
 fun(x) // -r='fun(x...)->Fun(x)' should not rewrite this
 Fun(x) // -r='fun(x...)->Fun(x)' should rewrite this to Fun(x)
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite7.golden
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```
//gofmt -r=x+x->2*x

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// Rewriting of expressions containing nodes with associated comments to
```

```
// expressions without those nodes must also eliminate the associated
// comments.

package p

func f(x int) int {
 _ = x + x // this comment remains in the rewrite
 _ = x /* this comment must not be in the rewrite */ + x
 return x /* this comment must not be in the rewrite */ + x
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite5.input
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```
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//gofmt

package typeparams

type T[P any] struct{}
type T[P1, P2, P3 any] struct{}

type T[P C] struct{}
type T[P1, P2, P3 C] struct{}

type T[P C[P]] struct{}
type T[P1, P2, P3 C[P1, P2, P3]] struct{}

func f[P any](x P)
func f[P1, P2, P3 any](x1 P1, x2 P2, x3 P3) struct{}

func f[P interface{}](x P)
func f[P1, P2, P3 interface {
 m1(P1)
 ~P2 | ~P3
}](x1 P1, x2 P2, x3 P3) struct{}
func f[P any](T1[P], T2[P]) T3[P]

func (x T[P]) m()
func (T[P]) m(x T[P]) P

func _() {
 type _ []T[P]
 var _ []T[P]
```

```
 _ = []T[P]{}
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/typeparams.golden
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```
//gofmt -r=fun(x)->Fun(x)

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// Rewriting of calls must take the ... (ellipsis)
// attribute for the last argument into account.

package p

func fun(x []int) {}

func g(x []int) {
 fun(x)    // -r='fun(x)->Fun(x)' should rewrite this to Fun(x)
 fun(x...) // -r='fun(x)->Fun(x)' should not rewrite this
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite6.input
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```
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//gofmt

package main

var _ = []struct {
 S       string
 Integer int
}{
 {
  S:       "Hello World",
  Integer: 42,
 },
 {
  S:       "\t",
  Integer: 42,
```

```
 },
 {
  S:       " ", // an actual <tab>
  Integer: 42,
 },
 {
  S:       ` `, // an actual <tab>
  Integer: 42,
 },
 {
  S:       "\u0009",
  Integer: 42,
 },
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/tabs.golden
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```
//gofmt -r=interface{}->int

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// Check that literal type expression rewrites are accepted.
// Was issue 4406.

package p

type T interface{}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite8.input
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```
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```

Found in path(s):
* /gofmt-zip/gofmt/testdata/issue28082.golden
* /gofmt-zip/gofmt/testdata/issue28082.input
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```
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```

Found in path(s):
* /gofmt-zip/gofmt/simplify.go

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```
//gofmt -r=x->x

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package main

// Field tags are *ast.BasicLit nodes that are nil when the tag is
// absent. These nil nodes must not be mistaken for expressions,
// the rewriter should not try to dereference them. Was issue 2410.
type Foo struct {
 Field int
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite3.input
* /gofmt-zip/gofmt/testdata/rewrite3.golden
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```
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```

Found in path(s):
* /gofmt-zip/gofmt/internal.go
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```
//gofmt -r=x+x->2*x

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// Rewriting of expressions containing nodes with associated comments to
// expressions without those nodes must also eliminate the associated
// comments.

package p

func f(x int) int {
 _ = 2 * x // this comment remains in the rewrite
 _ = 2 * x
 return 2 * x
}
```

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite5.golden

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Found in path(s):
* /gofmt-zip/gofmt/gofmt.go
* /gofmt-zip/gofmt/doc.go
* /gofmt-zip/gofmt/rewrite.go
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Found in path(s):
* /gofmt-zip/gofmt/gofmt_test.go
* /gofmt-zip/gofmt/testdata/rewrite1.input
* /gofmt-zip/gofmt/testdata/rewrite1.golden
* /gofmt-zip/gofmt/long_test.go
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//gofmt -r=interface{}->int

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// Check that literal type expression rewrites are accepted.
// Was issue 4406.

package p

type T int

Found in path(s):
* /gofmt-zip/gofmt/testdata/rewrite8.golden

1.74 cmd/addr2line (devel)

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Found in path(s):
* /addr2line-zip/addr2line/addr2line_test.go

1.75 cmd/fix (devel)

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* /fix-zip/fix/gotypes_test.go
* /fix-zip/fix/printerconfig.go
* /fix-zip/fix/netipv6zone_test.go
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* /fix-zip/fix/printerconfig_test.go
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Found in path(s):
* /fix-zip/fix/egltype_test.go
* /fix-zip/fix/cftype_test.go
* /fix-zip/fix/cftype.go
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* /fix-zip/fix/main_test.go
* /fix-zip/fix/doc.go
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* /fix-zip/fix/gotypes.go

1.76 cmd/trace (devel)

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Found in path(s):
* /trace-180-zip/trace/goroutines.go
* /trace-180-zip/trace/main.go
* /trace-180-zip/trace/trace.go
* /trace-180-zip/trace/pprof.go
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Found in path(s):
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Found in path(s):
* /trace-180-zip/trace/trace_unix_test.go
* /trace-180-zip/trace/mmu.go
* /trace-180-zip/trace/doc.go
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Resources for Go's trace viewer

Go execution trace UI (`go tool trace`) embeds
Chrome's trace viewer (Catapult) following the
[instructions](
https://chromium.googlesource.com/catapult/+/refs/heads/master/tracing/docs/embedding-trace-viewer.md). This directory contains
the helper files to embed Chrome's trace viewer.

The current resources were generated/copied from
[`Catapult@9508452e18f130c98499cb4c4f1e1efaedee8962`](
https://chromium.googlesource.com/catapult/+/9508452e18f130c98499cb4c4f1e1efaedee8962).

Updating `trace_viewer_full.html`

The file was generated by catapult's `vulcanize_trace_viewer` command.

```
$ git clone https://chromium.googlesource.com/catapult
$ cd catapult
$ ./tracing/bin/vulcanize_trace_viewer --config=full
$ cp tracing/bin/trace_viewer_full.html $GOROOT/src/cmd/trace/static/trace_viewer_full.html
```

We are supposed to use --config=lean (produces smaller html),
but it is broken
 at the moment:
https://github.com/catapult-project/catapult/issues/2247

Updating `webcomponents.min.js`

`webcomponents.min.js` is necessary to let the trace viewer page
to import the `trace_viewer_full.html`.
This is copied from the catapult repo.

```
$ cp third_party/polymer/components/webcomponentsjs/webcomponents.min.js
$GOROOT/src/cmd/trace/static/webcomponents.min.js
```

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```

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* /trace-180-zip/trace/static/README.md
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*/
```

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```
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```

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* /trace-180-zip/trace/annotations_test.go
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```
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```

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* /trace-180-zip/trace/static/trace_viewer_full.html

1.77 cmd/asm (devel)

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Found in path(s):
* /asm-zip/asm/internal/asm/testdata/armv6.s
* /asm-zip/asm/internal/asm/testdata/amd64enc_extra.s
* /asm-zip/asm/internal/asm/testdata/arm64enc.s
* /asm-zip/asm/internal/asm/testdata/armerror.s

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Found in path(s):
* /asm-zip/asm/internal/asm/testdata/mips64.s
* /asm-zip/asm/internal/arch/ppc64.go
* /asm-zip/asm/internal/asm/parse.go
* /asm-zip/asm/internal/lex/lex.go
* /asm-zip/asm/internal/flags/flags.go
* /asm-zip/asm/internal/lex/stack.go
* /asm-zip/asm/internal/lex/slice.go
* /asm-zip/asm/internal/asm/endtoend_test.go
* /asm-zip/asm/doc.go
* /asm-zip/asm/internal/asm/expr_test.go
* /asm-zip/asm/internal/lex/lex_test.go
* /asm-zip/asm/internal/asm/testdata/ppc64.s
* /asm-zip/asm/internal/arch/arm.go
* /asm-zip/asm/internal/asm/testdata/amd64.s
* /asm-zip/asm/internal/lex/tokenizer.go
* /asm-zip/asm/internal/asm/operand_test.go
* /asm-zip/asm/internal/lex/input.go
* /asm-zip/asm/internal/arch/arch.go
* /asm-zip/asm/internal/asm/testdata/arm.s
* /asm-zip/asm/internal/asm/testdata/arm64.s
* /asm-zip/asm/internal/asm/pseudo_test.go
* /asm-zip/asm/internal/arch/mips.go
*
 /asm-zip/asm/internal/arch/arm64.go

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Found in path(s):
* /asm-zip/asm/internal/asm/testdata/s390x.s

* /asm-zip/asm/internal/asm/testdata/amd64error.s
* /asm-zip/asm/internal/arch/s390x.go
* /asm-zip/asm/internal/asm/testdata/mips.s
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Found in path(s):
* /asm-zip/asm/internal/asm/testdata/arm64error.s
* /asm-zip/asm/internal/asm/testdata/386enc.s
* /asm-zip/asm/internal/asm/line_test.go
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Found in path(s):
* /asm-zip/asm/internal/asm/testdata/loong64enc1.s
* /asm-zip/asm/internal/asm/testdata/loong64enc3.s
* /asm-zip/asm/internal/arch/loong64.go
* /asm-zip/asm/internal/asm/testdata/loong64enc2.s
* /asm-zip/asm/internal/asm/testdata/loong64.s
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Found in path(s):
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* /asm-zip/asm/internal/asm/testdata/riscv64error.s
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* /asm-zip/asm/main.go
* /asm-zip/asm/internal/asm/asm.go
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Found in path(s):
* /asm-zip/asm/internal/asm/testdata/riscv64.s
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Found in path(s):
* /asm-zip/asm/internal/arch/riscv64.go
* /asm-zip/asm/internal/asm/testdata/buildtagerror.s

1.78 cmd/cover (devel)

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Found in path(s):
* /cover-zip/cover/testdata/toolexec.go
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Found in path(s):
* /cover-zip/cover/html.go
* /cover-zip/cover/cover_test.go
* /cover-zip/cover/testdata/main.go
* /cover-zip/cover/testdata/test.go
* /cover-zip/cover/doc.go
* /cover-zip/cover/cover.go
* /cover-zip/cover/func.go
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* /cover-zip/cover/testdata/directives.go

1.79 cmd/buildid (devel)

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1.80 cmd/pprof (devel)

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1.81 cmd/go (devel)

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// This file contains rules to decompose [u]int64 types on 32-bit
// architectures. These rules work together with the decomposeBuiltIn
// pass which handles phis of these typ.

(Int64Hi (Int64Make hi _)) => hi
(Int64Lo (Int64Make _ lo)) => lo

(Load <t> ptr mem) && is64BitInt(t) && !config.BigEndian && t.IsSigned() =>
 (Int64Make
  (Load <typ.Int32> (OffPtr <typ.Int32Ptr> [4] ptr) mem)
  (Load <typ.UInt32> ptr mem))

(Load <t> ptr mem) && is64BitInt(t) && !config.BigEndian && !t.IsSigned() =>

```
 (Int64Make
  (Load <typ.UInt32> (OffPtr <typ.UInt32Ptr> [4] ptr) mem)
  (Load <typ.UInt32> ptr mem))

(Load <t> ptr mem) && is64BitInt(t) && config.BigEndian && t.IsSigned() =>
 (Int64Make
  (Load <typ.Int32> ptr mem)
  (Load <typ.UInt32> (OffPtr <typ.UInt32Ptr> [4] ptr)
 mem))

(Load <t> ptr mem) && is64BitInt(t) && config.BigEndian && !t.IsSigned() =>
 (Int64Make
  (Load <typ.UInt32> ptr mem)
  (Load <typ.UInt32> (OffPtr <typ.UInt32Ptr> [4] ptr) mem))

(Store {t} dst (Int64Make hi lo) mem) && t.Size() == 8 && !config.BigEndian =>
 (Store {hi.Type}
  (OffPtr <hi.Type.PtrTo()> [4] dst)
  hi
  (Store {lo.Type} dst lo mem))

(Store {t} dst (Int64Make hi lo) mem) && t.Size() == 8 && config.BigEndian =>
 (Store {lo.Type}
  (OffPtr <lo.Type.PtrTo()> [4] dst)
  lo
  (Store {hi.Type} dst hi mem))

// These are not enabled during decomposeBuiltin if late call expansion, but they are always enabled for softFloat
(Arg {n} [off]) && is64BitInt(v.Type) && !config.BigEndian && v.Type.IsSigned() && !(b.Func.pass.name ==
"decompose builtin") =>
 (Int64Make
   (Arg <typ.Int32> {n} [off+4])
   (Arg <typ.UInt32> {n} [off]))
(Arg {n} [off]) && is64BitInt(v.Type) && !config.BigEndian && !v.Type.IsSigned() && !(b.Func.pass.name ==
"decompose builtin")  =>
 (Int64Make
    (Arg <typ.UInt32> {n} [off+4])
   (Arg <typ.UInt32> {n} [off]))

(Arg {n} [off]) && is64BitInt(v.Type) && config.BigEndian && v.Type.IsSigned() && !(b.Func.pass.name ==
"decompose builtin") =>
 (Int64Make
   (Arg <typ.Int32> {n} [off])
   (Arg <typ.UInt32> {n} [off+4]))
(Arg {n} [off]) && is64BitInt(v.Type) && config.BigEndian && !v.Type.IsSigned() && !(b.Func.pass.name ==
"decompose builtin") =>
 (Int64Make
   (Arg <typ.UInt32> {n} [off])
```

```
  (Arg <typ.UInt32> {n} [off+4]))

(Add64 x y) =>
 (Int64Make
  (Add32withcarry <typ.Int32>
   (Int64Hi x)
   (Int64Hi y)
   (Select1 <types.TypeFlags> (Add32carry (Int64Lo x) (Int64Lo y))))
  (Select0 <typ.UInt32> (Add32carry (Int64Lo x) (Int64Lo y))))

(Sub64 x y) =>
 (Int64Make
  (Sub32withcarry <typ.Int32>
   (Int64Hi x)
   (Int64Hi y)
   (Select1 <types.TypeFlags> (Sub32carry (Int64Lo x) (Int64Lo y))))
  (Select0 <typ.UInt32> (Sub32carry (Int64Lo x) (Int64Lo y))))

(Mul64 x y) =>
 (Int64Make
  (Add32 <typ.UInt32>
   (Mul32 <typ.UInt32>
 (Int64Lo x) (Int64Hi y))
   (Add32 <typ.UInt32>
    (Mul32 <typ.UInt32> (Int64Hi x) (Int64Lo y))
    (Select0 <typ.UInt32> (Mul32uhilo (Int64Lo x) (Int64Lo y)))))
  (Select1 <typ.UInt32> (Mul32uhilo (Int64Lo x) (Int64Lo y))))

(And64 x y) =>
 (Int64Make
  (And32 <typ.UInt32> (Int64Hi x) (Int64Hi y))
  (And32 <typ.UInt32> (Int64Lo x) (Int64Lo y)))

(Or64 x y) =>
 (Int64Make
  (Or32 <typ.UInt32> (Int64Hi x) (Int64Hi y))
  (Or32 <typ.UInt32> (Int64Lo x) (Int64Lo y)))

(Xor64 x y) =>
 (Int64Make
  (Xor32 <typ.UInt32> (Int64Hi x) (Int64Hi y))
  (Xor32 <typ.UInt32> (Int64Lo x) (Int64Lo y)))

(Neg64 <t> x) => (Sub64 (Const64 <t> [0]) x)

(Com64 x) =>
 (Int64Make
  (Com32 <typ.UInt32> (Int64Hi x))
```

```
  (Com32 <typ.UInt32> (Int64Lo x)))

// Sadly, just because we know that x is non-zero,
// we don't know whether either component is,
// so just treat Ctz64NonZero the same as Ctz64.
(Ctz64NonZero ...) => (Ctz64 ...)

(Ctz64 x) =>
 (Add32 <typ.UInt32>
  (Ctz32 <typ.UInt32> (Int64Lo x))
  (And32 <typ.UInt32>
   (Com32
 <typ.UInt32> (Zeromask (Int64Lo x)))
   (Ctz32 <typ.UInt32> (Int64Hi x))))

(BitLen64 x) =>
 (Add32 <typ.Int>
  (BitLen32 <typ.Int> (Int64Hi x))
  (BitLen32 <typ.Int>
   (Or32 <typ.UInt32>
    (Int64Lo x)
    (Zeromask (Int64Hi x)))))

(Bswap64 x) =>
 (Int64Make
  (Bswap32 <typ.UInt32> (Int64Lo x))
  (Bswap32 <typ.UInt32> (Int64Hi x)))

(SignExt32to64 x) => (Int64Make (Signmask x) x)
(SignExt16to64 x) => (SignExt32to64 (SignExt16to32 x))
(SignExt8to64 x) => (SignExt32to64 (SignExt8to32 x))

(ZeroExt32to64 x) => (Int64Make (Const32 <typ.UInt32> [0]) x)
(ZeroExt16to64 x) => (ZeroExt32to64 (ZeroExt16to32 x))
(ZeroExt8to64 x) => (ZeroExt32to64 (ZeroExt8to32 x))

(Trunc64to32 (Int64Make _ lo)) => lo
(Trunc64to16 (Int64Make _ lo)) => (Trunc32to16 lo)
(Trunc64to8 (Int64Make _ lo)) => (Trunc32to8 lo)
// Most general
(Trunc64to32 x) => (Int64Lo x)
(Trunc64to16 x) => (Trunc32to16 (Int64Lo x))
(Trunc64to8 x) => (Trunc32to8 (Int64Lo x))

(Lsh32x64 _ (Int64Make (Const32 [c]) _))
 && c != 0 => (Const32 [0])
(Rsh32x64 x (Int64Make (Const32 [c]) _)) && c != 0 => (Signmask x)
(Rsh32Ux64 _ (Int64Make (Const32 [c]) _)) && c != 0 => (Const32 [0])
```

```
(Lsh16x64 _ (Int64Make (Const32 [c]) _)) && c != 0 => (Const32 [0])
(Rsh16x64 x (Int64Make (Const32 [c]) _)) && c != 0 => (Signmask (SignExt16to32 x))
(Rsh16Ux64 _ (Int64Make (Const32 [c]) _)) && c != 0 => (Const32 [0])
(Lsh8x64 _ (Int64Make (Const32 [c]) _)) && c != 0 => (Const32 [0])
(Rsh8x64 x (Int64Make (Const32 [c]) _)) && c != 0 => (Signmask (SignExt8to32 x))
(Rsh8Ux64 _ (Int64Make (Const32 [c]) _)) && c != 0 => (Const32 [0])

(Lsh32x64 [c] x (Int64Make (Const32 [0]) lo)) => (Lsh32x32 [c] x lo)
(Rsh32x64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh32x32 [c] x lo)
(Rsh32Ux64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh32Ux32 [c] x lo)
(Lsh16x64 [c] x (Int64Make (Const32 [0]) lo)) => (Lsh16x32 [c] x lo)
(Rsh16x64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh16x32 [c] x lo)
(Rsh16Ux64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh16Ux32
 [c] x lo)
(Lsh8x64 [c] x (Int64Make (Const32 [0]) lo)) => (Lsh8x32 [c] x lo)
(Rsh8x64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh8x32 [c] x lo)
(Rsh8Ux64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh8Ux32 [c] x lo)

(Lsh64x64 _ (Int64Make (Const32 [c]) _)) && c != 0 => (Const64 [0])
(Rsh64x64 x (Int64Make (Const32 [c]) _)) && c != 0 => (Int64Make (Signmask (Int64Hi x)) (Signmask (Int64Hi
x)))
(Rsh64Ux64 _ (Int64Make (Const32 [c]) _)) && c != 0 => (Const64 [0])

(Lsh64x64 [c] x (Int64Make (Const32 [0]) lo)) => (Lsh64x32 [c] x lo)
(Rsh64x64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh64x32 [c] x lo)
(Rsh64Ux64 [c] x (Int64Make (Const32 [0]) lo)) => (Rsh64Ux32 [c] x lo)

// turn x64 non-constant shifts to x32 shifts
// if high 32-bit of the shift is nonzero, make a huge shift
(Lsh64x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Lsh64x32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Rsh64x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh64x32 x (Or32 <typ.UInt32> (Zeromask
 hi) lo))
(Rsh64Ux64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh64Ux32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Lsh32x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Lsh32x32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Rsh32x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh32x32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Rsh32Ux64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh32Ux32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Lsh16x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Lsh16x32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Rsh16x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh16x32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Rsh16Ux64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh16Ux32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
```

```
(Lsh8x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Lsh8x32 x (Or32 <typ.UInt32> (Zeromask hi) lo))
(Rsh8x64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh8x32 x (Or32
 <typ.UInt32> (Zeromask hi) lo))
(Rsh8Ux64 x (Int64Make hi lo)) && hi.Op != OpConst32 =>
    (Rsh8Ux32 x (Or32 <typ.UInt32> (Zeromask hi) lo))

// Most general
(Lsh64x64 x y)  => (Lsh64x32  x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh64x64 x y)  => (Rsh64x32  x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh64Ux64 x y) => (Rsh64Ux32 x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Lsh32x64 x y)  => (Lsh32x32  x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh32x64 x y)  => (Rsh32x32  x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh32Ux64 x y) => (Rsh32Ux32 x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Lsh16x64 x y)  => (Lsh16x32  x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh16x64 x y)  => (Rsh16x32  x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh16Ux64 x y) => (Rsh16Ux32 x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Lsh8x64 x y)   => (Lsh8x32   x (Or32 <typ.UInt32>
 (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh8x64 x y)   => (Rsh8x32   x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))
(Rsh8Ux64 x y)  => (Rsh8Ux32  x (Or32 <typ.UInt32> (Zeromask (Int64Hi y)) (Int64Lo y)))

// Clean up constants a little
(Or32 <typ.UInt32> (Zeromask (Const32 [c])) y) && c == 0 => y
(Or32 <typ.UInt32> (Zeromask (Const32 [c])) y) && c != 0 => (Const32 <typ.UInt32> [-1])

// 64x left shift
// result.hi = hi<<s | lo>>(32-s) | lo<<(s-32) // >> is unsigned, large shifts result 0
// result.lo = lo<<s
(Lsh64x32 x s) =>
 (Int64Make
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Lsh32x32 <typ.UInt32> (Int64Hi x) s)
    (Rsh32Ux32 <typ.UInt32>
     (Int64Lo x)
     (Sub32 <typ.UInt32> (Const32 <typ.UInt32> [32]) s)))
   (Lsh32x32 <typ.UInt32>
    (Int64Lo x)
    (Sub32 <typ.UInt32> s (Const32 <typ.UInt32> [32]))))
  (Lsh32x32 <typ.UInt32> (Int64Lo x) s))
(Lsh64x16 x s) =>
 (Int64Make
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Lsh32x16 <typ.UInt32> (Int64Hi x)
```

```
 s)
   (Rsh32Ux16 <typ.UInt32>
    (Int64Lo x)
    (Sub16 <typ.UInt16> (Const16 <typ.UInt16> [32]) s)))
  (Lsh32x16 <typ.UInt32>
   (Int64Lo x)
   (Sub16 <typ.UInt16> s (Const16 <typ.UInt16> [32]))))
 (Lsh32x16 <typ.UInt32> (Int64Lo x) s))
(Lsh64x8 x s) =>
 (Int64Make
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Lsh32x8 <typ.UInt32> (Int64Hi x) s)
    (Rsh32Ux8 <typ.UInt32>
     (Int64Lo x)
     (Sub8 <typ.UInt8> (Const8 <typ.UInt8> [32]) s)))
   (Lsh32x8 <typ.UInt32>
    (Int64Lo x)
    (Sub8 <typ.UInt8> s (Const8 <typ.UInt8> [32]))))
  (Lsh32x8 <typ.UInt32> (Int64Lo x) s))

// 64x unsigned right shift
// result.hi = hi>>s
// result.lo = lo>>s | hi<<(32-s) | hi>>(s-32) // >> is unsigned, large shifts result 0
(Rsh64Ux32 x s) =>
 (Int64Make
  (Rsh32Ux32 <typ.UInt32> (Int64Hi x) s)
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Rsh32Ux32 <typ.UInt32> (Int64Lo x) s)
    (Lsh32x32 <typ.UInt32>
     (Int64Hi x)
     (Sub32 <typ.UInt32> (Const32 <typ.UInt32> [32]) s)))
   (Rsh32Ux32
 <typ.UInt32>
    (Int64Hi x)
    (Sub32 <typ.UInt32> s (Const32 <typ.UInt32> [32])))))
(Rsh64Ux16 x s) =>
 (Int64Make
  (Rsh32Ux16 <typ.UInt32> (Int64Hi x) s)
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Rsh32Ux16 <typ.UInt32> (Int64Lo x) s)
    (Lsh32x16 <typ.UInt32>
     (Int64Hi x)
     (Sub16 <typ.UInt16> (Const16 <typ.UInt16> [32]) s)))
   (Rsh32Ux16 <typ.UInt32>
    (Int64Hi x)
```

```
   (Sub16 <typ.UInt16> s (Const16 <typ.UInt16> [32])))))
(Rsh64Ux8 x s) =>
 (Int64Make
  (Rsh32Ux8 <typ.UInt32> (Int64Hi x) s)
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Rsh32Ux8 <typ.UInt32> (Int64Lo x) s)
    (Lsh32x8 <typ.UInt32>
     (Int64Hi x)
     (Sub8 <typ.UInt8> (Const8 <typ.UInt8> [32]) s)))
   (Rsh32Ux8 <typ.UInt32>
    (Int64Hi x)
    (Sub8 <typ.UInt8> s (Const8 <typ.UInt8> [32])))))

// 64x signed right shift
// result.hi = hi>>s
// result.lo = lo>>s | hi<<(32-s) | (hi>>(s-32))&zeromask(s>>5) // hi>>(s-32) is signed, large shifts result 0/-1
(Rsh64x32 x s) =>
 (Int64Make
  (Rsh32x32
 <typ.UInt32> (Int64Hi x) s)
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Rsh32Ux32 <typ.UInt32> (Int64Lo x) s)
    (Lsh32x32 <typ.UInt32>
     (Int64Hi x)
     (Sub32 <typ.UInt32> (Const32 <typ.UInt32> [32]) s)))
   (And32 <typ.UInt32>
    (Rsh32x32 <typ.UInt32>
     (Int64Hi x)
     (Sub32 <typ.UInt32> s (Const32 <typ.UInt32> [32])))
    (Zeromask
     (Rsh32Ux32 <typ.UInt32> s (Const32 <typ.UInt32> [5]))))))
(Rsh64x16 x s) =>
 (Int64Make
  (Rsh32x16 <typ.UInt32> (Int64Hi x) s)
  (Or32 <typ.UInt32>
   (Or32 <typ.UInt32>
    (Rsh32Ux16 <typ.UInt32> (Int64Lo x) s)
    (Lsh32x16 <typ.UInt32>
     (Int64Hi x)
     (Sub16 <typ.UInt16> (Const16 <typ.UInt16> [32]) s)))
   (And32 <typ.UInt32>
    (Rsh32x16 <typ.UInt32>
     (Int64Hi x)
     (Sub16 <typ.UInt16> s (Const16 <typ.UInt16> [32])))
    (Zeromask
     (ZeroExt16to32
```

```
     (Rsh16Ux32 <typ.UInt16> s (Const32 <typ.UInt32> [5])))))))
(Rsh64x8 x s) =>
 (Int64Make
  (Rsh32x8 <typ.UInt32> (Int64Hi x) s)
  (Or32 <typ.UInt32>
   (Or32
 <typ.UInt32>
    (Rsh32Ux8 <typ.UInt32> (Int64Lo x) s)
    (Lsh32x8 <typ.UInt32>
     (Int64Hi x)
     (Sub8 <typ.UInt8> (Const8 <typ.UInt8> [32]) s)))
   (And32 <typ.UInt32>
    (Rsh32x8 <typ.UInt32>
     (Int64Hi x)
     (Sub8 <typ.UInt8> s (Const8 <typ.UInt8> [32])))
    (Zeromask
     (ZeroExt8to32
      (Rsh8Ux32 <typ.UInt8> s (Const32 <typ.UInt32> [5])))))))

(Const64 <t> [c]) && t.IsSigned() =>
 (Int64Make (Const32 <typ.Int32> [int32(c>>32)]) (Const32 <typ.UInt32> [int32(c)]))
(Const64 <t> [c]) && !t.IsSigned() =>
 (Int64Make (Const32 <typ.UInt32> [int32(c>>32)]) (Const32 <typ.UInt32> [int32(c)]))

(Eq64 x y) =>
 (AndB
  (Eq32 (Int64Hi x) (Int64Hi y))
  (Eq32 (Int64Lo x) (Int64Lo y)))

(Neq64 x y) =>
 (OrB
  (Neq32 (Int64Hi x) (Int64Hi y))
  (Neq32 (Int64Lo x) (Int64Lo y)))

(Less64U x y) =>
 (OrB
  (Less32U (Int64Hi x) (Int64Hi y))
  (AndB
   (Eq32 (Int64Hi x) (Int64Hi y))
   (Less32U (Int64Lo x) (Int64Lo y))))

(Leq64U x y) =>
 (OrB
  (Less32U (Int64Hi x) (Int64Hi y))
  (AndB
   (Eq32
 (Int64Hi x) (Int64Hi y))
   (Leq32U (Int64Lo x) (Int64Lo y))))
```

```
(Less64 x y) =>
 (OrB
  (Less32 (Int64Hi x) (Int64Hi y))
  (AndB
   (Eq32 (Int64Hi x) (Int64Hi y))
   (Less32U (Int64Lo x) (Int64Lo y))))

(Leq64 x y) =>
 (OrB
  (Less32 (Int64Hi x) (Int64Hi y))
  (AndB
   (Eq32 (Int64Hi x) (Int64Hi y))
   (Leq32U (Int64Lo x) (Int64Lo y))))
```

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/dec64.rules
No license file was found, but licenses were detected in source scan.

```
// Copyright 2021 The Go Authors. All rights reserved.
```

Found in path(s):
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48018.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47887.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue44688.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue40789.go
* /compile-zip/compile/internal/noder/codes.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47747.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49112.go
* /compile-zip/compile/internal/syntax/testdata/issue43674.go
* /compile-zip/compile/internal/types2/termlist_test.go
* /compile-zip/compile/internal/noder/sizes.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47968.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49247.go
* /compile-zip/compile/internal/noder/linker.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49579.go
*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48048.go
* /compile-zip/compile/internal/dwarfgen/marker.go
* /compile-zip/compile/internal/base/bootstrap_true.go
* /compile-zip/compile/internal/noder/transform.go
* /compile-zip/compile/internal/types2/interface.go
* /compile-zip/compile/internal/types2/typeterm.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48703.go
* /compile-zip/compile/internal/reflectdata/alg_test.go
* /compile-zip/compile/internal/types2/testdata/check/typeinstcycles.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47411.go
* /compile-zip/compile/internal/importer/testdata/generics.go

* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue45548.go
* /compile-zip/compile/internal/types2/testdata/examples/typesets.go
* /compile-zip/compile/internal/types2/compilersupport.go
* /compile-zip/compile/internal/noder/reader.go
* /compile-zip/compile/internal/types2/typeset.go
*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48656.go
* /compile-zip/compile/internal/types2/mono_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47818.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue45920.go
* /compile-zip/compile/internal/types2/index.go
* /compile-zip/compile/internal/types2/testdata/examples/inference.go
* /compile-zip/compile/internal/test/testdata/mysort/mysort.go
* /compile-zip/compile/internal/types2/testdata/spec/assignability.go
* /compile-zip/compile/internal/noder/scopes.go
* /compile-zip/compile/internal/types2/typeterm_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48529.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49242.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47996.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48974.go
* /compile-zip/compile/internal/noder/func.go
* /compile-zip/compile/internal/types2/instantiate_test.go
*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48008.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue45985.go
* /compile-zip/compile/internal/types2/typeset_test.go
* /compile-zip/compile/internal/test/clobberdead_test.go
* /compile-zip/compile/internal/walk/temp.go
* /compile-zip/compile/internal/noder/types.go
* /compile-zip/compile/internal/types2/testdata/check/go1_16.go
* /compile-zip/compile/internal/types2/typelists.go
* /compile-zip/compile/internal/noder/stencil.go
* /compile-zip/compile/internal/noder/unified.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49864.go
* /compile-zip/compile/internal/types2/version.go
* /compile-zip/compile/internal/escape/desugar.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49439.go
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* /compile-zip/compile/internal/types2/instantiate.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47796.go
*
 /compile-zip/compile/internal/types2/union.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49043.go
* /compile-zip/compile/internal/syntax/testdata/typeset.go
* /compile-zip/compile/internal/test/inst_test.go
* /compile-zip/compile/internal/syntax/testdata/issue43527.go
* /compile-zip/compile/internal/types2/context.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue46275.go

* /compile-zip/compile/internal/syntax/testdata/interface.go
* /compile-zip/compile/internal/test/align_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47127.go
* /compile-zip/compile/internal/noder/irgen.go
* /compile-zip/compile/internal/noder/helpers.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48619.go
* /compile-zip/compile/internal/types2/testdata/check/typeinference.go
* /compile-zip/compile/internal/noder/quirks.go
* /compile-zip/compile/internal/syntax/testdata/issue49482.go
* /compile-zip/compile/internal/types2/testdata/examples/operations.go
*
 /compile-zip/compile/internal/syntax/testdata/issue47704.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49296.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47031.go
* /compile-zip/compile/internal/ssa/debug_lines_test.go
* /compile-zip/compile/internal/syntax/testdata/issue48382.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48472.go
* /compile-zip/compile/internal/types2/testdata/check/go1_13.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49592.go
* /compile-zip/compile/internal/types2/signature.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue47115.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue42987.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43527.go
* /compile-zip/compile/internal/noder/object.go
* /compile-zip/compile/internal/noder/posmap.go
* /compile-zip/compile/internal/test/switch_test.go
*
 /compile-zip/compile/internal/noder/expr.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48082.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49705.go
* /compile-zip/compile/internal/types2/errorcalls_test.go
* /compile-zip/compile/internal/types2/testdata/check/go1_8.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue46583.go
* /compile-zip/compile/internal/types2/testdata/examples/constraints.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43087.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43671.go
* /compile-zip/compile/internal/base/link.go
* /compile-zip/compile/internal/importer/ureader.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48819.go
* /compile-zip/compile/internal/noder/writer.go
* /compile-zip/compile/internal/types2/mono.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48083.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue46461.go
*
 /compile-zip/compile/internal/types2/sizeof_test.go
* /compile-zip/compile/internal/noder/stmt.go
* /compile-zip/compile/internal/types2/testdata/check/go1_12.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue45550.go

* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49179.go
* /compile-zip/compile/internal/noder/decl.go
* /compile-zip/compile/internal/test/issue50182_test.go
* /compile-zip/compile/internal/typecheck/crawler.go
* /compile-zip/compile/internal/noder/export.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48136.go
* /compile-zip/compile/internal/noder/validate.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49739.go
* /compile-zip/compile/internal/amd64/versions_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue45639.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50372.go
* /compile-zip/compile/internal/types2/termlist.go
* /compile-zip/compile/internal/types2/struct.go
*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue44799.go
* /compile-zip/compile/internal/ssa/fuse_branchredirect.go
* /compile-zip/compile/internal/syntax/testdata/issue46558.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue45635.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49602.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48234.go
* /compile-zip/compile/internal/types2/testdata/spec/conversions.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49003.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49276.go
* /compile-zip/compile/internal/types2/context_test.go
* /compile-zip/compile/internal/base/bootstrap_false.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48582.go
* /compile-zip/compile/internal/types2/testdata/check/unions.go
* /compile-zip/compile/internal/liveness/arg.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48695.go
*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49005.go
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// This file contains rules used by flagalloc and addressingmodes to
// split a flag-generating merged load op into separate load and op.
// Unlike with the other rules files, not all of these
// rules will be applied to all values.
// Rather, flagalloc will request for rules to be applied
// to a particular problematic value.
// These are often the exact inverse of rules in AMD64.rules,
// only with the conditions removed.
//
// For addressingmodes, certain single instructions are slower than the two instruction
// split generated here (which is different from the inputs to addressingmodes).

```
// For example:
// (CMPBconstload c (ADDQ x y)) -> (CMPBconstloadidx1 c x y) -> (CMPB c (MOVBloadidx1 x y))

(CMP(Q|L|W|B)load {sym} [off] ptr x mem) => (CMP(Q|L|W|B) (MOV(Q|L|W|B)load
 {sym} [off] ptr mem) x)

(CMP(Q|L|W|B)constload {sym} [vo] ptr mem) && vo.Val() == 0 => (TEST(Q|L|W|B) x:(MOV(Q|L|W|B)load
{sym} [vo.Off()] ptr mem) x)

(CMPQconstload {sym} [vo] ptr mem) && vo.Val() != 0 => (CMPQconst (MOVQload {sym} [vo.Off()] ptr mem)
[vo.Val()])
(CMPLconstload {sym} [vo] ptr mem) && vo.Val() != 0 => (CMPLconst (MOVLload {sym} [vo.Off()] ptr mem)
[vo.Val()])
(CMPWconstload {sym} [vo] ptr mem) && vo.Val() != 0 => (CMPWconst (MOVWload {sym} [vo.Off()] ptr
mem) [vo.Val16()])
(CMPBconstload {sym} [vo] ptr mem) && vo.Val() != 0 => (CMPBconst (MOVBload {sym} [vo.Off()] ptr mem)
[vo.Val8()])

(CMP(Q|L|W|B)loadidx1 {sym} [off] ptr idx x mem) => (CMP(Q|L|W|B) (MOV(Q|L|W|B)loadidx1 {sym} [off] ptr
idx mem) x)
(CMPQloadidx8 {sym} [off] ptr idx x mem) => (CMPQ (MOVQloadidx8 {sym} [off] ptr idx mem) x)
(CMPLloadidx4 {sym} [off] ptr idx x mem) => (CMPL (MOVLloadidx4 {sym} [off] ptr idx mem) x)
(CMPWloadidx2 {sym} [off] ptr idx x mem) => (CMPW (MOVWloadidx2 {sym} [off]
 ptr idx mem) x)

(CMP(Q|L|W|B)constloadidx1 {sym} [vo] ptr idx mem) && vo.Val() == 0 => (TEST(Q|L|W|B)
x:(MOV(Q|L|W|B)loadidx1 {sym} [vo.Off()] ptr idx mem) x)
(CMPQconstloadidx8 {sym} [vo] ptr idx mem) && vo.Val() == 0 => (TESTQ x:(MOVQloadidx8
{sym} [vo.Off()] ptr idx mem) x)
(CMPLconstloadidx4 {sym} [vo] ptr idx mem) && vo.Val() == 0 => (TESTL x:(MOVLloadidx4
{sym} [vo.Off()] ptr idx mem) x)
(CMPWconstloadidx2 {sym} [vo] ptr idx mem) && vo.Val() == 0 => (TESTW x:(MOVWloadidx2
{sym} [vo.Off()] ptr idx mem) x)

(CMPQconstloadidx1 {sym} [vo] ptr idx mem) && vo.Val() != 0 => (CMPQconst (MOVQloadidx1 {sym}
[vo.Off()] ptr idx mem) [vo.Val()])
(CMPLconstloadidx1 {sym} [vo] ptr idx mem) && vo.Val() != 0 => (CMPLconst (MOVLloadidx1 {sym}
[vo.Off()] ptr idx mem) [vo.Val()])
(CMPWconstloadidx1 {sym} [vo] ptr idx mem) && vo.Val() != 0 => (CMPWconst (MOVWloadidx1 {sym}
[vo.Off()] ptr idx mem) [vo.Val16()])
(CMPBconstloadidx1
 {sym} [vo] ptr idx mem) && vo.Val() != 0 => (CMPBconst (MOVBloadidx1 {sym} [vo.Off()] ptr idx mem)
[vo.Val8()])

(CMPQconstloadidx8 {sym} [vo] ptr idx mem) && vo.Val() != 0 => (CMPQconst (MOVQloadidx8 {sym}
[vo.Off()] ptr idx mem) [vo.Val()])
(CMPLconstloadidx4 {sym} [vo] ptr idx mem) && vo.Val() != 0 => (CMPLconst (MOVLloadidx4 {sym}
[vo.Off()] ptr idx mem) [vo.Val()])
```

(CMPWconstloadidx2 {sym} [vo] ptr idx mem) && vo.Val() != 0 => (CMPWconst (MOVWloadidx2 {sym} [vo.Off()] ptr idx mem) [vo.Val16()])

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/AMD64splitload.rules
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Found in path(s):
* /compile-zip/compile/internal/logopt/escape_bootstrap.go
* /compile-zip/compile/internal/logopt/logopt_test.go
* /compile-zip/compile/internal/types2/gccgosizes.go
* /compile-zip/compile/internal/logopt/escape.go
* /compile-zip/compile/internal/syntax/testdata/slices.go
* /compile-zip/compile/internal/test/testdata/reproducible/issue30202.go
* /compile-zip/compile/internal/types2/testdata/check/map1.go
* /compile-zip/compile/internal/ssa/fuse_comparisons.go
* /compile-zip/compile/internal/logopt/log_opts.go
* /compile-zip/compile/internal/types2/testdata/check/map0.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue6977.go
* /compile-zip/compile/internal/test/zerorange_test.go
* /compile-zip/compile/internal/syntax/testdata/map2.go
* /compile-zip/compile/internal/ssa/xposmap.go
* /compile-zip/compile/internal/types2/testdata/check/literals.go
*
 /compile-zip/compile/internal/types2/testdata/examples/functions.go
* /compile-zip/compile/internal/test/dep_test.go
* /compile-zip/compile/internal/pkginit/initorder.go
* /compile-zip/compile/internal/types2/testdata/check/slices.go
* /compile-zip/compile/internal/types2/testdata/examples/types.go
* /compile-zip/compile/internal/types2/testdata/check/typeinst0.go
* /compile-zip/compile/internal/types2/testdata/check/typeinst1.go
* /compile-zip/compile/internal/syntax/testdata/map.go
* /compile-zip/compile/internal/types2/testdata/check/linalg.go
* /compile-zip/compile/internal/syntax/testdata/linalg.go
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// Lowering arithmetic
(Add(64|32|16|8) ...) => (ADD(Q|L|L|L) ...)
(AddPtr ...) => (ADDQ ...)
(Add(32|64)F ...) => (ADDS(S|D) ...)

(Sub(64|32|16|8) ...) => (SUB(Q|L|L|L) ...)

```
(SubPtr ...) => (SUBQ ...)
(Sub(32|64)F ...) => (SUBS(S|D) ...)

(Mul(64|32|16|8) ...) => (MUL(Q|L|L|L) ...)
(Mul(32|64)F ...) => (MULS(S|D) ...)

(Select0 (Mul64uover x y)) => (Select0 <typ.UInt64> (MULQU x y))
(Select0 (Mul32uover x y)) => (Select0 <typ.UInt32> (MULLU x y))
(Select1 (Mul(64|32)uover x y)) => (SETO (Select1 <types.TypeFlags> (MUL(Q|L)U x y)))

(Hmul(64|32) ...) => (HMUL(Q|L) ...)
(Hmul(64|32)u ...) => (HMUL(Q|L)U ...)

(Div(64|32|16) [a] x y) => (Select0 (DIV(Q|L|W) [a] x y))
(Div8  x y) => (Select0 (DIVW  (SignExt8to16 x) (SignExt8to16 y)))
(Div(64|32|16)u x y) => (Select0
 (DIV(Q|L|W)U x y))
(Div8u x y) => (Select0 (DIVWU (ZeroExt8to16 x) (ZeroExt8to16 y)))
(Div(32|64)F ...) => (DIVS(S|D) ...)

(Select0 (Add64carry x y c)) =>
 (Select0 <typ.UInt64> (ADCQ x y (Select1 <types.TypeFlags> (NEGLflags c))))
(Select1 (Add64carry x y c)) =>
 (NEGQ <typ.UInt64> (SBBQcarrymask <typ.UInt64> (Select1 <types.TypeFlags> (ADCQ x y (Select1
<types.TypeFlags> (NEGLflags c))))))
(Select0 (Sub64borrow x y c)) =>
 (Select0 <typ.UInt64> (SBBQ x y (Select1 <types.TypeFlags> (NEGLflags c))))
(Select1 (Sub64borrow x y c)) =>
 (NEGQ <typ.UInt64> (SBBQcarrymask <typ.UInt64> (Select1 <types.TypeFlags> (SBBQ x y (Select1
<types.TypeFlags> (NEGLflags c))))))

// Optimize ADCQ and friends
(ADCQ x (MOVQconst [c]) carry) && is32Bit(c) => (ADCQconst x [int32(c)] carry)
(ADCQ x y (FlagEQ)) => (ADDQcarry x y)
(ADCQconst x [c] (FlagEQ)) => (ADDQconstcarry x [c])
(ADDQcarry x (MOVQconst [c])) && is32Bit(c) => (ADDQconstcarry x [int32(c)])
(SBBQ x (MOVQconst [c]) borrow) && is32Bit(c) =>
 (SBBQconst x [int32(c)] borrow)
(SBBQ x y (FlagEQ)) => (SUBQborrow x y)
(SBBQconst x [c] (FlagEQ)) => (SUBQconstborrow x [c])
(SUBQborrow x (MOVQconst [c])) && is32Bit(c) => (SUBQconstborrow x [int32(c)])
(Select1 (NEGLflags (MOVQconst [0]))) => (FlagEQ)
(Select1 (NEGLflags (NEGQ (SBBQcarrymask x)))) => x


(Mul64uhilo ...) => (MULQU2 ...)
(Div128u ...) => (DIVQU2 ...)
```

```
(Avg64u ...) => (AVGQU ...)

(Mod(64|32|16) [a] x y) => (Select1 (DIV(Q|L|W) [a] x y))
(Mod8  x y) => (Select1 (DIVW  (SignExt8to16 x) (SignExt8to16 y)))
(Mod(64|32|16)u x y) => (Select1 (DIV(Q|L|W)U x y))
(Mod8u x y) => (Select1 (DIVWU (ZeroExt8to16 x) (ZeroExt8to16 y)))

(And(64|32|16|8) ...) => (AND(Q|L|L|L) ...)
(Or(64|32|16|8) ...) => (OR(Q|L|L|L) ...)
(Xor(64|32|16|8) ...) => (XOR(Q|L|L|L) ...)
(Com(64|32|16|8) ...) => (NOT(Q|L|L|L) ...)

(Neg(64|32|16|8) ...) => (NEG(Q|L|L|L) ...)
(Neg32F x) => (PXOR x (MOVSSconst <typ.Float32> [float32(math.Copysign(0, -1))]))
(Neg64F x) => (PXOR x (MOVSDconst <typ.Float64> [math.Copysign(0,
 -1)]))

// Lowering boolean ops
(AndB ...) => (ANDL ...)
(OrB ...) => (ORL ...)
(Not x) => (XORLconst [1] x)

// Lowering pointer arithmetic
(OffPtr [off] ptr) && is32Bit(off) => (ADDQconst [int32(off)] ptr)
(OffPtr [off] ptr) => (ADDQ (MOVQconst [off]) ptr)

// Lowering other arithmetic
(Ctz64 x)     && buildcfg.GOAMD64 >= 3 => (TZCNTQ x)
(Ctz32 x)     && buildcfg.GOAMD64 >= 3 => (TZCNTL x)
(Ctz64 <t> x) && buildcfg.GOAMD64 <  3 => (CMOVQEQ (Select0 <t> (BSFQ x)) (MOVQconst <t> [64])
(Select1 <types.TypeFlags> (BSFQ x)))
(Ctz32 x)     && buildcfg.GOAMD64 <  3 => (Select0 (BSFQ (BTSQconst <typ.UInt64> [32] x)))
(Ctz16 x) => (BSFL (BTSLconst <typ.UInt32> [16] x))
(Ctz8  x) => (BSFL (BTSLconst <typ.UInt32> [ 8] x))

(Ctz64NonZero x) && buildcfg.GOAMD64 >= 3 => (TZCNTQ x)
(Ctz32NonZero x) && buildcfg.GOAMD64 >= 3 => (TZCNTL x)
(Ctz16NonZero x) && buildcfg.GOAMD64 >= 3 => (TZCNTL x)
(Ctz8NonZero  x) && buildcfg.GOAMD64 >= 3 => (TZCNTL x)
(Ctz64NonZero x) && buildcfg.GOAMD64
 <  3 => (Select0 (BSFQ x))
(Ctz32NonZero x) && buildcfg.GOAMD64 <  3 => (BSFL x)
(Ctz16NonZero x) && buildcfg.GOAMD64 <  3 => (BSFL x)
(Ctz8NonZero  x) && buildcfg.GOAMD64 <  3 => (BSFL x)

// BitLen64 of a 64 bit value x requires checking whether x == 0, since BSRQ is undefined when x == 0.
// However, for zero-extended values, we can cheat a bit, and calculate
// BSR(x<<1 + 1), which is guaranteed to be non-zero, and which conveniently
```

```
// places the index of the highest set bit where we want it.
// For GOAMD64>=3, BitLen can be calculated by OperandSize - LZCNT(x).
(BitLen64 <t> x) && buildcfg.GOAMD64 < 3 => (ADDQconst [1] (CMOVQEQ <t> (Select0 <t> (BSRQ x))
(MOVQconst <t> [-1]) (Select1 <types.TypeFlags> (BSRQ x))))
(BitLen32 x) && buildcfg.GOAMD64 <  3 => (Select0 (BSRQ (LEAQ1 <typ.UInt64> [1] (MOVLQZX
<typ.UInt64> x) (MOVLQZX <typ.UInt64> x))))
(BitLen16 x) && buildcfg.GOAMD64 <  3 => (BSRL (LEAL1 <typ.UInt32> [1] (MOVWQZX <typ.UInt32> x)
(MOVWQZX <typ.UInt32> x)))
(BitLen8  x) &&
 buildcfg.GOAMD64 <  3 => (BSRL (LEAL1 <typ.UInt32> [1] (MOVBQZX <typ.UInt32> x) (MOVBQZX
<typ.UInt32> x)))
(BitLen64 <t> x)        && buildcfg.GOAMD64 >= 3 => (NEGQ (ADDQconst <t> [-64] (LZCNTQ x)))
// Use 64-bit version to allow const-fold remove unnecessary arithmetic.
(BitLen32 <t> x) && buildcfg.GOAMD64 >= 3 => (NEGQ (ADDQconst <t> [-32] (LZCNTL x)))
(BitLen16 <t> x) && buildcfg.GOAMD64 >= 3 => (NEGQ (ADDQconst <t> [-32] (LZCNTL (MOVWQZX
<x.Type> x))))
(BitLen8 <t> x) && buildcfg.GOAMD64 >= 3 => (NEGQ (ADDQconst <t> [-32] (LZCNTL (MOVBQZX
<x.Type> x))))

(Bswap(64|32) ...) => (BSWAP(Q|L) ...)

(PopCount(64|32) ...) => (POPCNT(Q|L) ...)
(PopCount16 x) => (POPCNTL (MOVWQZX <typ.UInt32> x))
(PopCount8 x) => (POPCNTL (MOVBQZX <typ.UInt32> x))

(Sqrt ...) => (SQRTSD ...)
(Sqrt32 ...) => (SQRTSS ...)

(RoundToEven x) => (ROUNDSD [0] x)
(Floor x)       => (ROUNDSD [1] x)
(Ceil x)        => (ROUNDSD [2] x)
(Trunc x)       => (ROUNDSD [3] x)

(FMA x y z) => (VFMADD231SD z x y)

// Lowering
 extension
// Note: we always extend to 64 bits even though some ops don't need that many result bits.
(SignExt8to16  ...) => (MOVBQSX ...)
(SignExt8to32  ...) => (MOVBQSX ...)
(SignExt8to64  ...) => (MOVBQSX ...)
(SignExt16to32 ...) => (MOVWQSX ...)
(SignExt16to64 ...) => (MOVWQSX ...)
(SignExt32to64 ...) => (MOVLQSX ...)

(ZeroExt8to16  ...) => (MOVBQZX ...)
(ZeroExt8to32  ...) => (MOVBQZX ...)
(ZeroExt8to64  ...) => (MOVBQZX ...)
```

```
(ZeroExt16to32 ...) => (MOVWQZX ...)
(ZeroExt16to64 ...) => (MOVWQZX ...)
(ZeroExt32to64 ...) => (MOVLQZX ...)

(Slicemask <t> x) => (SARQconst (NEGQ <t> x) [63])

(SpectreIndex <t> x y) => (CMOVQCC x (MOVQconst [0]) (CMPQ x y))
(SpectreSliceIndex <t> x y) => (CMOVQHI x (MOVQconst [0]) (CMPQ x y))

// Lowering truncation
// Because we ignore high parts of registers, truncates are just copies.
(Trunc16to8  ...) => (Copy ...)
(Trunc32to8  ...) => (Copy ...)
(Trunc32to16 ...) => (Copy ...)
(Trunc64to8  ...) => (Copy ...)
(Trunc64to16 ...) => (Copy ...)
(Trunc64to32
 ...) => (Copy ...)

// Lowering float <-> int
(Cvt32to32F ...) => (CVTSL2SS ...)
(Cvt32to64F ...) => (CVTSL2SD ...)
(Cvt64to32F ...) => (CVTSQ2SS ...)
(Cvt64to64F ...) => (CVTSQ2SD ...)

(Cvt32Fto32 ...) => (CVTTSS2SL ...)
(Cvt32Fto64 ...) => (CVTTSS2SQ ...)
(Cvt64Fto32 ...) => (CVTTSD2SL ...)
(Cvt64Fto64 ...) => (CVTTSD2SQ ...)

(Cvt32Fto64F ...) => (CVTSS2SD ...)
(Cvt64Fto32F ...) => (CVTSD2SS ...)

(Round(32|64)F ...) => (Copy ...)

(CvtBoolToUint8 ...) => (Copy ...)

// Lowering shifts
// Unsigned shifts need to return 0 if shift amount is >= width of shifted value.
//   result = (arg << shift) & (shift >= argbits ? 0 : 0xffffffffffffffff)
(Lsh64x(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDQ (SHLQ <t> x y) (SBBQcarrymask <t>
(CMP(Q|L|W|B)const y [64])))
(Lsh32x(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHLL <t> x y) (SBBLcarrymask <t>
(CMP(Q|L|W|B)const y [32])))
(Lsh16x(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHLL <t> x y) (SBBLcarrymask <t>
(CMP(Q|L|W|B)const
 y [32])))
(Lsh8x(64|32|16|8)  <t> x y) && !shiftIsBounded(v) => (ANDL (SHLL <t> x y) (SBBLcarrymask <t>
```

```
(CMP(Q|L|W|B)const y [32])))

(Lsh64x(64|32|16|8) x y) && shiftIsBounded(v) => (SHLQ x y)
(Lsh32x(64|32|16|8) x y) && shiftIsBounded(v) => (SHLL x y)
(Lsh16x(64|32|16|8) x y) && shiftIsBounded(v) => (SHLL x y)
(Lsh8x(64|32|16|8)  x y) && shiftIsBounded(v) => (SHLL x y)

(Rsh64Ux(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDQ (SHRQ <t> x y) (SBBQcarrymask <t>
(CMP(Q|L|W|B)const y [64])))
(Rsh32Ux(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHRL <t> x y) (SBBLcarrymask <t>
(CMP(Q|L|W|B)const y [32])))
(Rsh16Ux(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHRW <t> x y) (SBBLcarrymask <t>
(CMP(Q|L|W|B)const y [16])))
(Rsh8Ux(64|32|16|8)  <t> x y) && !shiftIsBounded(v) => (ANDL (SHRB <t> x y) (SBBLcarrymask <t>
(CMP(Q|L|W|B)const y [8])))

(Rsh64Ux(64|32|16|8) x y) && shiftIsBounded(v) => (SHRQ x y)
(Rsh32Ux(64|32|16|8) x y) && shiftIsBounded(v) =>
 (SHRL x y)
(Rsh16Ux(64|32|16|8) x y) && shiftIsBounded(v) => (SHRW x y)
(Rsh8Ux(64|32|16|8)  x y) && shiftIsBounded(v) => (SHRB x y)

// Signed right shift needs to return 0/-1 if shift amount is >= width of shifted value.
// We implement this by setting the shift value to -1 (all ones) if the shift value is >= width.
(Rsh64x(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (SARQ <t> x (OR(Q|L|L|L) <y.Type> y (NOT(Q|L|L|L)
<y.Type> (SBB(Q|L|L|L)carrymask <y.Type> (CMP(Q|L|W|B)const y [64]))))
(Rsh32x(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (SARL <t> x (OR(Q|L|L|L) <y.Type> y (NOT(Q|L|L|L)
<y.Type> (SBB(Q|L|L|L)carrymask <y.Type> (CMP(Q|L|W|B)const y [32]))))
(Rsh16x(64|32|16|8) <t> x y) && !shiftIsBounded(v) => (SARW <t> x (OR(Q|L|L|L) <y.Type> y (NOT(Q|L|L|L)
<y.Type> (SBB(Q|L|L|L)carrymask <y.Type> (CMP(Q|L|W|B)const y [16]))))
(Rsh8x(64|32|16|8)  <t> x y) && !shiftIsBounded(v) => (SARB <t> x (OR(Q|L|L|L) <y.Type> y (NOT(Q|L|L|L)
<y.Type> (SBB(Q|L|L|L)carrymask <y.Type> (CMP(Q|L|W|B)const
 y [8]))))

(Rsh64x(64|32|16|8) x y) && shiftIsBounded(v) => (SARQ x y)
(Rsh32x(64|32|16|8) x y) && shiftIsBounded(v) => (SARL x y)
(Rsh16x(64|32|16|8) x y) && shiftIsBounded(v) => (SARW x y)
(Rsh8x(64|32|16|8) x y)  && shiftIsBounded(v) => (SARB x y)

// Prefer SARX/SHLX/SHRX instruction because it has less register restriction on the shift input.
(SAR(Q|L) x y) && buildcfg.GOAMD64 >= 3 => (SARX(Q|L) x y)
(SHL(Q|L) x y) && buildcfg.GOAMD64 >= 3 => (SHLX(Q|L) x y)
(SHR(Q|L) x y) && buildcfg.GOAMD64 >= 3 => (SHRX(Q|L) x y)

// Lowering integer comparisons
(Less(64|32|16|8)      x y) => (SETL  (CMP(Q|L|W|B)     x y))
(Less(64|32|16|8)U     x y) => (SETB  (CMP(Q|L|W|B)     x y))
(Leq(64|32|16|8)       x y) => (SETLE (CMP(Q|L|W|B)     x y))
```

```
(Leq(64|32|16|8)U      x y) => (SETBE (CMP(Q|L|W|B)     x y))
(Eq(Ptr|64|32|16|8|B)  x y) => (SETEQ (CMP(Q|Q|L|W|B|B) x y))
(Neq(Ptr|64|32|16|8|B) x y) => (SETNE (CMP(Q|Q|L|W|B|B) x y))

// Lowering floating point comparisons
// Note Go assembler
 gets UCOMISx operand order wrong, but it is right here
// and the operands are reversed when generating assembly language.
(Eq(32|64)F   x y) => (SETEQF (UCOMIS(S|D) x y))
(Neq(32|64)F  x y) => (SETNEF (UCOMIS(S|D) x y))
// Use SETGF/SETGEF with reversed operands to dodge NaN case.
(Less(32|64)F x y) => (SETGF  (UCOMIS(S|D) y x))
(Leq(32|64)F  x y) => (SETGEF (UCOMIS(S|D) y x))

// Lowering loads
(Load <t> ptr mem) && (is64BitInt(t) || isPtr(t)) => (MOVQload ptr mem)
(Load <t> ptr mem) && is32BitInt(t) => (MOVLload ptr mem)
(Load <t> ptr mem) && is16BitInt(t) => (MOVWload ptr mem)
(Load <t> ptr mem) && (t.IsBoolean() || is8BitInt(t)) => (MOVBload ptr mem)
(Load <t> ptr mem) && is32BitFloat(t) => (MOVSSload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (MOVSDload ptr mem)

// Lowering stores
// These more-specific FP versions of Store pattern should come first.
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (MOVSDstore ptr val mem)
(Store {t} ptr val mem)
 && t.Size() == 4 && is32BitFloat(val.Type) => (MOVSSstore ptr val mem)

(Store {t} ptr val mem) && t.Size() == 8 => (MOVQstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 => (MOVLstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)

// Lowering moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBload src mem) mem)
(Move [2] dst src mem) => (MOVWstore dst (MOVWload src mem) mem)
(Move [4] dst src mem) => (MOVLstore dst (MOVLload src mem) mem)
(Move [8] dst src mem) => (MOVQstore dst (MOVQload src mem) mem)
(Move [16] dst src mem) && config.useSSE => (MOVOstore dst (MOVOload src mem) mem)
(Move [16] dst src mem) && !config.useSSE =>
 (MOVQstore [8] dst (MOVQload [8] src mem)
  (MOVQstore dst (MOVQload src mem) mem))

(Move [32] dst src mem) =>
 (Move [16]
  (OffPtr <dst.Type> dst [16])
  (OffPtr <src.Type> src [16])
```

```
  (Move [16] dst src mem))

(Move
 [48] dst src mem) && config.useSSE =>
 (Move [32]
  (OffPtr <dst.Type> dst [16])
  (OffPtr <src.Type> src [16])
  (Move [16] dst src mem))

(Move [64] dst src mem) && config.useSSE =>
 (Move [32]
  (OffPtr <dst.Type> dst [32])
  (OffPtr <src.Type> src [32])
  (Move [32] dst src mem))

(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBload [2] src mem)
  (MOVWstore dst (MOVWload src mem) mem))
(Move [5] dst src mem) =>
 (MOVBstore [4] dst (MOVBload [4] src mem)
  (MOVLstore dst (MOVLload src mem) mem))
(Move [6] dst src mem) =>
 (MOVWstore [4] dst (MOVWload [4] src mem)
  (MOVLstore dst (MOVLload src mem) mem))
(Move [7] dst src mem) =>
 (MOVLstore [3] dst (MOVLload [3] src mem)
  (MOVLstore dst (MOVLload src mem) mem))
(Move [9] dst src mem) =>
 (MOVBstore [8] dst (MOVBload [8] src mem)
  (MOVQstore dst (MOVQload src mem) mem))
(Move [10] dst src mem) =>
 (MOVWstore [8] dst (MOVWload [8] src mem)
  (MOVQstore dst (MOVQload src mem) mem))
(Move [12] dst src mem) =>
 (MOVLstore [8] dst
 (MOVLload [8] src mem)
  (MOVQstore dst (MOVQload src mem) mem))
(Move [s] dst src mem) && s == 11 || s >= 13 && s <= 15 =>
 (MOVQstore [int32(s-8)] dst (MOVQload [int32(s-8)] src mem)
  (MOVQstore dst (MOVQload src mem) mem))

// Adjust moves to be a multiple of 16 bytes.
(Move [s] dst src mem)
 && s > 16 && s%16 != 0 && s%16 <= 8 =>
 (Move [s-s%16]
  (OffPtr <dst.Type> dst [s%16])
  (OffPtr <src.Type> src [s%16])
  (MOVQstore dst (MOVQload src mem) mem))
```

```
(Move [s] dst src mem)
 && s > 16 && s%16 != 0 && s%16 > 8 && config.useSSE =>
 (Move [s-s%16]
  (OffPtr <dst.Type> dst [s%16])
  (OffPtr <src.Type> src [s%16])
  (MOVOstore dst (MOVOload src mem) mem))
(Move [s] dst src mem)
 && s > 16 && s%16 != 0 && s%16 > 8 && !config.useSSE =>
 (Move [s-s%16]
  (OffPtr <dst.Type> dst [s%16])
  (OffPtr <src.Type> src [s%16])
  (MOVQstore [8] dst (MOVQload [8] src mem)
   (MOVQstore dst (MOVQload src mem) mem)))

// Medium copying uses a duff device.
(Move [s] dst src mem)
 && s > 64 && s <= 16*64
 && s%16 == 0
 && !config.noDuffDevice && logLargeCopy(v, s) =>
 (DUFFCOPY [s] dst src mem)

// Large copying uses REP MOVSQ.
(Move [s] dst src mem) && (s > 16*64 || config.noDuffDevice) && s%8 == 0 && logLargeCopy(v, s) =>
 (REPMOVSQ dst src (MOVQconst [s/8]) mem)

// Lowering Zero instructions
(Zero [0] _ mem) => mem
(Zero [1] destptr mem) => (MOVBstoreconst [makeValAndOff(0,0)] destptr mem)
(Zero [2] destptr mem) => (MOVWstoreconst [makeValAndOff(0,0)] destptr mem)
(Zero [4] destptr mem) => (MOVLstoreconst [makeValAndOff(0,0)] destptr mem)
(Zero [8] destptr mem) => (MOVQstoreconst [makeValAndOff(0,0)] destptr mem)

(Zero [3] destptr mem) =>
 (MOVBstoreconst [makeValAndOff(0,2)] destptr
  (MOVWstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [5] destptr mem) =>
 (MOVBstoreconst [makeValAndOff(0,4)] destptr
  (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [6] destptr mem) =>
 (MOVWstoreconst [makeValAndOff(0,4)] destptr
  (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero
 [7] destptr mem) =>
 (MOVLstoreconst [makeValAndOff(0,3)] destptr
  (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))

// Strip off any fractional word zeroing.
(Zero [s] destptr mem) && s%8 != 0 && s > 8 && !config.useSSE =>
```

```
 (Zero [s-s%8] (OffPtr <destptr.Type> destptr [s%8])
  (MOVQstoreconst [makeValAndOff(0,0)] destptr mem))

// Zero small numbers of words directly.
(Zero [16] destptr mem) && !config.useSSE =>
 (MOVQstoreconst [makeValAndOff(0,8)] destptr
  (MOVQstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [24] destptr mem) && !config.useSSE =>
 (MOVQstoreconst [makeValAndOff(0,16)] destptr
  (MOVQstoreconst [makeValAndOff(0,8)] destptr
   (MOVQstoreconst [makeValAndOff(0,0)] destptr mem)))
(Zero [32] destptr mem) && !config.useSSE =>
 (MOVQstoreconst [makeValAndOff(0,24)] destptr
  (MOVQstoreconst [makeValAndOff(0,16)] destptr
   (MOVQstoreconst [makeValAndOff(0,8)] destptr
    (MOVQstoreconst [makeValAndOff(0,0)] destptr mem))))

(Zero [s] destptr mem) && s > 8 &&
 s < 16 && config.useSSE =>
 (MOVQstoreconst [makeValAndOff(0,int32(s-8))] destptr
  (MOVQstoreconst [makeValAndOff(0,0)] destptr mem))

// Adjust zeros to be a multiple of 16 bytes.
(Zero [s] destptr mem) && s%16 != 0 && s > 16 && s%16 > 8 && config.useSSE =>
 (Zero [s-s%16] (OffPtr <destptr.Type> destptr [s%16])
  (MOVOstoreconst [makeValAndOff(0,0)] destptr mem))

(Zero [s] destptr mem) && s%16 != 0 && s > 16 && s%16 <= 8 && config.useSSE =>
 (Zero [s-s%16] (OffPtr <destptr.Type> destptr [s%16])
  (MOVOstoreconst [makeValAndOff(0,0)] destptr mem))

(Zero [16] destptr mem) && config.useSSE =>
 (MOVOstoreconst [makeValAndOff(0,0)] destptr mem)
(Zero [32] destptr mem) && config.useSSE =>
 (MOVOstoreconst [makeValAndOff(0,16)] destptr
  (MOVOstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [48] destptr mem) && config.useSSE =>
 (MOVOstoreconst [makeValAndOff(0,32)] destptr
  (MOVOstoreconst [makeValAndOff(0,16)] destptr
   (MOVOstoreconst [makeValAndOff(0,0)] destptr mem)))
(Zero [64]
 destptr mem) && config.useSSE =>
 (MOVOstoreconst [makeValAndOff(0,48)] destptr
  (MOVOstoreconst [makeValAndOff(0,32)] destptr
   (MOVOstoreconst [makeValAndOff(0,16)] destptr
    (MOVOstoreconst [makeValAndOff(0,0)] destptr mem))))

// Medium zeroing uses a duff device.
```

```
(Zero [s] destptr mem)
 && s > 64 && s <= 1024 && s%16 == 0 && !config.noDuffDevice =>
 (DUFFZERO [s] destptr mem)

// Large zeroing uses REP STOSQ.
(Zero [s] destptr mem)
 && (s > 1024 || (config.noDuffDevice && s > 64 || !config.useSSE && s > 32))
 && s%8 == 0 =>
 (REPSTOSQ destptr (MOVQconst [s/8]) (MOVQconst [0]) mem)

// Lowering constants
(Const8   [c]) => (MOVLconst [int32(c)])
(Const16  [c]) => (MOVLconst [int32(c)])
(Const32  ...) => (MOVLconst ...)
(Const64  ...) => (MOVQconst ...)
(Const32F ...) => (MOVSSconst ...)
(Const64F ...) => (MOVSDconst ...)
(ConstNil    ) => (MOVQconst [0])
(ConstBool [c]) => (MOVLconst [b2i32(c)])

// Lowering calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure
 ...)
(InterCall ...) => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// Lowering conditional moves
// If the condition is a SETxx, we can just run a CMOV from the comparison that was
// setting the flags.
// Legend: HI=unsigned ABOVE, CS=unsigned BELOW, CC=unsigned ABOVE EQUAL, LS=unsigned BELOW
EQUAL
(CondSelect <t> x y (SET(EQ|NE|L|G|LE|GE|A|B|AE|BE|EQF|NEF|GF|GEF) cond)) && (is64BitInt(t) || isPtr(t))
   => (CMOVQ(EQ|NE|LT|GT|LE|GE|HI|CS|CC|LS|EQF|NEF|GTF|GEF) y x cond)
(CondSelect <t> x y (SET(EQ|NE|L|G|LE|GE|A|B|AE|BE|EQF|NEF|GF|GEF) cond)) && is32BitInt(t)
   => (CMOVL(EQ|NE|LT|GT|LE|GE|HI|CS|CC|LS|EQF|NEF|GTF|GEF) y x cond)
(CondSelect <t> x y (SET(EQ|NE|L|G|LE|GE|A|B|AE|BE|EQF|NEF|GF|GEF) cond)) && is16BitInt(t)
   => (CMOVW(EQ|NE|LT|GT|LE|GE|HI|CS|CC|LS|EQF|NEF|GTF|GEF) y x cond)

// If the condition does not set the flags, we need to generate a comparison.
(CondSelect <t> x y check) && !check.Type.IsFlags() && check.Type.Size() == 1
   => (CondSelect <t> x y
 (MOVBQZX <typ.UInt64> check))
(CondSelect <t> x y check) && !check.Type.IsFlags() && check.Type.Size() == 2
   => (CondSelect <t> x y (MOVWQZX <typ.UInt64> check))
(CondSelect <t> x y check) && !check.Type.IsFlags() && check.Type.Size() == 4
   => (CondSelect <t> x y (MOVLQZX <typ.UInt64> check))
```

```
(CondSelect <t> x y check) && !check.Type.IsFlags() && check.Type.Size() == 8 && (is64BitInt(t) || isPtr(t))
  => (CMOVQNE y x (CMPQconst [0] check))
(CondSelect <t> x y check) && !check.Type.IsFlags() && check.Type.Size() == 8 && is32BitInt(t)
  => (CMOVLNE y x (CMPQconst [0] check))
(CondSelect <t> x y check) && !check.Type.IsFlags() && check.Type.Size() == 8 && is16BitInt(t)
  => (CMOVWNE y x (CMPQconst [0] check))

// Absorb InvertFlags
(CMOVQ(EQ|NE|LT|GT|LE|GE|HI|CS|CC|LS) x y (InvertFlags cond))
  => (CMOVQ(EQ|NE|GT|LT|GE|LE|CS|HI|LS|CC) x y cond)
(CMOVL(EQ|NE|LT|GT|LE|GE|HI|CS|CC|LS) x y (InvertFlags cond))
  => (CMOVL(EQ|NE|GT|LT|GE|LE|CS|HI|LS|CC) x y cond)
(CMOVW(EQ|NE|LT|GT|LE|GE|HI|CS|CC|LS)
 x y (InvertFlags cond))
  => (CMOVW(EQ|NE|GT|LT|GE|LE|CS|HI|LS|CC) x y cond)

// Absorb constants generated during lower
(CMOV(QEQ|QLE|QGE|QCC|QLS|LEQ|LLE|LGE|LCC|LLS|WEQ|WLE|WGE|WCC|WLS) _ x (FlagEQ)) => x
(CMOV(QNE|QLT|QGT|QCS|QHI|LNE|LLT|LGT|LCS|LHI|WNE|WLT|WGT|WCS|WHI) y _ (FlagEQ)) => y
(CMOV(QNE|QGT|QGE|QHI|QCC|LNE|LGT|LGE|LHI|LCC|WNE|WGT|WGE|WHI|WCC) _ x (FlagGT_UGT))
=> x
(CMOV(QEQ|QLE|QLT|QLS|QCS|LEQ|LLE|LLT|LLS|LCS|WEQ|WLE|WLT|WLS|WCS) y _ (FlagGT_UGT)) =>
y
(CMOV(QNE|QGT|QGE|QLS|QCS|LNE|LGT|LGE|LLS|LCS|WNE|WGT|WGE|WLS|WCS) _ x (FlagGT_ULT))
=> x
(CMOV(QEQ|QLE|QLT|QHI|QCC|LEQ|LLE|LLT|LHI|LCC|WEQ|WLE|WLT|WHI|WCC) y _ (FlagGT_ULT)) =>
y
(CMOV(QNE|QLT|QLE|QCS|QLS|LNE|LLT|LLE|LCS|LLS|WNE|WLT|WLE|WCS|WLS) _ x (FlagLT_ULT)) =>
x
(CMOV(QEQ|QGT|QGE|QHI|QCC|LEQ|LGT|LGE|LHI|LCC|WEQ|WGT|WGE|WHI|WCC) y _ (FlagLT_ULT))
=> y
(CMOV(QNE|QLT|QLE|QHI|QCC|LNE|LLT|LLE|LHI|LCC|WNE|WLT|WLE|WHI|WCC) _ x (FlagLT_UGT)) =>
x
(CMOV(QEQ|QGT|QGE|QCS|QLS|LEQ|LGT|LGE|LCS|LLS|WEQ|WGT|WGE|WCS|WLS)
 y _ (FlagLT_UGT)) => y

// Miscellaneous
(IsNonNil p) => (SETNE (TESTQ p p))
(IsInBounds idx len) => (SETB (CMPQ idx len))
(IsSliceInBounds idx len) => (SETBE (CMPQ idx len))
(NilCheck ...) => (LoweredNilCheck ...)
(GetG mem) && v.Block.Func.OwnAux.Fn.ABI() != obj.ABIInternal => (LoweredGetG mem) // only lower in old
ABI. in new ABI we have a G register.
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)

(HasCPUFeature {s}) => (SETNE (CMPLconst [0] (LoweredHasCPUFeature {s})))
```

```
(Addr {sym} base) => (LEAQ {sym} base)
(LocalAddr {sym} base _) => (LEAQ {sym} base)

(MOVBstore [off] {sym} ptr y:(SETL x) mem) && y.Uses == 1 => (SETLstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETLE x) mem) && y.Uses == 1 => (SETLEstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETG x) mem) && y.Uses == 1 => (SETGstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETGE x)
 mem) && y.Uses == 1 => (SETGEstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETEQ x) mem) && y.Uses == 1 => (SETEQstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETNE x) mem) && y.Uses == 1 => (SETNEstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETB x) mem) && y.Uses == 1 => (SETBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETBE x) mem) && y.Uses == 1 => (SETBEstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETA x) mem) && y.Uses == 1 => (SETAstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr y:(SETAE x) mem) && y.Uses == 1 => (SETAEstore [off] {sym} ptr x mem)

// block rewrites
(If (SETL  cmp) yes no) => (LT  cmp yes no)
(If (SETLE cmp) yes no) => (LE  cmp yes no)
(If (SETG  cmp) yes no) => (GT  cmp yes no)
(If (SETGE cmp) yes no) => (GE  cmp yes no)
(If (SETEQ cmp) yes no) => (EQ  cmp yes no)
(If (SETNE cmp) yes no) => (NE  cmp yes no)
(If (SETB  cmp) yes no) => (ULT cmp yes no)
(If (SETBE cmp) yes no) => (ULE cmp
 yes no)
(If (SETA  cmp) yes no) => (UGT cmp yes no)
(If (SETAE cmp) yes no) => (UGE cmp yes no)
(If (SETO cmp) yes no) => (OS cmp yes no)

// Special case for floating point - LF/LEF not generated
(If (SETGF  cmp) yes no) => (UGT  cmp yes no)
(If (SETGEF cmp) yes no) => (UGE  cmp yes no)
(If (SETEQF cmp) yes no) => (EQF  cmp yes no)
(If (SETNEF cmp) yes no) => (NEF  cmp yes no)

(If cond yes no) => (NE (TESTB cond cond) yes no)

(JumpTable idx) => (JUMPTABLE {makeJumpTableSym(b)} idx (LEAQ <typ.Uintptr> {makeJumpTableSym(b)}
(SB)))

// Atomic loads.  Other than preserving their ordering with respect to other loads, nothing special here.
(AtomicLoad8 ptr mem) => (MOVBatomicload ptr mem)
(AtomicLoad32 ptr mem) => (MOVLatomicload ptr mem)
(AtomicLoad64 ptr mem) => (MOVQatomicload ptr mem)
(AtomicLoadPtr ptr mem) => (MOVQatomicload ptr mem)

// Atomic stores.  We use XCHG to prevent the hardware reordering a subsequent load.
// TODO: most runtime uses of atomic stores don't need that property.
```

```
  Use normal stores for those?
(AtomicStore8 ptr val mem) => (Select1 (XCHGB <types.NewTuple(typ.UInt8,types.TypeMem)> val ptr mem))
(AtomicStore32 ptr val mem) => (Select1 (XCHGL <types.NewTuple(typ.UInt32,types.TypeMem)> val ptr mem))
(AtomicStore64 ptr val mem) => (Select1 (XCHGQ <types.NewTuple(typ.UInt64,types.TypeMem)> val ptr mem))
(AtomicStorePtrNoWB ptr val mem) => (Select1 (XCHGQ <types.NewTuple(typ.BytePtr,types.TypeMem)> val ptr
mem))

// Atomic exchanges.
(AtomicExchange32 ptr val mem) => (XCHGL val ptr mem)
(AtomicExchange64 ptr val mem) => (XCHGQ val ptr mem)

// Atomic adds.
(AtomicAdd32 ptr val mem) => (AddTupleFirst32 val (XADDLlock val ptr mem))
(AtomicAdd64 ptr val mem) => (AddTupleFirst64 val (XADDQlock val ptr mem))
(Select0 <t> (AddTupleFirst32 val tuple)) => (ADDL val (Select0 <t> tuple))
(Select1     (AddTupleFirst32   _ tuple)) => (Select1 tuple)
(Select0 <t> (AddTupleFirst64 val tuple)) => (ADDQ val (Select0 <t> tuple))
(Select1     (AddTupleFirst64   _
 tuple)) => (Select1 tuple)

// Atomic compare and swap.
(AtomicCompareAndSwap32 ptr old new_ mem) => (CMPXCHGLlock ptr old new_ mem)
(AtomicCompareAndSwap64 ptr old new_ mem) => (CMPXCHGQlock ptr old new_ mem)

// Atomic memory updates.
(AtomicAnd8  ptr val mem) => (ANDBlock ptr val mem)
(AtomicAnd32 ptr val mem) => (ANDLlock ptr val mem)
(AtomicOr8   ptr val mem) => (ORBlock  ptr val mem)
(AtomicOr32  ptr val mem) => (ORLlock  ptr val mem)

// Write barrier.
(WB ...) => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

// ****************************
// Above: lowering rules
// Below: optimizations
// ****************************
// TODO: Should the optimizations be a separate pass?

// Fold boolean tests into blocks
(NE (TESTB (SETL  cmp) (SETL
  cmp)) yes no) => (LT  cmp yes no)
(NE (TESTB (SETLE cmp) (SETLE cmp)) yes no) => (LE  cmp yes no)
(NE (TESTB (SETG  cmp) (SETG  cmp)) yes no) => (GT  cmp yes no)
```

```
(NE (TESTB (SETGE cmp) (SETGE cmp)) yes no) => (GE  cmp yes no)
(NE (TESTB (SETEQ cmp) (SETEQ cmp)) yes no) => (EQ  cmp yes no)
(NE (TESTB (SETNE cmp) (SETNE cmp)) yes no) => (NE  cmp yes no)
(NE (TESTB (SETB  cmp) (SETB  cmp)) yes no) => (ULT cmp yes no)
(NE (TESTB (SETBE cmp) (SETBE cmp)) yes no) => (ULE cmp yes no)
(NE (TESTB (SETA  cmp) (SETA  cmp)) yes no) => (UGT cmp yes no)
(NE (TESTB (SETAE cmp) (SETAE cmp)) yes no) => (UGE cmp yes no)
(NE (TESTB (SETO cmp) (SETO cmp)) yes no) => (OS cmp yes no)

// Unsigned comparisons to 0/1
(ULT (TEST(Q|L|W|B) x x) yes no) => (First no yes)
(UGE (TEST(Q|L|W|B) x x) yes no) => (First yes no)
(SETB (TEST(Q|L|W|B) x x)) => (ConstBool [false])
(SETAE (TEST(Q|L|W|B) x x)) => (ConstBool [true])

// x & 1 != 0 -> x & 1
(SETNE (TEST(B|W)const [1] x)) => (AND(L|L)const [1] x)
(SETB (BT(L|Q)const
 [0] x)) => (AND(L|Q)const [1] x)

// Recognize bit tests: a&(1<<b) != 0 for b suitably bounded
// Note that BTx instructions use the carry bit, so we need to convert tests for zero flag
// into tests for carry flags.
// ULT and SETB check the carry flag; they are identical to CS and SETCS. Same, mutatis
// mutandis, for UGE and SETAE, and CC and SETCC.
((NE|EQ) (TESTL (SHLL (MOVLconst [1]) x) y)) => ((ULT|UGE) (BTL x y))
((NE|EQ) (TESTQ (SHLQ (MOVQconst [1]) x) y)) => ((ULT|UGE) (BTQ x y))
((NE|EQ) (TESTL (SHLXL (MOVLconst [1]) x) y)) => ((ULT|UGE) (BTL x y))
((NE|EQ) (TESTQ (SHLXQ (MOVQconst [1]) x) y)) => ((ULT|UGE) (BTQ x y))
((NE|EQ) (TESTLconst [c] x)) && isUint32PowerOfTwo(int64(c))
  => ((ULT|UGE) (BTLconst [int8(log32(c))] x))
((NE|EQ) (TESTQconst [c] x)) && isUint64PowerOfTwo(int64(c))
  => ((ULT|UGE) (BTQconst [int8(log32(c))] x))
((NE|EQ) (TESTQ (MOVQconst [c]) x)) && isUint64PowerOfTwo(c)
  => ((ULT|UGE) (BTQconst [int8(log64(c))] x))
(SET(NE|EQ) (TESTL (SHLL
 (MOVLconst [1]) x) y)) => (SET(B|AE)  (BTL x y))
(SET(NE|EQ) (TESTQ (SHLQ (MOVQconst [1]) x) y)) => (SET(B|AE)  (BTQ x y))
(SET(NE|EQ) (TESTL (SHLXL (MOVLconst [1]) x) y)) => (SET(B|AE)  (BTL x y))
(SET(NE|EQ) (TESTQ (SHLXQ (MOVQconst [1]) x) y)) => (SET(B|AE)  (BTQ x y))
(SET(NE|EQ) (TESTLconst [c] x)) && isUint32PowerOfTwo(int64(c))
  => (SET(B|AE)  (BTLconst [int8(log32(c))] x))
(SET(NE|EQ) (TESTQconst [c] x)) && isUint64PowerOfTwo(int64(c))
  => (SET(B|AE)  (BTQconst [int8(log32(c))] x))
(SET(NE|EQ) (TESTQ (MOVQconst [c]) x)) && isUint64PowerOfTwo(c)
  => (SET(B|AE)  (BTQconst [int8(log64(c))] x))
// SET..store variant
(SET(NE|EQ)store [off] {sym} ptr (TESTL (SHLL (MOVLconst [1]) x) y) mem)
```

```
  => (SET(B|AE)store  [off] {sym} ptr (BTL x y) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTQ (SHLQ (MOVQconst [1]) x) y) mem)
  => (SET(B|AE)store  [off] {sym} ptr (BTQ x y) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTL (SHLXL (MOVLconst [1]) x) y) mem)
  => (SET(B|AE)store  [off] {sym}
 ptr (BTL x y) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTQ (SHLXQ (MOVQconst [1]) x) y) mem)
  => (SET(B|AE)store  [off] {sym} ptr (BTQ x y) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTLconst [c] x) mem) && isUint32PowerOfTwo(int64(c))
  => (SET(B|AE)store  [off] {sym} ptr (BTLconst [int8(log32(c))] x) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTQconst [c] x) mem) && isUint64PowerOfTwo(int64(c))
  => (SET(B|AE)store  [off] {sym} ptr (BTQconst [int8(log32(c))] x) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTQ (MOVQconst [c]) x) mem) && isUint64PowerOfTwo(c)
  => (SET(B|AE)store  [off] {sym} ptr (BTQconst [int8(log64(c))] x) mem)

// Handle bit-testing in the form (a>>b)&1 != 0 by building the above rules
// and further combining shifts.
(BT(Q|L)const [c] (SHRQconst [d] x)) && (c+d)<64 => (BTQconst [c+d] x)
(BT(Q|L)const [c] (SHLQconst [d] x)) && c>d      => (BT(Q|L)const [c-d] x)
(BT(Q|L)const [0] s:(SHRQ x y)) => (BTQ y x)
(BT(Q|L)const [0] s:(SHRXQ x y)) => (BTQ y x)
(BTLconst
 [c] (SHRLconst [d] x)) && (c+d)<32 => (BTLconst [c+d] x)
(BTLconst [c] (SHLLconst [d] x)) && c>d      => (BTLconst [c-d] x)
(BTLconst [0] s:(SHR(L|XL) x y)) => (BTL y x)

// Rewrite a & 1 != 1 into a & 1 == 0.
// Among other things, this lets us turn (a>>b)&1 != 1 into a bit test.
(SET(NE|EQ) (CMPLconst [1] s:(ANDLconst [1] _))) => (SET(EQ|NE) (CMPLconst [0] s))
(SET(NE|EQ)store [off] {sym} ptr (CMPLconst [1] s:(ANDLconst [1] _)) mem) => (SET(EQ|NE)store [off] {sym}
ptr (CMPLconst [0] s) mem)
(SET(NE|EQ) (CMPQconst [1] s:(ANDQconst [1] _))) => (SET(EQ|NE) (CMPQconst [0] s))
(SET(NE|EQ)store [off] {sym} ptr (CMPQconst [1] s:(ANDQconst [1] _)) mem) => (SET(EQ|NE)store [off] {sym}
ptr (CMPQconst [0] s) mem)

// Recognize bit setting (a |= 1<<b) and toggling (a ^= 1<<b)
(OR(Q|L) (SHL(Q|L) (MOV(Q|L)const [1]) y) x) => (BTS(Q|L) x y)
(XOR(Q|L) (SHL(Q|L) (MOV(Q|L)const [1]) y) x) => (BTC(Q|L) x y)
(OR(Q|L) (SHLX(Q|L) (MOV(Q|L)const [1]) y) x) => (BTS(Q|L) x y)
(XOR(Q|L) (SHLX(Q|L) (MOV(Q|L)const
 [1]) y) x) => (BTC(Q|L) x y)

// Convert ORconst into BTS, if the code gets smaller, with boundary being
// (ORL $40,AX is 3 bytes, ORL $80,AX is 6 bytes).
((ORQ|XORQ)const [c] x) && isUint64PowerOfTwo(int64(c)) && uint64(c) >= 128
  => (BT(S|C)Qconst [int8(log32(c))] x)
((ORL|XORL)const [c] x) && isUint32PowerOfTwo(int64(c)) && uint64(c) >= 128
  => (BT(S|C)Lconst [int8(log32(c))] x)
```

```
((ORQ|XORQ) (MOVQconst [c]) x) && isUint64PowerOfTwo(c) && uint64(c) >= 128
  => (BT(S|C)Qconst [int8(log64(c))] x)
((ORL|XORL) (MOVLconst [c]) x) && isUint32PowerOfTwo(int64(c)) && uint64(c) >= 128
  => (BT(S|C)Lconst [int8(log32(c))] x)

// Recognize bit clearing: a &^= 1<<b
(AND(Q|L) (NOT(Q|L) (SHL(Q|L) (MOV(Q|L)const [1]) y)) x) => (BTR(Q|L) x y)
(ANDN(Q|L) x (SHL(Q|L) (MOV(Q|L)const [1]) y)) => (BTR(Q|L) x y)
(AND(Q|L) (NOT(Q|L) (SHLX(Q|L) (MOV(Q|L)const [1]) y)) x) => (BTR(Q|L) x y)
(ANDN(Q|L) x (SHLX(Q|L) (MOV(Q|L)const [1]) y)) => (BTR(Q|L) x y)
(ANDQconst [c] x) && isUint64PowerOfTwo(int64(^c))
 && uint64(^c) >= 128
  => (BTRQconst [int8(log32(^c))] x)
(ANDLconst [c] x) && isUint32PowerOfTwo(int64(^c)) && uint64(^c) >= 128
  => (BTRLconst [int8(log32(^c))] x)
(ANDQ (MOVQconst [c]) x) && isUint64PowerOfTwo(^c) && uint64(^c) >= 128
  => (BTRQconst [int8(log64(^c))] x)
(ANDL (MOVLconst [c]) x) && isUint32PowerOfTwo(int64(^c)) && uint64(^c) >= 128
  => (BTRLconst [int8(log32(^c))] x)

// Special-case bit patterns on first/last bit.
// generic.rules changes ANDs of high-part/low-part masks into a couple of shifts,
// for instance:
//    x & 0xFFFF0000 -> (x >> 16) << 16
//    x & 0x80000000 -> (x >> 31) << 31
//
// In case the mask is just one bit (like second example above), it conflicts
// with the above rules to detect bit-testing / bit-clearing of first/last bit.
// We thus special-case them, by detecting the shift patterns.

// Special case resetting first/last bit
(SHL(L|Q)const [1] (SHR(L|Q)const [1] x))
 => (BTR(L|Q)const [0] x)
(SHRLconst [1] (SHLLconst
 [1] x))
 => (BTRLconst [31] x)
(SHRQconst [1] (SHLQconst [1] x))
 => (BTRQconst [63] x)

// Special case testing first/last bit (with double-shift generated by generic.rules)
((SETNE|SETEQ|NE|EQ) (TESTQ z1:(SHLQconst [63] (SHRQconst [63] x)) z2)) && z1==z2
  => ((SETB|SETAE|ULT|UGE) (BTQconst [63] x))
((SETNE|SETEQ|NE|EQ) (TESTL z1:(SHLLconst [31] (SHRQconst [31] x)) z2)) && z1==z2
  => ((SETB|SETAE|ULT|UGE) (BTQconst [31] x))
(SET(NE|EQ)store [off] {sym} ptr (TESTQ z1:(SHLQconst [63] (SHRQconst [63] x)) z2) mem) && z1==z2
  => (SET(B|AE)store [off] {sym} ptr (BTQconst [63] x) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTL z1:(SHLLconst [31] (SHRLconst [31] x)) z2) mem) && z1==z2
  => (SET(B|AE)store [off] {sym} ptr (BTLconst [31] x) mem)
```

```
((SETNE|SETEQ|NE|EQ) (TESTQ z1:(SHRQconst [63] (SHLQconst [63] x)) z2)) && z1==z2
  => ((SETB|SETAE|ULT|UGE)  (BTQconst [0] x))
((SETNE|SETEQ|NE|EQ) (TESTL z1:(SHRLconst [31] (SHLLconst [31] x)) z2)) && z1==z2
  => ((SETB|SETAE|ULT|UGE)  (BTLconst
 [0] x))
(SET(NE|EQ)store [off] {sym} ptr (TESTQ z1:(SHRQconst [63] (SHLQconst [63] x)) z2) mem) && z1==z2
  => (SET(B|AE)store [off] {sym} ptr (BTQconst [0] x) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTL z1:(SHRLconst [31] (SHLLconst [31] x)) z2) mem) && z1==z2
  => (SET(B|AE)store [off] {sym} ptr (BTLconst [0] x) mem)

// Special-case manually testing last bit with "a>>63 != 0" (without "&1")
((SETNE|SETEQ|NE|EQ) (TESTQ z1:(SHRQconst [63] x) z2)) && z1==z2
  => ((SETB|SETAE|ULT|UGE) (BTQconst [63] x))
((SETNE|SETEQ|NE|EQ) (TESTL z1:(SHRLconst [31] x) z2)) && z1==z2
  => ((SETB|SETAE|ULT|UGE) (BTLconst [31] x))
(SET(NE|EQ)store [off] {sym} ptr (TESTQ z1:(SHRQconst [63] x) z2) mem) && z1==z2
  => (SET(B|AE)store [off] {sym} ptr (BTQconst [63] x) mem)
(SET(NE|EQ)store [off] {sym} ptr (TESTL z1:(SHRLconst [31] x) z2) mem) && z1==z2
  => (SET(B|AE)store [off] {sym} ptr (BTLconst [31] x) mem)

// Fold combinations of bit ops on same bit. An example is math.Copysign(c,-1)
(BTS(Q|L)const
 [c] (BTR(Q|L)const [c] x)) => (BTS(Q|L)const [c] x)
(BTS(Q|L)const [c] (BTC(Q|L)const [c] x)) => (BTS(Q|L)const [c] x)
(BTR(Q|L)const [c] (BTS(Q|L)const [c] x)) => (BTR(Q|L)const [c] x)
(BTR(Q|L)const [c] (BTC(Q|L)const [c] x)) => (BTR(Q|L)const [c] x)

// Fold boolean negation into SETcc.
(XORLconst [1] (SETNE x)) => (SETEQ x)
(XORLconst [1] (SETEQ x)) => (SETNE x)
(XORLconst [1] (SETL  x)) => (SETGE x)
(XORLconst [1] (SETGE x)) => (SETL  x)
(XORLconst [1] (SETLE x)) => (SETG  x)
(XORLconst [1] (SETG  x)) => (SETLE x)
(XORLconst [1] (SETB  x)) => (SETAE x)
(XORLconst [1] (SETAE x)) => (SETB  x)
(XORLconst [1] (SETBE x)) => (SETA  x)
(XORLconst [1] (SETA  x)) => (SETBE x)

// Special case for floating point - LF/LEF not generated
(NE (TESTB (SETGF  cmp) (SETGF  cmp)) yes no) => (UGT  cmp yes no)
(NE (TESTB (SETGEF cmp) (SETGEF cmp)) yes no) => (UGE  cmp yes no)
(NE (TESTB (SETEQF cmp) (SETEQF cmp)) yes no) => (EQF  cmp yes no)
(NE (TESTB (SETNEF cmp) (SETNEF cmp)) yes
 no) => (NEF  cmp yes no)

// Disabled because it interferes with the pattern match above and makes worse code.
```

```
// (SETNEF x) => (ORQ (SETNE <typ.Int8> x) (SETNAN <typ.Int8> x))
// (SETEQF x) => (ANDQ (SETEQ <typ.Int8> x) (SETORD <typ.Int8> x))

// fold constants into instructions
(ADDQ x (MOVQconst [c])) && is32Bit(c) => (ADDQconst [int32(c)] x)
(ADDQ x (MOVLconst [c])) => (ADDQconst [c] x)
(ADDL x (MOVLconst [c])) => (ADDLconst [c] x)

(SUBQ x (MOVQconst [c])) && is32Bit(c) => (SUBQconst x [int32(c)])
(SUBQ (MOVQconst [c]) x) && is32Bit(c) => (NEGQ (SUBQconst <v.Type> x [int32(c)]))
(SUBL x (MOVLconst [c])) => (SUBLconst x [c])
(SUBL (MOVLconst [c]) x) => (NEGL (SUBLconst <v.Type> x [c]))

(MULQ x (MOVQconst [c])) && is32Bit(c) => (MULQconst [int32(c)] x)
(MULL x (MOVLconst [c])) => (MULLconst [c] x)

(ANDQ x (MOVQconst [c])) && is32Bit(c) => (ANDQconst [int32(c)] x)
(ANDL x (MOVLconst [c])) => (ANDLconst [c] x)

(AND(L|Q)const [c] (AND(L|Q)const [d] x)) => (AND(L|Q)const [c & d] x)
(XOR(L|Q)const
 [c] (XOR(L|Q)const [d] x)) => (XOR(L|Q)const [c ^ d] x)
(OR(L|Q)const  [c] (OR(L|Q)const  [d] x)) => (OR(L|Q)const  [c | d] x)

(BTRLconst [c] (ANDLconst [d] x)) => (ANDLconst [d &^ (1<<uint32(c))] x)
(ANDLconst [c] (BTRLconst [d] x)) => (ANDLconst [c &^ (1<<uint32(d))] x)
(BTRLconst [c] (BTRLconst [d] x)) => (ANDLconst [^(1<<uint32(c) | 1<<uint32(d))] x)

(BTCLconst [c] (XORLconst [d] x)) => (XORLconst [d ^ 1<<uint32(c)] x)
(XORLconst [c] (BTCLconst [d] x)) => (XORLconst [c ^ 1<<uint32(d)] x)
(BTCLconst [c] (BTCLconst [d] x)) => (XORLconst [1<<uint32(c) | 1<<uint32(d)] x)

(BTSLconst [c] (ORLconst  [d] x)) => (ORLconst [d | 1<<uint32(c)] x)
(ORLconst  [c] (BTSLconst [d] x)) => (ORLconst [c | 1<<uint32(d)] x)
(BTSLconst [c] (BTSLconst [d] x)) => (ORLconst [1<<uint32(c) | 1<<uint32(d)] x)

(BTRQconst [c] (ANDQconst [d] x)) && is32Bit(int64(d) &^ (1<<uint32(c)))     => (ANDQconst [d &^
(1<<uint32(c))] x)
(ANDQconst [c] (BTRQconst [d] x)) && is32Bit(int64(c) &^ (1<<uint32(d)))
    => (ANDQconst [c &^ (1<<uint32(d))] x)
(BTRQconst [c] (BTRQconst [d] x)) && is32Bit(^(1<<uint32(c) | 1<<uint32(d))) => (ANDQconst [^(1<<uint32(c)
| 1<<uint32(d))] x)

(BTCQconst [c] (XORQconst [d] x)) && is32Bit(int64(d) ^ 1<<uint32(c))     => (XORQconst [d ^ 1<<uint32(c)] x)
(XORQconst [c] (BTCQconst [d] x)) && is32Bit(int64(c) ^ 1<<uint32(d))     => (XORQconst [c ^ 1<<uint32(d)] x)
(BTCQconst [c] (BTCQconst [d] x)) && is32Bit(1<<uint32(c) ^ 1<<uint32(d)) => (XORQconst [1<<uint32(c) ^
1<<uint32(d)] x)
```

```
(BTSQconst [c] (ORQconst  [d] x)) && is32Bit(int64(d) | 1<<uint32(c))     => (ORQconst [d | 1<<uint32(c)] x)
(ORQconst  [c] (BTSQconst [d] x)) && is32Bit(int64(c) | 1<<uint32(d))     => (ORQconst [c | 1<<uint32(d)] x)
(BTSQconst [c] (BTSQconst [d] x)) && is32Bit(1<<uint32(c) | 1<<uint32(d)) => (ORQconst [1<<uint32(c) |
1<<uint32(d)] x)


(MULLconst [c] (MULLconst [d] x)) => (MULLconst [c * d] x)
(MULQconst [c] (MULQconst [d] x)) && is32Bit(int64(c)*int64(d)) => (MULQconst [c * d]
 x)

(ORQ x (MOVQconst [c])) && is32Bit(c) => (ORQconst [int32(c)] x)
(ORQ x (MOVLconst [c])) => (ORQconst [c] x)
(ORL x (MOVLconst [c])) => (ORLconst [c] x)

(XORQ x (MOVQconst [c])) && is32Bit(c) => (XORQconst [int32(c)] x)
(XORL x (MOVLconst [c])) => (XORLconst [c] x)

(SHLQ x (MOV(Q|L)const [c])) => (SHLQconst [int8(c&63)] x)
(SHLL x (MOV(Q|L)const [c])) => (SHLLconst [int8(c&31)] x)
(SHLXQ x (MOV(Q|L)const [c])) => (SHLQconst [int8(c&63)] x)
(SHLXL x (MOV(Q|L)const [c])) => (SHLLconst [int8(c&31)] x)

(SHRQ x (MOV(Q|L)const [c])) => (SHRQconst [int8(c&63)] x)
(SHRL x (MOV(Q|L)const [c])) => (SHRLconst [int8(c&31)] x)
(SHRW x (MOV(Q|L)const [c])) && c&31 < 16 => (SHRWconst [int8(c&31)] x)
(SHRW _ (MOV(Q|L)const [c])) && c&31 >= 16 => (MOVLconst [0])
(SHRB x (MOV(Q|L)const [c])) && c&31 < 8 => (SHRBconst [int8(c&31)] x)
(SHRB _ (MOV(Q|L)const [c])) && c&31 >= 8 => (MOVLconst [0])
(SHRXQ x (MOV(Q|L)const [c])) => (SHRQconst [int8(c&63)] x)
(SHRXL x (MOV(Q|L)const [c])) => (SHRLconst
 [int8(c&31)] x)

(SARQ x (MOV(Q|L)const [c])) => (SARQconst [int8(c&63)] x)
(SARL x (MOV(Q|L)const [c])) => (SARLconst [int8(c&31)] x)
(SARW x (MOV(Q|L)const [c])) => (SARWconst [int8(min(int64(c)&31,15))] x)
(SARB x (MOV(Q|L)const [c])) => (SARBconst [int8(min(int64(c)&31,7))] x)
(SARXQ x (MOV(Q|L)const [c])) => (SARQconst [int8(c&63)] x)
(SARXL x (MOV(Q|L)const [c])) => (SARLconst [int8(c&31)] x)

// Operations which don't affect the low 6/5 bits of the shift amount are NOPs.
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (ADDQconst [c] y)) && c & 63 == 0  =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x y)
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (NEGQ <t> (ADDQconst [c] y))) && c & 63 == 0  =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (NEGQ <t> y))
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (ANDQconst [c] y)) && c & 63 == 63 =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x y)
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (NEGQ <t> (ANDQconst [c] y))) && c & 63 == 63 =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (NEGQ <t> y))
```

```
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL)
 x (ADDQconst [c] y)) && c & 31 == 0  => ((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x y)
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGQ <t> (ADDQconst [c] y))) && c & 31 == 0  =>
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGQ <t> y))
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (ANDQconst [c] y)) && c & 31 == 31 =>
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x y)
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGQ <t> (ANDQconst [c] y))) && c & 31 == 31 =>
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGQ <t> y))

((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (ADDLconst [c] y)) && c & 63 == 0  =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x y)
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (NEGL <t> (ADDLconst [c] y))) && c & 63 == 0  =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (NEGL <t> y))
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (ANDLconst [c] y)) && c & 63 == 63 =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x y)
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ) x (NEGL <t> (ANDLconst [c] y))) && c & 63 == 63 =>
((SHLQ|SHRQ|SARQ|SHLXQ|SHRXQ|SARXQ)
 x (NEGL <t> y))

((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (ADDLconst [c] y)) && c & 31 == 0  =>
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x y)
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGL <t> (ADDLconst [c] y))) && c & 31 == 0  =>
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGL <t> y))
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (ANDLconst [c] y)) && c & 31 == 31 =>
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x y)
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGL <t> (ANDLconst [c] y))) && c & 31 == 31 =>
((SHLL|SHRL|SARL|SHLXL|SHRXL|SARXL) x (NEGL <t> y))

// Constant rotate instructions
((ADDQ|ORQ|XORQ) (SHLQconst x [c]) (SHRQconst x [d])) && d==64-c => (ROLQconst x [c])
((ADDL|ORL|XORL) (SHLLconst x [c]) (SHRLconst x [d])) && d==32-c => (ROLLconst x [c])

((ADDL|ORL|XORL) <t> (SHLLconst x [c]) (SHRWconst x [d])) && d==16-c && c < 16 && t.Size() == 2 =>
(ROLWconst x [c])
((ADDL|ORL|XORL) <t> (SHLLconst x [c]) (SHRBconst x [d])) && d==8-c  && c < 8  && t.Size() == 1 =>
(ROLBconst x [c])

(ROLQconst [c] (ROLQconst
 [d] x)) => (ROLQconst [(c+d)&63] x)
(ROLLconst [c] (ROLLconst [d] x)) => (ROLLconst [(c+d)&31] x)
(ROLWconst [c] (ROLWconst [d] x)) => (ROLWconst [(c+d)&15] x)
(ROLBconst [c] (ROLBconst [d] x)) => (ROLBconst [(c+d)& 7] x)

(RotateLeft8  ...) => (ROLB ...)
(RotateLeft16 ...) => (ROLW ...)
(RotateLeft32 ...) => (ROLL ...)
(RotateLeft64 ...) => (ROLQ ...)
```

```
// Non-constant rotates.
// We want to issue a rotate when the Go source contains code like
//     y &= 63
//     x << y | x >> (64-y)
// The shift rules above convert << to SHLx and >> to SHRx.
// SHRx converts its shift argument from 64-y to -y.
// A tricky situation occurs when y==0. Then the original code would be:
//     x << 0 | x >> 64
// But x >> 64 is 0, not x. So there's an additional mask that is ANDed in
// to force the second term to 0. We don't need that mask, but we must match
// it in order to strip it out.
(ORQ (SHLQ x y) (ANDQ (SHRQ x (NEG(Q|L) y)) (SBBQcarrymask (CMP(Q|L)const (NEG(Q|L)
(ADD(Q|L)const (AND(Q|L)const
 y [63]) [-64])) [64]))) => (ROLQ x y)
(ORQ (SHRQ x y) (ANDQ (SHLQ x (NEG(Q|L) y)) (SBBQcarrymask (CMP(Q|L)const (NEG(Q|L)
(ADD(Q|L)const (AND(Q|L)const y [63]) [-64])) [64]))) => (RORQ x y)
(ORQ (SHLXQ x y) (ANDQ (SHRXQ x (NEG(Q|L) y)) (SBBQcarrymask (CMP(Q|L)const (NEG(Q|L)
(ADD(Q|L)const (AND(Q|L)const y [63]) [-64])) [64]))) => (ROLQ x y)
(ORQ (SHRXQ x y) (ANDQ (SHLXQ x (NEG(Q|L) y)) (SBBQcarrymask (CMP(Q|L)const (NEG(Q|L)
(ADD(Q|L)const (AND(Q|L)const y [63]) [-64])) [64]))) => (RORQ x y)

(ORL (SHLL x y) (ANDL (SHRL x (NEG(Q|L) y)) (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L)
(ADD(Q|L)const (AND(Q|L)const y [31]) [-32])) [32]))) => (ROLL x y)
(ORL (SHRL x y) (ANDL (SHLL x (NEG(Q|L) y)) (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L)
(ADD(Q|L)const (AND(Q|L)const y [31]) [-32])) [32]))) => (RORL x y)
(ORL (SHLXL x y) (ANDL (SHRXL x (NEG(Q|L) y)) (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L)
(ADD(Q|L)const (AND(Q|L)const y [31]) [-32])) [32]))) => (ROLL x y)
(ORL (SHRXL x y) (ANDL (SHLXL x (NEG(Q|L)
 y)) (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [31]) [-32])) [32]))) =>
(RORL x y)

// Help with rotate detection
(CMPQconst (NEGQ (ADDQconst [-16] (ANDQconst [15] _))) [32]) => (FlagLT_ULT)
(CMPQconst (NEGQ (ADDQconst [ -8] (ANDQconst  [7] _))) [32]) => (FlagLT_ULT)

(ORL (SHLL x (AND(Q|L)const y [15]))
   (ANDL (SHRW x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [15]) [-16])))
       (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [15]) [-16])) [16]))))
 && v.Type.Size() == 2
 => (ROLW x y)
(ORL (SHRW x (AND(Q|L)const y [15]))
   (SHLL x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [15]) [-16]))))
 && v.Type.Size() == 2
 => (RORW x y)
(ORL (SHLXL x (AND(Q|L)const y [15]))
   (ANDL (SHRW x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [15]) [-16])))
       (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [15]) [-16])) [16]))))
```

```
 && v.Type.Size() == 2
 => (ROLW x y)
(ORL (SHRW x (AND(Q|L)const
 y [15]))
   (SHLXL x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [15]) [-16])))
 && v.Type.Size() == 2
 => (RORW x y)

(ORL (SHLL x (AND(Q|L)const y [ 7]))
   (ANDL (SHRB x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [ 7]) [ -8])))
      (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [ 7]) [ -8])) [ 8])))
 && v.Type.Size() == 1
 => (ROLB x y)
(ORL (SHRB x (AND(Q|L)const y [ 7]))
   (SHLL x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [ 7]) [ -8])))
 && v.Type.Size() == 1
 => (RORB x y)
(ORL (SHLXL x (AND(Q|L)const y [ 7]))
   (ANDL (SHRB x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [ 7]) [ -8])))
      (SBBLcarrymask (CMP(Q|L)const (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [ 7]) [ -8])) [ 8])))
 && v.Type.Size() == 1
 => (ROLB x y)
(ORL (SHRB x (AND(Q|L)const y [ 7]))
   (SHLXL x (NEG(Q|L) (ADD(Q|L)const (AND(Q|L)const y [ 7]) [ -8])))
 && v.Type.Size() == 1
 => (RORB x y)

// rotate left negative = rotate right
(ROLQ x (NEG(Q|L) y))
 => (RORQ x y)
(ROLL x (NEG(Q|L) y)) => (RORL x y)
(ROLW x (NEG(Q|L) y)) => (RORW x y)
(ROLB x (NEG(Q|L) y)) => (RORB x y)

// rotate right negative = rotate left
(RORQ x (NEG(Q|L) y)) => (ROLQ x y)
(RORL x (NEG(Q|L) y)) => (ROLL x y)
(RORW x (NEG(Q|L) y)) => (ROLW x y)
(RORB x (NEG(Q|L) y)) => (ROLB x y)

// rotate by constants
(ROLQ x (MOV(Q|L)const [c])) => (ROLQconst [int8(c&63)] x)
(ROLL x (MOV(Q|L)const [c])) => (ROLLconst [int8(c&31)] x)
(ROLW x (MOV(Q|L)const [c])) => (ROLWconst [int8(c&15)] x)
(ROLB x (MOV(Q|L)const [c])) => (ROLBconst [int8(c&7) ] x)

(RORQ x (MOV(Q|L)const [c])) => (ROLQconst [int8((-c)&63)] x)
(RORL x (MOV(Q|L)const [c])) => (ROLLconst [int8((-c)&31)] x)
```

```
(RORW x (MOV(Q|L)const [c])) => (ROLWconst [int8((-c)&15)] x)
(RORB x (MOV(Q|L)const [c])) => (ROLBconst [int8((-c)&7) ] x)

// Constant shift simplifications
((SHLQ|SHRQ|SARQ)const      x [0]) => x
((SHLL|SHRL|SARL)const      x [0]) => x
((SHRW|SARW)const           x [0]) => x
((SHRB|SARB)const           x
 [0]) => x
((ROLQ|ROLL|ROLW|ROLB)const x [0]) => x

// Multi-register shifts
(ORQ (SH(R|L)Q lo bits) (SH(L|R)Q hi (NEGQ bits))) => (SH(R|L)DQ lo hi bits)
(ORQ (SH(R|L)XQ lo bits) (SH(L|R)XQ hi (NEGQ bits))) => (SH(R|L)DQ lo hi bits)

// Note: the word and byte shifts keep the low 5 bits (not the low 4 or 3 bits)
// because the x86 instructions are defined to use all 5 bits of the shift even
// for the small shifts. I don't think we'll ever generate a weird shift (e.g.
// (SHRW x (MOVLconst [24])), but just in case.

(CMPQ x (MOVQconst [c])) && is32Bit(c) => (CMPQconst x [int32(c)])
(CMPQ (MOVQconst [c]) x) && is32Bit(c) => (InvertFlags (CMPQconst x [int32(c)]))
(CMPL x (MOVLconst [c])) => (CMPLconst x [c])
(CMPL (MOVLconst [c]) x) => (InvertFlags (CMPLconst x [c]))
(CMPW x (MOVLconst [c])) => (CMPWconst x [int16(c)])
(CMPW (MOVLconst [c]) x) => (InvertFlags (CMPWconst x [int16(c)]))
(CMPB x (MOVLconst [c])) => (CMPBconst x [int8(c)])
(CMPB (MOVLconst [c]) x) => (InvertFlags (CMPBconst x
 [int8(c)]))

// Canonicalize the order of arguments to comparisons - helps with CSE.
(CMP(Q|L|W|B) x y) && canonLessThan(x,y) => (InvertFlags (CMP(Q|L|W|B) y x))

// Using MOVZX instead of AND is cheaper.
(AND(Q|L)const [  0xFF] x) => (MOVBQZX x)
(AND(Q|L)const [0xFFFF] x) => (MOVWQZX x)
// This rule is currently invalid because 0xFFFFFFFF is not representable by a signed int32.
// Commenting out for now, because it also can't trigger because of the is32bit guard on the
// ANDQconst lowering-rule, above, prevents 0xFFFFFFFF from matching (for the same reason)
// Using an alternate form of this rule segfaults some binaries because of
// adverse interactions with other passes.
// (ANDQconst [0xFFFFFFFF] x) => (MOVLQZX x)

// strength reduction
// Assumes that the following costs from https://gmplib.org/~tege/x86-timing.pdf:
//    1 - addq, shlq, leaq, negq, subq
//    3 - imulq
// This limits the rewrites to two instructions.
```

```
// Note that negq always operates in-place,
// which can require
 a register-register move
// to preserve the original value,
// so it must be used with care.
(MUL(Q|L)const [-9] x) => (NEG(Q|L) (LEA(Q|L)8 <v.Type> x x))
(MUL(Q|L)const [-5] x) => (NEG(Q|L) (LEA(Q|L)4 <v.Type> x x))
(MUL(Q|L)const [-3] x) => (NEG(Q|L) (LEA(Q|L)2 <v.Type> x x))
(MUL(Q|L)const [-1] x) => (NEG(Q|L) x)
(MUL(Q|L)const [ 0] _) => (MOV(Q|L)const [0])
(MUL(Q|L)const [ 1] x) => x
(MUL(Q|L)const [ 3] x) => (LEA(Q|L)2 x x)
(MUL(Q|L)const [ 5] x) => (LEA(Q|L)4 x x)
(MUL(Q|L)const [ 7] x) => (LEA(Q|L)2 x (LEA(Q|L)2 <v.Type> x x))
(MUL(Q|L)const [ 9] x) => (LEA(Q|L)8 x x)
(MUL(Q|L)const [11] x) => (LEA(Q|L)2 x (LEA(Q|L)4 <v.Type> x x))
(MUL(Q|L)const [13] x) => (LEA(Q|L)4 x (LEA(Q|L)2 <v.Type> x x))
(MUL(Q|L)const [19] x) => (LEA(Q|L)2 x (LEA(Q|L)8 <v.Type> x x))
(MUL(Q|L)const [21] x) => (LEA(Q|L)4 x (LEA(Q|L)4 <v.Type> x x))
(MUL(Q|L)const [25] x) => (LEA(Q|L)8 x (LEA(Q|L)2 <v.Type> x x))
(MUL(Q|L)const [27] x) => (LEA(Q|L)8 (LEA(Q|L)2 <v.Type> x x) (LEA(Q|L)2 <v.Type> x x))
(MUL(Q|L)const
 [37] x) => (LEA(Q|L)4 x (LEA(Q|L)8 <v.Type> x x))
(MUL(Q|L)const [41] x) => (LEA(Q|L)8 x (LEA(Q|L)4 <v.Type> x x))
(MUL(Q|L)const [45] x) => (LEA(Q|L)8 (LEA(Q|L)4 <v.Type> x x) (LEA(Q|L)4 <v.Type> x x))
(MUL(Q|L)const [73] x) => (LEA(Q|L)8 x (LEA(Q|L)8 <v.Type> x x))
(MUL(Q|L)const [81] x) => (LEA(Q|L)8 (LEA(Q|L)8 <v.Type> x x) (LEA(Q|L)8 <v.Type> x x))

(MUL(Q|L)const [c] x) && isPowerOfTwo64(int64(c)+1) && c >=  15 => (SUB(Q|L)  (SHL(Q|L)const <v.Type>
[int8(log64(int64(c)+1))] x) x)
(MUL(Q|L)const [c] x) && isPowerOfTwo32(c-1) && c >=  17 => (LEA(Q|L)1 (SHL(Q|L)const <v.Type>
[int8(log32(c-1))] x) x)
(MUL(Q|L)const [c] x) && isPowerOfTwo32(c-2) && c >=  34 => (LEA(Q|L)2 (SHL(Q|L)const <v.Type>
[int8(log32(c-2))] x) x)
(MUL(Q|L)const [c] x) && isPowerOfTwo32(c-4) && c >=  68 => (LEA(Q|L)4 (SHL(Q|L)const <v.Type>
[int8(log32(c-4))] x) x)
(MUL(Q|L)const [c] x) && isPowerOfTwo32(c-8) && c >= 136 => (LEA(Q|L)8 (SHL(Q|L)const <v.Type>
[int8(log32(c-8))] x) x)
(MUL(Q|L)const
 [c] x) && c%3 == 0 && isPowerOfTwo32(c/3) => (SHL(Q|L)const [int8(log32(c/3))] (LEA(Q|L)2 <v.Type> x x))
(MUL(Q|L)const [c] x) && c%5 == 0 && isPowerOfTwo32(c/5) => (SHL(Q|L)const [int8(log32(c/5))]
(LEA(Q|L)4 <v.Type> x x))
(MUL(Q|L)const [c] x) && c%9 == 0 && isPowerOfTwo32(c/9) => (SHL(Q|L)const [int8(log32(c/9))]
(LEA(Q|L)8 <v.Type> x x))

// combine add/shift into LEAQ/LEAL
(ADD(L|Q) x (SHL(L|Q)const [3] y)) => (LEA(L|Q)8 x y)
(ADD(L|Q) x (SHL(L|Q)const [2] y)) => (LEA(L|Q)4 x y)
```

```
(ADD(L|Q) x (SHL(L|Q)const [1] y)) => (LEA(L|Q)2 x y)
(ADD(L|Q) x (ADD(L|Q) y y))        => (LEA(L|Q)2 x y)
(ADD(L|Q) x (ADD(L|Q) x y))        => (LEA(L|Q)2 y x)

// combine ADDQ/ADDQconst into LEAQ1/LEAL1
(ADD(Q|L)const [c] (ADD(Q|L) x y)) => (LEA(Q|L)1 [c] x y)
(ADD(Q|L) (ADD(Q|L)const [c] x) y) => (LEA(Q|L)1 [c] x y)
(ADD(Q|L)const [c] (SHL(Q|L)const [1] x)) => (LEA(Q|L)1 [c] x x)

// fold ADDQ/ADDL into LEAQ/LEAL
(ADD(Q|L)const [c] (LEA(Q|L) [d] {s} x)) && is32Bit(int64(c)+int64(d)) => (LEA(Q|L) [c+d]
 {s} x)
(LEA(Q|L) [c] {s} (ADD(Q|L)const [d] x)) && is32Bit(int64(c)+int64(d)) => (LEA(Q|L) [c+d] {s} x)
(LEA(Q|L) [c] {s} (ADD(Q|L) x y)) && x.Op != OpSB && y.Op != OpSB => (LEA(Q|L)1 [c] {s} x y)
(ADD(Q|L) x (LEA(Q|L) [c] {s} y)) && x.Op != OpSB && y.Op != OpSB => (LEA(Q|L)1 [c] {s} x y)

// fold ADDQconst/ADDLconst into LEAQx/LEALx
(ADD(Q|L)const [c] (LEA(Q|L)1 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEA(Q|L)1 [c+d] {s} x y)
(ADD(Q|L)const [c] (LEA(Q|L)2 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEA(Q|L)2 [c+d] {s} x y)
(ADD(Q|L)const [c] (LEA(Q|L)4 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEA(Q|L)4 [c+d] {s} x y)
(ADD(Q|L)const [c] (LEA(Q|L)8 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEA(Q|L)8 [c+d] {s} x y)
(LEA(Q|L)1 [c] {s} (ADD(Q|L)const [d] x) y) && is32Bit(int64(c)+int64(d))   && x.Op != OpSB => (LEA(Q|L)1
[c+d] {s} x y)
(LEA(Q|L)2 [c] {s} (ADD(Q|L)const [d] x) y) && is32Bit(int64(c)+int64(d))   && x.Op != OpSB => (LEA(Q|L)2
[c+d] {s} x y)
(LEA(Q|L)2
 [c] {s} x (ADD(Q|L)const [d] y)) && is32Bit(int64(c)+2*int64(d)) && y.Op != OpSB => (LEA(Q|L)2 [c+2*d] {s}
x y)
(LEA(Q|L)4 [c] {s} (ADD(Q|L)const [d] x) y) && is32Bit(int64(c)+int64(d))   && x.Op != OpSB => (LEA(Q|L)4
[c+d] {s} x y)
(LEA(Q|L)4 [c] {s} x (ADD(Q|L)const [d] y)) && is32Bit(int64(c)+4*int64(d)) && y.Op != OpSB => (LEA(Q|L)4
[c+4*d] {s} x y)
(LEA(Q|L)8 [c] {s} (ADD(Q|L)const [d] x) y) && is32Bit(int64(c)+int64(d))   && x.Op != OpSB => (LEA(Q|L)8
[c+d] {s} x y)
(LEA(Q|L)8 [c] {s} x (ADD(Q|L)const [d] y)) && is32Bit(int64(c)+8*int64(d)) && y.Op != OpSB => (LEA(Q|L)8
[c+8*d] {s} x y)

// fold shifts into LEAQx/LEALx
(LEA(Q|L)1 [c] {s} x (SHL(Q|L)const [1] y)) => (LEA(Q|L)2 [c] {s} x y)
(LEA(Q|L)1 [c] {s} x (SHL(Q|L)const [2] y)) => (LEA(Q|L)4 [c] {s} x y)
(LEA(Q|L)1 [c] {s} x (SHL(Q|L)const [3] y)) => (LEA(Q|L)8 [c] {s} x y)
(LEA(Q|L)2 [c] {s} x (SHL(Q|L)const [1] y)) => (LEA(Q|L)4 [c] {s} x y)
(LEA(Q|L)2 [c] {s} x (SHL(Q|L)const [2] y)) => (LEA(Q|L)8 [c] {s} x y)
(LEA(Q|L)4
 [c] {s} x (SHL(Q|L)const [1] y)) => (LEA(Q|L)8 [c] {s} x y)

// reverse ordering of compare instruction
(SETL (InvertFlags x)) => (SETG x)
```

```
(SETG (InvertFlags x)) => (SETL x)
(SETB (InvertFlags x)) => (SETA x)
(SETA (InvertFlags x)) => (SETB x)
(SETLE (InvertFlags x)) => (SETGE x)
(SETGE (InvertFlags x)) => (SETLE x)
(SETBE (InvertFlags x)) => (SETAE x)
(SETAE (InvertFlags x)) => (SETBE x)
(SETEQ (InvertFlags x)) => (SETEQ x)
(SETNE (InvertFlags x)) => (SETNE x)

(SETLstore [off] {sym} ptr (InvertFlags x) mem) => (SETGstore [off] {sym} ptr x mem)
(SETGstore [off] {sym} ptr (InvertFlags x) mem) => (SETLstore [off] {sym} ptr x mem)
(SETBstore [off] {sym} ptr (InvertFlags x) mem) => (SETAstore [off] {sym} ptr x mem)
(SETAstore [off] {sym} ptr (InvertFlags x) mem) => (SETBstore [off] {sym} ptr x mem)
(SETLEstore [off] {sym} ptr (InvertFlags x) mem) => (SETGEstore [off] {sym} ptr x mem)
(SETGEstore [off] {sym} ptr (InvertFlags x) mem) => (SETLEstore [off] {sym} ptr x mem)
(SETBEstore [off]
 {sym} ptr (InvertFlags x) mem) => (SETAEstore [off] {sym} ptr x mem)
(SETAEstore [off] {sym} ptr (InvertFlags x) mem) => (SETBEstore [off] {sym} ptr x mem)
(SETEQstore [off] {sym} ptr (InvertFlags x) mem) => (SETEQstore [off] {sym} ptr x mem)
(SETNEstore [off] {sym} ptr (InvertFlags x) mem) => (SETNEstore [off] {sym} ptr x mem)

// sign extended loads
// Note: The combined instruction must end up in the same block
// as the original load. If not, we end up making a value with
// memory type live in two different blocks, which can lead to
// multiple memory values alive simultaneously.
// Make sure we don't combine these ops if the load has another use.
// This prevents a single load from being split into multiple loads
// which then might return different values.  See test/atomicload.go.
(MOVBQSX x:(MOVBload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBQSXload
<v.Type> [off] {sym} ptr mem)
(MOVBQSX x:(MOVWload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) =>
 @x.Block (MOVBQSXload <v.Type> [off] {sym} ptr mem)
(MOVBQSX x:(MOVLload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBQSXload
<v.Type> [off] {sym} ptr mem)
(MOVBQSX x:(MOVQload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBQSXload
<v.Type> [off] {sym} ptr mem)
(MOVBQZX x:(MOVBload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBload
<v.Type> [off] {sym} ptr mem)
(MOVBQZX x:(MOVWload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBload
<v.Type> [off] {sym} ptr mem)
(MOVBQZX x:(MOVLload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBload
<v.Type> [off] {sym} ptr mem)
(MOVBQZX x:(MOVQload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBload
<v.Type> [off] {sym} ptr mem)
(MOVWQSX x:(MOVWload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVWQSXload <v.Type> [off] {sym} ptr mem)
```

(MOVWQSX x:(MOVLload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x)
 => @x.Block (MOVWQSXload <v.Type> [off] {sym} ptr mem)
(MOVWQSX x:(MOVQload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVWQSXload <v.Type> [off] {sym} ptr mem)
(MOVWQZX x:(MOVWload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVWload
<v.Type> [off] {sym} ptr mem)
(MOVWQZX x:(MOVLload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVWload
<v.Type> [off] {sym} ptr mem)
(MOVWQZX x:(MOVQload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVWload
<v.Type> [off] {sym} ptr mem)
(MOVLQSX x:(MOVLload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVLQSXload
<v.Type> [off] {sym} ptr mem)
(MOVLQSX x:(MOVQload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVLQSXload
<v.Type> [off] {sym} ptr mem)
(MOVLQZX x:(MOVLload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVLload
<v.Type> [off] {sym} ptr mem)
(MOVLQZX x:(MOVQload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x)
 => @x.Block (MOVLload <v.Type> [off] {sym} ptr mem)

(MOVLQZX x) && zeroUpper32Bits(x,3) => x
(MOVWQZX x) && zeroUpper48Bits(x,3) => x
(MOVBQZX x) && zeroUpper56Bits(x,3) => x

// replace load from same location as preceding store with zero/sign extension (or copy in case of full width)
(MOVBload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVBQZX x)
(MOVWload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVWQZX x)
(MOVLload [off] {sym} ptr (MOVLstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVLQZX x)
(MOVQload [off] {sym} ptr (MOVQstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x
(MOVBQSXload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVBQSX x)
(MOVWQSXload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2
 x _)) && sym == sym2 && off == off2 && isSamePtr(ptr, ptr2) => (MOVWQSX x)
(MOVLQSXload [off] {sym} ptr (MOVLstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVLQSX x)

// Fold extensions and ANDs together.
(MOVBQZX (ANDLconst [c] x)) => (ANDLconst [c & 0xff] x)
(MOVWQZX (ANDLconst [c] x)) => (ANDLconst [c & 0xffff] x)
(MOVLQZX (ANDLconst [c] x)) => (ANDLconst [c] x)
(MOVBQSX (ANDLconst [c] x)) && c & 0x80 == 0 => (ANDLconst [c & 0x7f] x)
(MOVWQSX (ANDLconst [c] x)) && c & 0x8000 == 0 => (ANDLconst [c & 0x7fff] x)
(MOVLQSX (ANDLconst [c] x)) && uint32(c) & 0x80000000 == 0 => (ANDLconst [c & 0x7fffffff] x)

// Don't extend before storing

```
(MOVLstore [off] {sym} ptr (MOVLQSX x) mem) => (MOVLstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWQSX x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBQSX x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVLstore [off] {sym} ptr (MOVLQZX x) mem) => (MOVLstore [off] {sym}
 ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWQZX x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBQZX x) mem) => (MOVBstore [off] {sym} ptr x mem)

// fold constants into memory operations
// Note that this is not always a good idea because if not all the uses of
// the ADDQconst get eliminated, we still have to compute the ADDQconst and we now
// have potentially two live values (ptr and (ADDQconst [off] ptr)) instead of one.
// Nevertheless, let's do it!
(MOV(Q|L|W|B|SS|SD|O)load  [off1] {sym} (ADDQconst [off2] ptr) mem) && is32Bit(int64(off1)+int64(off2)) =>
   (MOV(Q|L|W|B|SS|SD|O)load  [off1+off2] {sym} ptr mem)
(MOV(Q|L|W|B|SS|SD|O)store  [off1] {sym} (ADDQconst [off2] ptr) val mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOV(Q|L|W|B|SS|SD|O)store  [off1+off2] {sym} ptr val mem)
(SET(L|G|B|A|LE|GE|BE|AE|EQ|NE)store [off1] {sym} (ADDQconst [off2] base) val mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 (SET(L|G|B|A|LE|GE|BE|AE|EQ|NE)store [off1+off2] {sym}
 base val mem)
((ADD|SUB|AND|OR|XOR)Qload [off1] {sym} val (ADDQconst [off2] base) mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|AND|OR|XOR)Qload [off1+off2] {sym} val base mem)
((ADD|SUB|AND|OR|XOR)Lload [off1] {sym} val (ADDQconst [off2] base) mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|AND|OR|XOR)Lload [off1+off2] {sym} val base mem)
(CMP(Q|L|W|B)load [off1] {sym} (ADDQconst [off2] base) val mem) && is32Bit(int64(off1)+int64(off2)) =>
 (CMP(Q|L|W|B)load [off1+off2] {sym} base val mem)
(CMP(Q|L|W|B)constload [valoff1] {sym} (ADDQconst [off2] base) mem) &&
ValAndOff(valoff1).canAdd32(off2) =>
 (CMP(Q|L|W|B)constload [ValAndOff(valoff1).addOffset32(off2)] {sym} base mem)

((ADD|SUB|MUL|DIV)SSload [off1] {sym} val (ADDQconst [off2] base) mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|MUL|DIV)SSload [off1+off2] {sym} val base mem)
((ADD|SUB|MUL|DIV)SDload [off1] {sym} val (ADDQconst [off2] base) mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|MUL|DIV)SDload
 [off1+off2] {sym} val base mem)
((ADD|AND|OR|XOR)Qconstmodify [valoff1] {sym} (ADDQconst [off2] base) mem) &&
ValAndOff(valoff1).canAdd32(off2) =>
 ((ADD|AND|OR|XOR)Qconstmodify [ValAndOff(valoff1).addOffset32(off2)] {sym} base mem)
((ADD|AND|OR|XOR)Lconstmodify [valoff1] {sym} (ADDQconst [off2] base) mem) &&
ValAndOff(valoff1).canAdd32(off2) =>
 ((ADD|AND|OR|XOR)Lconstmodify [ValAndOff(valoff1).addOffset32(off2)] {sym} base mem)
((ADD|SUB|AND|OR|XOR)Qmodify [off1] {sym} (ADDQconst [off2] base) val mem) &&
```

```
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|AND|OR|XOR)Qmodify [off1+off2] {sym} base val mem)
((ADD|SUB|AND|OR|XOR)Lmodify [off1] {sym} (ADDQconst [off2] base) val mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|AND|OR|XOR)Lmodify [off1+off2] {sym} base val mem)

// Fold constants into stores.
(MOVQstore [off] {sym} ptr (MOVQconst [c]) mem) && validVal(c) =>
 (MOVQstoreconst [makeValAndOff(int32(c),off)] {sym} ptr mem)
(MOVLstore [off] {sym} ptr (MOV(L|Q)const [c])
 mem) =>
 (MOVLstoreconst [makeValAndOff(int32(c),off)] {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOV(L|Q)const [c]) mem) =>
 (MOVWstoreconst [makeValAndOff(int32(int16(c)),off)] {sym} ptr mem)
(MOVBstore [off] {sym} ptr (MOV(L|Q)const [c]) mem) =>
 (MOVBstoreconst [makeValAndOff(int32(int8(c)),off)] {sym} ptr mem)

// Fold address offsets into constant stores.
(MOV(Q|L|W|B|O)storeconst [sc] {s} (ADDQconst [off] ptr) mem) && ValAndOff(sc).canAdd32(off) =>
 (MOV(Q|L|W|B|O)storeconst [ValAndOff(sc).addOffset32(off)] {s} ptr mem)

// We need to fold LEAQ into the MOVx ops so that the live variable analysis knows
// what variables are being read/written by the ops.
(MOV(Q|L|W|B|SS|SD|O|BQSX|WQSX|LQSX)load [off1] {sym1} (LEAQ [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 (MOV(Q|L|W|B|SS|SD|O|BQSX|WQSX|LQSX)load [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOV(Q|L|W|B|SS|SD|O)store [off1] {sym1} (LEAQ [off2] {sym2} base) val mem)
 && is32Bit(int64(off1)+int64(off2))
 && canMergeSym(sym1, sym2) =>
 (MOV(Q|L|W|B|SS|SD|O)store [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOV(Q|L|W|B|O)storeconst [sc] {sym1} (LEAQ [off] {sym2} ptr) mem) && canMergeSym(sym1, sym2) &&
ValAndOff(sc).canAdd32(off) =>
 (MOV(Q|L|W|B|O)storeconst [ValAndOff(sc).addOffset32(off)] {mergeSym(sym1, sym2)} ptr mem)
(SET(L|G|B|A|LE|GE|BE|AE|EQ|NE)store [off1] {sym1} (LEAQ [off2] {sym2} base) val mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 (SET(L|G|B|A|LE|GE|BE|AE|EQ|NE)store [off1+off2] {mergeSym(sym1,sym2)} base val mem)
((ADD|SUB|AND|OR|XOR)Qload [off1] {sym1} val (LEAQ [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 ((ADD|SUB|AND|OR|XOR)Qload [off1+off2] {mergeSym(sym1,sym2)} val base mem)
((ADD|SUB|AND|OR|XOR)Lload [off1] {sym1} val (LEAQ [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 ((ADD|SUB|AND|OR|XOR)Lload [off1+off2] {mergeSym(sym1,sym2)}
 val base mem)
(CMP(Q|L|W|B)load [off1] {sym1} (LEAQ [off2] {sym2} base) val mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 (CMP(Q|L|W|B)load [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(CMP(Q|L|W|B)constload [valoff1] {sym1} (LEAQ [off2] {sym2} base) mem)
 && ValAndOff(valoff1).canAdd32(off2) && canMergeSym(sym1, sym2) =>
```

```
(CMP(Q|L|W|B)constload [ValAndOff(valoff1).addOffset32(off2)] {mergeSym(sym1,sym2)} base mem)

((ADD|SUB|MUL|DIV)SSload [off1] {sym1} val (LEAQ [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 ((ADD|SUB|MUL|DIV)SSload [off1+off2] {mergeSym(sym1,sym2)} val base mem)
((ADD|SUB|MUL|DIV)SDload [off1] {sym1} val (LEAQ [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 ((ADD|SUB|MUL|DIV)SDload [off1+off2] {mergeSym(sym1,sym2)} val base mem)
((ADD|AND|OR|XOR)Qconstmodify [valoff1] {sym1} (LEAQ [off2] {sym2} base) mem)
 && ValAndOff(valoff1).canAdd32(off2)
 && canMergeSym(sym1, sym2) =>
 ((ADD|AND|OR|XOR)Qconstmodify [ValAndOff(valoff1).addOffset32(off2)] {mergeSym(sym1,sym2)} base
mem)
((ADD|AND|OR|XOR)Lconstmodify [valoff1] {sym1} (LEAQ [off2] {sym2} base) mem)
 && ValAndOff(valoff1).canAdd32(off2) && canMergeSym(sym1, sym2) =>
 ((ADD|AND|OR|XOR)Lconstmodify [ValAndOff(valoff1).addOffset32(off2)] {mergeSym(sym1,sym2)} base
mem)
((ADD|SUB|AND|OR|XOR)Qmodify [off1] {sym1} (LEAQ [off2] {sym2} base) val mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 ((ADD|SUB|AND|OR|XOR)Qmodify [off1+off2] {mergeSym(sym1,sym2)} base val mem)
((ADD|SUB|AND|OR|XOR)Lmodify [off1] {sym1} (LEAQ [off2] {sym2} base) val mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 ((ADD|SUB|AND|OR|XOR)Lmodify [off1+off2] {mergeSym(sym1,sym2)} base val mem)

// fold LEAQs together
(LEAQ [off1] {sym1} (LEAQ [off2] {sym2} x)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
    (LEAQ [off1+off2] {mergeSym(sym1,sym2)}
 x)

// LEAQ into LEAQ1
(LEAQ1 [off1] {sym1} (LEAQ [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) && x.Op != OpSB =>
     (LEAQ1 [off1+off2] {mergeSym(sym1,sym2)} x y)

// LEAQ1 into LEAQ
(LEAQ [off1] {sym1} (LEAQ1 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
     (LEAQ1 [off1+off2] {mergeSym(sym1,sym2)} x y)

// LEAQ into LEAQ[248]
(LEAQ2 [off1] {sym1} (LEAQ [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) && x.Op != OpSB =>
     (LEAQ2 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAQ4 [off1] {sym1} (LEAQ [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) && x.Op != OpSB =>
     (LEAQ4 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAQ8 [off1] {sym1} (LEAQ [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
```

```
sym2) && x.Op != OpSB =>
    (LEAQ8 [off1+off2] {mergeSym(sym1,sym2)} x y)

// LEAQ[248] into LEAQ
(LEAQ
 [off1] {sym1} (LEAQ2 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2)
=>
    (LEAQ2 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAQ [off1] {sym1} (LEAQ4 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
    (LEAQ4 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAQ [off1] {sym1} (LEAQ8 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
    (LEAQ8 [off1+off2] {mergeSym(sym1,sym2)} x y)

// LEAQ[1248] into LEAQ[1248]. Only some such merges are possible.
(LEAQ1 [off1] {sym1} x (LEAQ1 [off2] {sym2} y y)) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
    (LEAQ2 [off1+off2] {mergeSym(sym1, sym2)} x y)
(LEAQ1 [off1] {sym1} x (LEAQ1 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
    (LEAQ2 [off1+off2] {mergeSym(sym1, sym2)} y x)
(LEAQ2 [off1] {sym1} x (LEAQ1 [off2] {sym2} y y)) && is32Bit(int64(off1)+2*int64(off2)) && sym2 == nil
 =>
    (LEAQ4 [off1+2*off2] {sym1} x y)
(LEAQ4 [off1] {sym1} x (LEAQ1 [off2] {sym2} y y)) && is32Bit(int64(off1)+4*int64(off2)) && sym2 == nil =>
    (LEAQ8 [off1+4*off2] {sym1} x y)
// TODO: more?

// Lower LEAQ2/4/8 when the offset is a constant
(LEAQ2 [off] {sym} x (MOV(Q|L)const [scale])) && is32Bit(int64(off)+int64(scale)*2) =>
 (LEAQ [off+int32(scale)*2] {sym} x)
(LEAQ4 [off] {sym} x (MOV(Q|L)const [scale])) && is32Bit(int64(off)+int64(scale)*4) =>
 (LEAQ [off+int32(scale)*4] {sym} x)
(LEAQ8 [off] {sym} x (MOV(Q|L)const [scale])) && is32Bit(int64(off)+int64(scale)*8) =>
 (LEAQ [off+int32(scale)*8] {sym} x)

// Absorb InvertFlags into branches.
(LT (InvertFlags cmp) yes no) => (GT cmp yes no)
(GT (InvertFlags cmp) yes no) => (LT cmp yes no)
(LE (InvertFlags cmp) yes no) => (GE cmp yes no)
(GE (InvertFlags cmp) yes no) => (LE cmp yes no)
(ULT (InvertFlags cmp) yes no) => (UGT cmp yes no)
(UGT (InvertFlags cmp) yes no) => (ULT cmp yes no)
(ULE (InvertFlags cmp) yes no) => (UGE
 cmp yes no)
(UGE (InvertFlags cmp) yes no) => (ULE cmp yes no)
(EQ (InvertFlags cmp) yes no) => (EQ cmp yes no)
```

```
(NE (InvertFlags cmp) yes no) => (NE cmp yes no)

// Constant comparisons.
(CMPQconst (MOVQconst [x]) [y]) && x==int64(y) => (FlagEQ)
(CMPQconst (MOVQconst [x]) [y]) && x<int64(y) && uint64(x)<uint64(int64(y)) => (FlagLT_ULT)
(CMPQconst (MOVQconst [x]) [y]) && x<int64(y) && uint64(x)>uint64(int64(y)) => (FlagLT_UGT)
(CMPQconst (MOVQconst [x]) [y]) && x>int64(y) && uint64(x)<uint64(int64(y)) => (FlagGT_ULT)
(CMPQconst (MOVQconst [x]) [y]) && x>int64(y) && uint64(x)>uint64(int64(y)) => (FlagGT_UGT)
(CMPLconst (MOVLconst [x]) [y]) && x==y => (FlagEQ)
(CMPLconst (MOVLconst [x]) [y]) && x<y && uint32(x)<uint32(y) => (FlagLT_ULT)
(CMPLconst (MOVLconst [x]) [y]) && x<y && uint32(x)>uint32(y) => (FlagLT_UGT)
(CMPLconst (MOVLconst [x]) [y]) && x>y && uint32(x)<uint32(y) => (FlagGT_ULT)
(CMPLconst (MOVLconst [x]) [y]) && x>y && uint32(x)>uint32(y) => (FlagGT_UGT)
(CMPWconst (MOVLconst
 [x]) [y]) && int16(x)==y => (FlagEQ)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)<y && uint16(x)<uint16(y) => (FlagLT_ULT)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)<y && uint16(x)>uint16(y) => (FlagLT_UGT)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)>y && uint16(x)<uint16(y) => (FlagGT_ULT)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)>y && uint16(x)>uint16(y) => (FlagGT_UGT)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)==y => (FlagEQ)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)<y && uint8(x)<uint8(y) => (FlagLT_ULT)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)<y && uint8(x)>uint8(y) => (FlagLT_UGT)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)>y && uint8(x)<uint8(y) => (FlagGT_ULT)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)>y && uint8(x)>uint8(y) => (FlagGT_UGT)

// CMPQconst requires a 32 bit const, but we can still constant-fold 64 bit consts.
// In theory this applies to any of the simplifications above,
// but CMPQ is the only one I've actually seen occur.
(CMPQ (MOVQconst [x]) (MOVQconst [y]))
 && x==y => (FlagEQ)
(CMPQ (MOVQconst [x]) (MOVQconst [y])) && x<y && uint64(x)<uint64(y) => (FlagLT_ULT)
(CMPQ (MOVQconst [x]) (MOVQconst [y])) && x<y && uint64(x)>uint64(y) => (FlagLT_UGT)
(CMPQ (MOVQconst [x]) (MOVQconst [y])) && x>y && uint64(x)<uint64(y) => (FlagGT_ULT)
(CMPQ (MOVQconst [x]) (MOVQconst [y])) && x>y && uint64(x)>uint64(y) => (FlagGT_UGT)

// Other known comparisons.
(CMPQconst (MOVBQZX _) [c]) && 0xFF < c => (FlagLT_ULT)
(CMPQconst (MOVWQZX _) [c]) && 0xFFFF < c => (FlagLT_ULT)
(CMPLconst (SHRLconst _ [c]) [n]) && 0 <= n && 0 < c && c <= 32 && (1<<uint64(32-c)) <= uint64(n) =>
(FlagLT_ULT)
(CMPQconst (SHRQconst _ [c]) [n]) && 0 <= n && 0 < c && c <= 64 && (1<<uint64(64-c)) <= uint64(n) =>
(FlagLT_ULT)
(CMPQconst (ANDQconst _ [m]) [n]) && 0 <= m && m < n => (FlagLT_ULT)
(CMPQconst (ANDLconst _ [m]) [n]) && 0 <= m && m < n => (FlagLT_ULT)
(CMPLconst (ANDLconst _ [m]) [n]) && 0 <= m && m < n => (FlagLT_ULT)
(CMPWconst (ANDLconst _ [m]) [n]) && 0 <= int16(m) && int16(m)
 < n => (FlagLT_ULT)
(CMPBconst (ANDLconst _ [m]) [n]) && 0 <= int8(m)  && int8(m)  < n => (FlagLT_ULT)
```

```
// TESTQ c c sets flags like CMPQ c 0.
(TESTQconst [c] (MOVQconst [d])) && int64(c) == d && c == 0 => (FlagEQ)
(TESTLconst [c] (MOVLconst [c])) && c == 0 => (FlagEQ)
(TESTQconst [c] (MOVQconst [d])) && int64(c) == d && c < 0  => (FlagLT_UGT)
(TESTLconst [c] (MOVLconst [c])) && c < 0  => (FlagLT_UGT)
(TESTQconst [c] (MOVQconst [d])) && int64(c) == d && c > 0  => (FlagGT_UGT)
(TESTLconst [c] (MOVLconst [c])) && c > 0  => (FlagGT_UGT)

// TODO: DIVxU also.

// Absorb flag constants into SBB ops.
(SBBQcarrymask (FlagEQ))     => (MOVQconst [0])
(SBBQcarrymask (FlagLT_ULT)) => (MOVQconst [-1])
(SBBQcarrymask (FlagLT_UGT)) => (MOVQconst [0])
(SBBQcarrymask (FlagGT_ULT)) => (MOVQconst [-1])
(SBBQcarrymask (FlagGT_UGT)) => (MOVQconst [0])
(SBBLcarrymask (FlagEQ))     => (MOVLconst [0])
(SBBLcarrymask (FlagLT_ULT)) => (MOVLconst [-1])
(SBBLcarrymask (FlagLT_UGT)) => (MOVLconst [0])
(SBBLcarrymask
 (FlagGT_ULT)) => (MOVLconst [-1])
(SBBLcarrymask (FlagGT_UGT)) => (MOVLconst [0])

// Absorb flag constants into branches.
((EQ|LE|GE|ULE|UGE) (FlagEQ) yes no)     => (First yes no)
((NE|LT|GT|ULT|UGT) (FlagEQ) yes no)     => (First no yes)
((NE|LT|LE|ULT|ULE) (FlagLT_ULT) yes no) => (First yes no)
((EQ|GT|GE|UGT|UGE) (FlagLT_ULT) yes no) => (First no yes)
((NE|LT|LE|UGT|UGE) (FlagLT_UGT) yes no) => (First yes no)
((EQ|GT|GE|ULT|ULE) (FlagLT_UGT) yes no) => (First no yes)
((NE|GT|GE|ULT|ULE) (FlagGT_ULT) yes no) => (First yes no)
((EQ|LT|LE|UGT|UGE) (FlagGT_ULT) yes no) => (First no yes)
((NE|GT|GE|UGT|UGE) (FlagGT_UGT) yes no) => (First yes no)
((EQ|LT|LE|ULT|ULE) (FlagGT_UGT) yes no) => (First no yes)

// Absorb flag constants into SETxx ops.
((SETEQ|SETLE|SETGE|SETBE|SETAE) (FlagEQ))     => (MOVLconst [1])
((SETNE|SETL|SETG|SETB|SETA)     (FlagEQ))     => (MOVLconst [0])
((SETNE|SETL|SETLE|SETB|SETBE)   (FlagLT_ULT)) => (MOVLconst [1])
((SETEQ|SETG|SETGE|SETA|SETAE)   (FlagLT_ULT))
 => (MOVLconst [0])
((SETNE|SETL|SETLE|SETA|SETAE)   (FlagLT_UGT)) => (MOVLconst [1])
((SETEQ|SETG|SETGE|SETB|SETBE)   (FlagLT_UGT)) => (MOVLconst [0])
((SETNE|SETG|SETGE|SETB|SETBE)   (FlagGT_ULT)) => (MOVLconst [1])
((SETEQ|SETL|SETLE|SETA|SETAE)   (FlagGT_ULT)) => (MOVLconst [0])
((SETNE|SETG|SETGE|SETA|SETAE)   (FlagGT_UGT)) => (MOVLconst [1])
((SETEQ|SETL|SETLE|SETB|SETBE)   (FlagGT_UGT)) => (MOVLconst [0])
```

(SETEQstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETEQstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETEQstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETEQstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETEQstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)

(SETNEstore [off] {sym} ptr
(FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETNEstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETNEstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETNEstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETNEstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)

(SETLstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETLstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETLstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETLstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETLstore [off] {sym} ptr (FlagGT_UGT) mem)
=> (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)

(SETLEstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETLEstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETLEstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETLEstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETLEstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)

(SETGstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETGstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0])

mem)
(SETGstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETGstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETGstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)

(SETGEstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETGEstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETGEstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETGEstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETGEstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)

(SETBstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETBstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETBstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETBstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETBstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)

(SETBEstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETBEstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETBEstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETBEstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETBEstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)

(SETAstore [off] {sym} ptr (FlagEQ) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETAstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0]) mem)
(SETAstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1]) mem)
(SETAstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0])

```
mem)
(SETAstore  [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1])
mem)

(SETAEstore [off] {sym} ptr (FlagEQ)     mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1])
mem)
(SETAEstore [off] {sym} ptr (FlagLT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0])
mem)
(SETAEstore [off] {sym} ptr (FlagLT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1])
mem)
(SETAEstore [off] {sym} ptr (FlagGT_ULT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [0])
mem)
(SETAEstore [off] {sym} ptr (FlagGT_UGT) mem) => (MOVBstore [off] {sym} ptr (MOVLconst <typ.UInt8> [1])
mem)

// Remove redundant *const ops
(ADDQconst [0] x)          => x
(ADDLconst [c] x) && c==0  => x
(SUBQconst [0] x)
       => x
(SUBLconst [c] x) && c==0  => x
(ANDQconst [0] _)          => (MOVQconst [0])
(ANDLconst [c] _) && c==0  => (MOVLconst [0])
(ANDQconst [-1] x)         => x
(ANDLconst [c] x) && c==-1 => x
(ORQconst [0] x)           => x
(ORLconst [c] x)  && c==0  => x
(ORQconst [-1] _)          => (MOVQconst [-1])
(ORLconst [c] _)  && c==-1 => (MOVLconst [-1])
(XORQconst [0] x)          => x
(XORLconst [c] x) && c==0  => x
// TODO: since we got rid of the W/B versions, we might miss
// things like (ANDLconst [0x100] x) which were formerly
// (ANDBconst [0] x).  Probably doesn't happen very often.
// If we cared, we might do:
//  (ANDLconst <t> [c] x) && t.Size()==1 && int8(x)==0 -> (MOVLconst [0])

// Remove redundant ops
// Not in generic rules, because they may appear after lowering e. g. Slicemask
(NEG(Q|L) (NEG(Q|L) x)) => x
(NEG(Q|L) s:(SUB(Q|L) x y)) && s.Uses == 1 => (SUB(Q|L) y x)

// Convert constant subtracts to constant adds
(SUBQconst [c] x) && c != -(1<<31) => (ADDQconst [-c]
 x)
(SUBLconst [c] x) => (ADDLconst [-c] x)

// generic constant folding
```

```
// TODO: more of this
(ADDQconst [c] (MOVQconst [d])) => (MOVQconst [int64(c)+d])
(ADDLconst [c] (MOVLconst [d])) => (MOVLconst [c+d])
(ADDQconst [c] (ADDQconst [d] x)) && is32Bit(int64(c)+int64(d)) => (ADDQconst [c+d] x)
(ADDLconst [c] (ADDLconst [d] x)) => (ADDLconst [c+d] x)
(SUBQconst (MOVQconst [d]) [c]) => (MOVQconst [d-int64(c)])
(SUBQconst (SUBQconst x [d]) [c]) && is32Bit(int64(-c)-int64(d)) => (ADDQconst [-c-d] x)
(SARQconst [c] (MOVQconst [d])) => (MOVQconst [d>>uint64(c)])
(SARLconst [c] (MOVQconst [d])) => (MOVQconst [int64(int32(d))>>uint64(c)])
(SARWconst [c] (MOVQconst [d])) => (MOVQconst [int64(int16(d))>>uint64(c)])
(SARBconst [c] (MOVQconst [d])) => (MOVQconst [int64(int8(d))>>uint64(c)])
(NEGQ (MOVQconst [c])) => (MOVQconst [-c])
(NEGL (MOVLconst [c])) => (MOVLconst [-c])
(MULQconst [c] (MOVQconst [d])) => (MOVQconst [int64(c)*d])
(MULLconst [c] (MOVLconst [d])) => (MOVLconst [c*d])
(ANDQconst [c]
 (MOVQconst [d])) => (MOVQconst [int64(c)&d])
(ANDLconst [c] (MOVLconst [d])) => (MOVLconst [c&d])
(ORQconst [c] (MOVQconst [d])) => (MOVQconst [int64(c)|d])
(ORLconst [c] (MOVLconst [d])) => (MOVLconst [c|d])
(XORQconst [c] (MOVQconst [d])) => (MOVQconst [int64(c)^d])
(XORLconst [c] (MOVLconst [d])) => (MOVLconst [c^d])
(NOTQ (MOVQconst [c])) => (MOVQconst [^c])
(NOTL (MOVLconst [c])) => (MOVLconst [^c])
(BTSQconst [c] (MOVQconst [d])) => (MOVQconst [d|(1<<uint32(c))])
(BTSLconst [c] (MOVLconst [d])) => (MOVLconst [d|(1<<uint32(c))])
(BTRQconst [c] (MOVQconst [d])) => (MOVQconst [d&^(1<<uint32(c))])
(BTRLconst [c] (MOVLconst [d])) => (MOVLconst [d&^(1<<uint32(c))])
(BTCQconst [c] (MOVQconst [d])) => (MOVQconst [d^(1<<uint32(c))])
(BTCLconst [c] (MOVLconst [d])) => (MOVLconst [d^(1<<uint32(c))])

// If c or d doesn't fit into 32 bits, then we can't construct ORQconst,
// but we can still constant-fold.
// In theory this applies to any of the simplifications above,
// but ORQ is the only
 one I've actually seen occur.
(ORQ (MOVQconst [c]) (MOVQconst [d])) => (MOVQconst [c|d])

// generic simplifications
// TODO: more of this
(ADDQ x (NEGQ y)) => (SUBQ x y)
(ADDL x (NEGL y)) => (SUBL x y)
(SUBQ x x) => (MOVQconst [0])
(SUBL x x) => (MOVLconst [0])
(ANDQ x x) => x
(ANDL x x) => x
(ORQ x x)  => x
(ORL x x)  => x
```

```
(XORQ x x) => (MOVQconst [0])
(XORL x x) => (MOVLconst [0])

(SHLLconst [d] (MOVLconst [c])) => (MOVLconst [c << uint64(d)])
(SHLQconst [d] (MOVQconst [c])) => (MOVQconst [c << uint64(d)])
(SHLQconst [d] (MOVLconst [c])) => (MOVQconst [int64(c) << uint64(d)])

// Fold NEG into ADDconst/MULconst. Take care to keep c in 32 bit range.
(NEGQ (ADDQconst [c] (NEGQ x))) && c != -(1<<31) => (ADDQconst [-c] x)
(MULQconst [c] (NEGQ x)) && c != -(1<<31) => (MULQconst [-c] x)

// checking AND against 0.
(CMPQconst a:(ANDQ x y) [0]) && a.Uses == 1 => (TESTQ x y)
(CMPLconst a:(ANDL x y) [0]) && a.Uses == 1 => (TESTL x y)
(CMPWconst a:(ANDL x y) [0]) && a.Uses == 1 => (TESTW
 x y)
(CMPBconst a:(ANDL x y) [0]) && a.Uses == 1 => (TESTB x y)
(CMPQconst a:(ANDQconst [c] x) [0]) && a.Uses == 1 => (TESTQconst [c] x)
(CMPLconst a:(ANDLconst [c] x) [0]) && a.Uses == 1 => (TESTLconst [c] x)
(CMPWconst a:(ANDLconst [c] x) [0]) && a.Uses == 1 => (TESTWconst [int16(c)] x)
(CMPBconst a:(ANDLconst [c] x) [0]) && a.Uses == 1 => (TESTBconst [int8(c)] x)

// Convert TESTx to TESTxconst if possible.
(TESTQ (MOVQconst [c]) x) && is32Bit(c) => (TESTQconst [int32(c)] x)
(TESTL (MOVLconst [c]) x) => (TESTLconst [c] x)
(TESTW (MOVLconst [c]) x) => (TESTWconst [int16(c)] x)
(TESTB (MOVLconst [c]) x) => (TESTBconst [int8(c)] x)

// TEST %reg,%reg is shorter than CMP
(CMPQconst x [0]) => (TESTQ x x)
(CMPLconst x [0]) => (TESTL x x)
(CMPWconst x [0]) => (TESTW x x)
(CMPBconst x [0]) => (TESTB x x)
(TESTQconst [-1] x) && x.Op != OpAMD64MOVQconst => (TESTQ x x)
(TESTLconst [-1] x) && x.Op != OpAMD64MOVLconst => (TESTL x x)
(TESTWconst [-1] x) && x.Op != OpAMD64MOVLconst => (TESTW x x)
(TESTBconst
 [-1] x) && x.Op != OpAMD64MOVLconst => (TESTB x x)

// Convert LEAQ1 back to ADDQ if we can
(LEAQ1 [0] x y) && v.Aux == nil => (ADDQ x y)

// Combining byte loads into larger (unaligned) loads.
// There are many ways these combinations could occur.  This is
// designed to match the way encoding/binary.LittleEndian does it.

// Little-endian loads
```

```
(OR(L|Q)                x0:(MOVBload [i0] {s} p mem)
  sh:(SHL(L|Q)const [8] x1:(MOVBload [i1] {s} p mem)))
 && i1 == i0+1
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVWload [i0] {s} p mem)

(OR(L|Q)                x0:(MOVBload [i] {s} p0 mem)
  sh:(SHL(L|Q)const [8] x1:(MOVBload [i] {s} p1 mem)))
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVWload [i] {s} p0 mem)

(OR(L|Q)                x0:(MOVWload
 [i0] {s} p mem)
  sh:(SHL(L|Q)const [16] x1:(MOVWload [i1] {s} p mem)))
 && i1 == i0+2
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVLload [i0] {s} p mem)

(OR(L|Q)                x0:(MOVWload [i] {s} p0 mem)
  sh:(SHL(L|Q)const [16] x1:(MOVWload [i] {s} p1 mem)))
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVLload [i] {s} p0 mem)

(ORQ                x0:(MOVLload [i0] {s} p mem)
  sh:(SHLQconst [32] x1:(MOVLload [i1] {s} p mem)))
 && i1 == i0+4
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
```

```
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVQload [i0] {s} p mem)

(ORQ                x0:(MOVLload [i] {s} p0 mem)
  sh:(SHLQconst [32] x1:(MOVLload [i] {s} p1 mem)))
 && x0.Uses == 1
 && x1.Uses ==
 1
 && sh.Uses == 1
 && sequentialAddresses(p0, p1, 4)
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVQload [i] {s} p0 mem)

(OR(L|Q)
  s1:(SHL(L|Q)const [j1] x1:(MOVBload [i1] {s} p mem))
  or:(OR(L|Q)
     s0:(SHL(L|Q)const [j0] x0:(MOVBload [i0] {s} p mem))
 y))
 && i1 == i0+1
 && j1 == j0+8
 && j0 % 16 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (OR(L|Q) <v.Type> (SHL(L|Q)const <v.Type> [j0] (MOVWload [i0] {s} p mem)) y)

(OR(L|Q)
  s1:(SHL(L|Q)const [j1] x1:(MOVBload [i] {s} p1 mem))
  or:(OR(L|Q)
     s0:(SHL(L|Q)const [j0] x0:(MOVBload [i] {s} p0 mem))
 y))
 && j1 == j0+8
 && j0 % 16 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
  => @mergePoint(b,x0,x1,y) (OR(L|Q) <v.Type> (SHL(L|Q)const <v.Type> [j0] (MOVWload [i] {s} p0 mem)) y)
```

```
(ORQ
  s1:(SHLQconst [j1] x1:(MOVWload [i1] {s} p mem))
  or:(ORQ
     s0:(SHLQconst [j0] x0:(MOVWload [i0] {s} p mem))
 y))
 && i1 == i0+2
 && j1 == j0+16
 && j0 % 32 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (ORQ <v.Type> (SHLQconst <v.Type> [j0] (MOVLload [i0] {s} p mem)) y)

(ORQ
  s1:(SHLQconst [j1] x1:(MOVWload [i] {s} p1 mem))
  or:(ORQ
     s0:(SHLQconst [j0] x0:(MOVWload [i] {s} p0 mem))
 y))
 && j1 == j0+16
 && j0 % 32 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (ORQ <v.Type> (SHLQconst <v.Type> [j0] (MOVLload [i] {s} p0 mem))
 y)

// Big-endian loads

(OR(L|Q)
                x1:(MOVBload [i1] {s} p mem)
  sh:(SHL(L|Q)const [8]  x0:(MOVBload [i0] {s} p mem)))
 && i1 == i0+1
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (ROLWconst <v.Type> [8] (MOVWload [i0] {s} p mem))
```

```
(OR(L|Q)
                    x1:(MOVBload [i] {s} p1 mem)
  sh:(SHL(L|Q)const [8]  x0:(MOVBload [i] {s} p0 mem)))
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (ROLWconst <v.Type> [8] (MOVWload [i] {s} p0 mem))

(OR(L|Q)
                    r1:(ROLWconst [8] x1:(MOVWload [i1] {s} p mem))
  sh:(SHL(L|Q)const [16]  r0:(ROLWconst [8] x0:(MOVWload [i0] {s} p mem))))
 && i1 == i0+2
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
  && clobber(x0, x1, r0, r1, sh)
 => @mergePoint(b,x0,x1) (BSWAPL <v.Type> (MOVLload [i0] {s} p mem))

(OR(L|Q)
                    r1:(ROLWconst [8] x1:(MOVWload [i] {s} p1 mem))
  sh:(SHL(L|Q)const [16]  r0:(ROLWconst [8] x0:(MOVWload [i] {s} p0 mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && sh.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, r0, r1, sh)
 => @mergePoint(b,x0,x1) (BSWAPL <v.Type> (MOVLload [i] {s} p0 mem))

(ORQ
                  r1:(BSWAPL x1:(MOVLload [i1] {s} p mem))
  sh:(SHLQconst [32]  r0:(BSWAPL x0:(MOVLload [i0] {s} p mem))))
 && i1 == i0+4
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, r0, r1, sh)
```

```
 => @mergePoint(b,x0,x1) (BSWAPQ <v.Type> (MOVQload [i0] {s} p mem))

(ORQ
                r1:(BSWAPL x1:(MOVLload [i] {s} p1 mem))
  sh:(SHLQconst [32]
 r0:(BSWAPL x0:(MOVLload [i] {s} p0 mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && sh.Uses == 1
 && sequentialAddresses(p0, p1, 4)
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, r0, r1, sh)
 => @mergePoint(b,x0,x1) (BSWAPQ <v.Type> (MOVQload [i] {s} p0 mem))

(OR(L|Q)
  s0:(SHL(L|Q)const [j0] x0:(MOVBload [i0] {s} p mem))
  or:(OR(L|Q)
    s1:(SHL(L|Q)const [j1] x1:(MOVBload [i1] {s} p mem))
 y))
 && i1 == i0+1
 && j1 == j0-8
 && j1 % 16 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (OR(L|Q) <v.Type> (SHL(L|Q)const <v.Type> [j1] (ROLWconst <typ.UInt16> [8]
(MOVWload [i0] {s} p mem))) y)

(OR(L|Q)
  s0:(SHL(L|Q)const [j0] x0:(MOVBload [i] {s} p0 mem))
  or:(OR(L|Q)
    s1:(SHL(L|Q)const [j1] x1:(MOVBload [i] {s} p1 mem))
 y))
 && j1 == j0-8
 && j1 % 16 == 0
 && x0.Uses == 1
  && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && mergePoint(b,x0,x1,y) != nil
```

```
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (OR(L|Q) <v.Type> (SHL(L|Q)const <v.Type> [j1] (ROLWconst <typ.UInt16> [8]
(MOVWload [i] {s} p0 mem))) y)

(ORQ
  s0:(SHLQconst [j0] r0:(ROLWconst [8] x0:(MOVWload [i0] {s} p mem)))
  or:(ORQ
     s1:(SHLQconst [j1] r1:(ROLWconst [8] x1:(MOVWload [i1] {s} p mem)))
 y))
 && i1 == i0+2
 && j1 == j0-16
 && j1 % 32 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, r0, r1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (ORQ <v.Type> (SHLQconst <v.Type> [j1] (BSWAPL <typ.UInt32> (MOVLload
[i0] {s} p mem))) y)

(ORQ
  s0:(SHLQconst [j0] r0:(ROLWconst [8] x0:(MOVWload [i] {s} p0 mem)))
  or:(ORQ
     s1:(SHLQconst [j1] r1:(ROLWconst [8] x1:(MOVWload [i]
 {s} p1 mem)))
 y))
 && j1 == j0-16
 && j1 % 32 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, r0, r1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (ORQ <v.Type> (SHLQconst <v.Type> [j1] (BSWAPL <typ.UInt32> (MOVLload [i]
{s} p0 mem))) y)

// Combine 2 byte stores + shift into rolw 8 + word store
(MOVBstore [i] {s} p w
 x0:(MOVBstore [i-1] {s} p (SHRWconst [8] w) mem))
```

```
 && x0.Uses == 1
 && clobber(x0)
 => (MOVWstore [i-1] {s} p (ROLWconst <typ.UInt16> [8] w) mem)
(MOVBstore [i] {s} p1 w
 x0:(MOVBstore [i] {s} p0 (SHRWconst [8] w) mem))
 && x0.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && clobber(x0)
 => (MOVWstore [i] {s} p0 (ROLWconst <typ.UInt16> [8] w) mem)

// Combine stores + shifts into bswap and larger (unaligned) stores
(MOVBstore [i] {s} p w
 x2:(MOVBstore [i-1] {s} p (SHRLconst [8] w)
 x1:(MOVBstore
 [i-2] {s} p (SHRLconst [16] w)
 x0:(MOVBstore [i-3] {s} p (SHRLconst [24] w) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && clobber(x0, x1, x2)
 => (MOVLstore [i-3] {s} p (BSWAPL <typ.UInt32> w) mem)
(MOVBstore [i] {s} p3 w
 x2:(MOVBstore [i] {s} p2 (SHRLconst [8] w)
 x1:(MOVBstore [i] {s} p1 (SHRLconst [16] w)
 x0:(MOVBstore [i] {s} p0 (SHRLconst [24] w) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && sequentialAddresses(p1, p2, 1)
 && sequentialAddresses(p2, p3, 1)
 && clobber(x0, x1, x2)
 => (MOVLstore [i] {s} p0 (BSWAPL <typ.UInt32> w) mem)

(MOVBstore [i] {s} p w
 x6:(MOVBstore [i-1] {s} p (SHRQconst [8] w)
 x5:(MOVBstore [i-2] {s} p (SHRQconst [16] w)
 x4:(MOVBstore [i-3] {s} p (SHRQconst [24] w)
 x3:(MOVBstore [i-4] {s} p (SHRQconst [32] w)
 x2:(MOVBstore [i-5] {s} p (SHRQconst [40] w)
 x1:(MOVBstore [i-6] {s} p (SHRQconst [48] w)
 x0:(MOVBstore [i-7] {s} p (SHRQconst [56] w) mem))))))))
  && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && x3.Uses == 1
 && x4.Uses == 1
 && x5.Uses == 1
```

```
 && x6.Uses == 1
 && clobber(x0, x1, x2, x3, x4, x5, x6)
 => (MOVQstore [i-7] {s} p (BSWAPQ <typ.UInt64> w) mem)
(MOVBstore [i] {s} p7 w
 x6:(MOVBstore [i] {s} p6 (SHRQconst [8] w)
 x5:(MOVBstore [i] {s} p5 (SHRQconst [16] w)
 x4:(MOVBstore [i] {s} p4 (SHRQconst [24] w)
 x3:(MOVBstore [i] {s} p3 (SHRQconst [32] w)
 x2:(MOVBstore [i] {s} p2 (SHRQconst [40] w)
 x1:(MOVBstore [i] {s} p1 (SHRQconst [48] w)
 x0:(MOVBstore [i] {s} p0 (SHRQconst [56] w) mem))))))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && x3.Uses == 1
 && x4.Uses == 1
 && x5.Uses == 1
 && x6.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && sequentialAddresses(p1, p2, 1)
 && sequentialAddresses(p2, p3, 1)
 && sequentialAddresses(p3, p4, 1)
 && sequentialAddresses(p4, p5, 1)
 && sequentialAddresses(p5, p6, 1)
 && sequentialAddresses(p6, p7, 1)
 && clobber(x0, x1, x2, x3, x4, x5,
 x6)
 => (MOVQstore [i] {s} p0 (BSWAPQ <typ.UInt64> w) mem)

// Combine constant stores into larger (unaligned) stores.
(MOVBstoreconst [c] {s} p x:(MOVBstoreconst [a] {s} p mem))
 && x.Uses == 1
 && a.Off() + 1 == c.Off()
 && clobber(x)
 => (MOVWstoreconst [makeValAndOff(a.Val()&0xff | c.Val()<<8, a.Off())] {s} p mem)
(MOVBstoreconst [a] {s} p x:(MOVBstoreconst [c] {s} p mem))
 && x.Uses == 1
 && a.Off() + 1 == c.Off()
 && clobber(x)
 => (MOVWstoreconst [makeValAndOff(a.Val()&0xff | c.Val()<<8, a.Off())] {s} p mem)
(MOVWstoreconst [c] {s} p x:(MOVWstoreconst [a] {s} p mem))
 && x.Uses == 1
 && a.Off() + 2 == c.Off()
 && clobber(x)
 => (MOVLstoreconst [makeValAndOff(a.Val()&0xffff | c.Val()<<16, a.Off())] {s} p mem)
(MOVWstoreconst [a] {s} p x:(MOVWstoreconst [c] {s} p mem))
 && x.Uses == 1
 && a.Off() + 2 == c.Off()
```

```
 && clobber(x)
 => (MOVLstoreconst [makeValAndOff(a.Val()&0xffff | c.Val()<<16, a.Off())] {s} p mem)
(MOVLstoreconst [c] {s} p x:(MOVLstoreconst [a] {s}
 p mem))
 && x.Uses == 1
 && a.Off() + 4 == c.Off()
 && clobber(x)
 => (MOVQstore [a.Off()] {s} p (MOVQconst [a.Val64()&0xffffffff | c.Val64()<<32]) mem)
(MOVLstoreconst [a] {s} p x:(MOVLstoreconst [c] {s} p mem))
 && x.Uses == 1
 && a.Off() + 4 == c.Off()
 && clobber(x)
 => (MOVQstore [a.Off()] {s} p (MOVQconst [a.Val64()&0xffffffff | c.Val64()<<32]) mem)
(MOVQstoreconst [c] {s} p x:(MOVQstoreconst [a] {s} p mem))
 && config.useSSE
 && x.Uses == 1
 && a.Off() + 8 == c.Off()
 && a.Val() == 0
 && c.Val() == 0
 && clobber(x)
 => (MOVOstoreconst [makeValAndOff(0,a.Off())] {s} p mem)
(MOVQstoreconst [a] {s} p x:(MOVQstoreconst [c] {s} p mem))
 && config.useSSE
 && x.Uses == 1
 && a.Off() + 8 == c.Off()
 && a.Val() == 0
 && c.Val() == 0
 && clobber(x)
 => (MOVOstoreconst [makeValAndOff(0,a.Off())] {s} p mem)

// Combine stores into larger (unaligned) stores. Little endian.
(MOVBstore [i] {s} p (SHR(W|L|Q)const [8] w) x:(MOVBstore [i-1] {s} p w mem))
 && x.Uses == 1
 &&
 clobber(x)
 => (MOVWstore [i-1] {s} p w mem)
(MOVBstore [i] {s} p w x:(MOVBstore [i+1] {s} p (SHR(W|L|Q)const [8] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i] {s} p w mem)
(MOVBstore [i] {s} p (SHR(L|Q)const [j] w) x:(MOVBstore [i-1] {s} p w0:(SHR(L|Q)const [j-8] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i-1] {s} p w0 mem)
(MOVBstore [i] {s} p1 (SHR(W|L|Q)const [8] w) x:(MOVBstore [i] {s} p0 w mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
```

```
 => (MOVWstore [i] {s} p0 w mem)
(MOVBstore [i] {s} p0 w x:(MOVBstore [i] {s} p1 (SHR(W|L|Q)const [8] w) mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
 => (MOVWstore [i] {s} p0 w mem)
(MOVBstore [i] {s} p1 (SHR(L|Q)const [j] w) x:(MOVBstore [i] {s} p0 w0:(SHR(L|Q)const [j-8] w) mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
 => (MOVWstore [i] {s} p0 w0 mem)

(MOVWstore [i] {s} p (SHR(L|Q)const [16] w) x:(MOVWstore [i-2] {s} p w
 mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVLstore [i-2] {s} p w mem)
(MOVWstore [i] {s} p (SHR(L|Q)const [j] w) x:(MOVWstore [i-2] {s} p w0:(SHR(L|Q)const [j-16] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVLstore [i-2] {s} p w0 mem)
(MOVWstore [i] {s} p1 (SHR(L|Q)const [16] w) x:(MOVWstore [i] {s} p0 w mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && clobber(x)
 => (MOVLstore [i] {s} p0 w mem)
(MOVWstore [i] {s} p1 (SHR(L|Q)const [j] w) x:(MOVWstore [i] {s} p0 w0:(SHR(L|Q)const [j-16] w) mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && clobber(x)
 => (MOVLstore [i] {s} p0 w0 mem)

(MOVLstore [i] {s} p (SHRQconst [32] w) x:(MOVLstore [i-4] {s} p w mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVQstore [i-4] {s} p w mem)
(MOVLstore [i] {s} p (SHRQconst [j] w) x:(MOVLstore [i-4] {s} p w0:(SHRQconst [j-32] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVQstore [i-4] {s} p w0 mem)
(MOVLstore [i] {s} p1 (SHRQconst [32] w) x:(MOVLstore [i] {s} p0
 w mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 4)
 && clobber(x)
 => (MOVQstore [i] {s} p0 w mem)
(MOVLstore [i] {s} p1 (SHRQconst [j] w) x:(MOVLstore [i] {s} p0 w0:(SHRQconst [j-32] w) mem))
 && x.Uses == 1
```

```
 && sequentialAddresses(p0, p1, 4)
 && clobber(x)
 => (MOVQstore [i] {s} p0 w0 mem)

(MOVBstore [7] {s} p1 (SHRQconst [56] w)
 x1:(MOVWstore [5] {s} p1 (SHRQconst [40] w)
 x2:(MOVLstore [1] {s} p1 (SHRQconst [8] w)
 x3:(MOVBstore [0] {s} p1 w mem))))
 && x1.Uses == 1
 && x2.Uses == 1
 && x3.Uses == 1
 && clobber(x1, x2, x3)
 => (MOVQstore {s} p1 w mem)

(MOVBstore [i] {s} p
 x1:(MOVBload [j] {s2} p2 mem)
   mem2:(MOVBstore [i-1] {s} p
     x2:(MOVBload [j-1] {s2} p2 mem) mem))
 && x1.Uses == 1
 && x2.Uses == 1
 && mem2.Uses == 1
 && clobber(x1, x2, mem2)
 => (MOVWstore [i-1] {s} p (MOVWload [j-1] {s2} p2 mem) mem)

(MOVWstore [i] {s} p
 x1:(MOVWload [j] {s2} p2 mem)
   mem2:(MOVWstore [i-2] {s} p
     x2:(MOVWload [j-2] {s2} p2 mem) mem))
 &&
 x1.Uses == 1
 && x2.Uses == 1
 && mem2.Uses == 1
 && clobber(x1, x2, mem2)
 => (MOVLstore [i-2] {s} p (MOVLload [j-2] {s2} p2 mem) mem)

(MOVLstore [i] {s} p
 x1:(MOVLload [j] {s2} p2 mem)
   mem2:(MOVLstore [i-4] {s} p
     x2:(MOVLload [j-4] {s2} p2 mem) mem))
 && x1.Uses == 1
 && x2.Uses == 1
 && mem2.Uses == 1
 && clobber(x1, x2, mem2)
 => (MOVQstore [i-4] {s} p (MOVQload [j-4] {s2} p2 mem) mem)

// Merge load and op
// TODO: add indexed variants?
((ADD|SUB|AND|OR|XOR)Q x l:(MOVQload [off] {sym} ptr mem)) && canMergeLoadClobber(v, l, x) &&
```

```
clobber(l) => ((ADD|SUB|AND|OR|XOR)Qload x [off] {sym} ptr mem)
((ADD|SUB|AND|OR|XOR)L x l:(MOVLload [off] {sym} ptr mem)) && canMergeLoadClobber(v, l, x) &&
clobber(l) => ((ADD|SUB|AND|OR|XOR)Lload x [off] {sym} ptr mem)
((ADD|SUB|MUL|DIV)SD x l:(MOVSDload [off] {sym} ptr mem)) && canMergeLoadClobber(v, l, x) &&
clobber(l) => ((ADD|SUB|MUL|DIV)SDload x [off] {sym} ptr mem)
((ADD|SUB|MUL|DIV)SS x l:(MOVSSload [off] {sym} ptr mem)) &&
 canMergeLoadClobber(v, l, x) && clobber(l) => ((ADD|SUB|MUL|DIV)SSload x [off] {sym} ptr mem)
(MOVLstore {sym} [off] ptr y:((ADD|AND|OR|XOR)Lload x [off] {sym} ptr mem) mem) && y.Uses==1 &&
clobber(y) => ((ADD|AND|OR|XOR)Lmodify [off] {sym} ptr x mem)
(MOVLstore {sym} [off] ptr y:((ADD|SUB|AND|OR|XOR)L l:(MOVLload [off] {sym} ptr mem) x) mem) &&
y.Uses==1 && l.Uses==1 && clobber(y, l) =>
 ((ADD|SUB|AND|OR|XOR)Lmodify [off] {sym} ptr x mem)
(MOVQstore {sym} [off] ptr y:((ADD|AND|OR|XOR)Qload x [off] {sym} ptr mem) mem) && y.Uses==1 &&
clobber(y) => ((ADD|AND|OR|XOR)Qmodify [off] {sym} ptr x mem)
(MOVQstore {sym} [off] ptr y:((ADD|SUB|AND|OR|XOR)Q l:(MOVQload [off] {sym} ptr mem) x) mem) &&
y.Uses==1 && l.Uses==1 && clobber(y, l) =>
 ((ADD|SUB|AND|OR|XOR)Qmodify [off] {sym} ptr x mem)

// Merge ADDQconst and LEAQ into atomic loads.
(MOV(Q|L|B)atomicload [off1] {sym} (ADDQconst [off2] ptr) mem) && is32Bit(int64(off1)+int64(off2)) =>
 (MOV(Q|L|B)atomicload [off1+off2] {sym} ptr mem)
(MOV(Q|L|B)atomicload
 [off1] {sym1} (LEAQ [off2] {sym2} ptr) mem) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
 (MOV(Q|L|B)atomicload [off1+off2] {mergeSym(sym1, sym2)} ptr mem)

// Merge ADDQconst and LEAQ into atomic stores.
(XCHGQ [off1] {sym} val (ADDQconst [off2] ptr) mem) && is32Bit(int64(off1)+int64(off2)) =>
 (XCHGQ [off1+off2] {sym} val ptr mem)
(XCHGQ [off1] {sym1} val (LEAQ [off2] {sym2} ptr) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && ptr.Op != OpSB =>
 (XCHGQ [off1+off2] {mergeSym(sym1,sym2)} val ptr mem)
(XCHGL [off1] {sym} val (ADDQconst [off2] ptr) mem) && is32Bit(int64(off1)+int64(off2)) =>
 (XCHGL [off1+off2] {sym} val ptr mem)
(XCHGL [off1] {sym1} val (LEAQ [off2] {sym2} ptr) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && ptr.Op != OpSB =>
 (XCHGL [off1+off2] {mergeSym(sym1,sym2)} val ptr mem)

// Merge ADDQconst into atomic adds.
// TODO: merging LEAQ doesn't work, assembler doesn't like the resulting
 instructions.
(XADDQlock [off1] {sym} val (ADDQconst [off2] ptr) mem) && is32Bit(int64(off1)+int64(off2)) =>
 (XADDQlock [off1+off2] {sym} val ptr mem)
(XADDLlock [off1] {sym} val (ADDQconst [off2] ptr) mem) && is32Bit(int64(off1)+int64(off2)) =>
 (XADDLlock [off1+off2] {sym} val ptr mem)

// Merge ADDQconst into atomic compare and swaps.
// TODO: merging LEAQ doesn't work, assembler doesn't like the resulting instructions.
```

```
(CMPXCHGQlock [off1] {sym} (ADDQconst [off2] ptr) old new_ mem) && is32Bit(int64(off1)+int64(off2)) =>
 (CMPXCHGQlock [off1+off2] {sym} ptr old new_ mem)
(CMPXCHGLlock [off1] {sym} (ADDQconst [off2] ptr) old new_ mem) && is32Bit(int64(off1)+int64(off2)) =>
 (CMPXCHGLlock [off1+off2] {sym} ptr old new_ mem)

// We don't need the conditional move if we know the arg of BSF is not zero.
(CMOVQEQ x _ (Select1 (BS(F|R)Q (ORQconst [c] _)))) && c != 0 => x
// Extension is unnecessary for trailing zeros.
(BSFQ (ORQconst <t> [1<<8] (MOVBQZX x))) => (BSFQ (ORQconst <t> [1<<8]
 x))
(BSFQ (ORQconst <t> [1<<16] (MOVWQZX x))) => (BSFQ (ORQconst <t> [1<<16] x))

// Redundant sign/zero extensions
// Note: see issue 21963. We have to make sure we use the right type on
// the resulting extension (the outer type, not the inner type).
(MOVLQSX (MOVLQSX x)) => (MOVLQSX x)
(MOVLQSX (MOVWQSX x)) => (MOVWQSX x)
(MOVLQSX (MOVBQSX x)) => (MOVBQSX x)
(MOVWQSX (MOVWQSX x)) => (MOVWQSX x)
(MOVWQSX (MOVBQSX x)) => (MOVBQSX x)
(MOVBQSX (MOVBQSX x)) => (MOVBQSX x)
(MOVLQZX (MOVLQZX x)) => (MOVLQZX x)
(MOVLQZX (MOVWQZX x)) => (MOVWQZX x)
(MOVLQZX (MOVBQZX x)) => (MOVBQZX x)
(MOVWQZX (MOVWQZX x)) => (MOVWQZX x)
(MOVWQZX (MOVBQZX x)) => (MOVBQZX x)
(MOVBQZX (MOVBQZX x)) => (MOVBQZX x)

(MOVQstore [off] {sym} ptr a:((ADD|AND|OR|XOR)Qconst [c] l:(MOVQload [off] {sym} ptr2 mem)) mem)
 && isSamePtr(ptr, ptr2) && a.Uses == 1 && l.Uses == 1 && clobber(l, a) =>
 ((ADD|AND|OR|XOR)Qconstmodify {sym} [makeValAndOff(int32(c),off)] ptr mem)
(MOVLstore [off] {sym} ptr a:((ADD|AND|OR|XOR)Lconst
 [c] l:(MOVLload [off] {sym} ptr2 mem)) mem)
 && isSamePtr(ptr, ptr2) && a.Uses == 1 && l.Uses == 1 && clobber(l, a) =>
 ((ADD|AND|OR|XOR)Lconstmodify {sym} [makeValAndOff(int32(c),off)] ptr mem)

// float <-> int register moves, with no conversion.
// These come up when compiling math.{Float{32,64}bits,Float{32,64}frombits}.
(MOVQload  [off] {sym} ptr (MOVSDstore [off] {sym} ptr val _)) => (MOVQf2i val)
(MOVLload  [off] {sym} ptr (MOVSSstore [off] {sym} ptr val _)) => (MOVLf2i val)
(MOVSDload [off] {sym} ptr (MOVQstore  [off] {sym} ptr val _)) => (MOVQi2f val)
(MOVSSload [off] {sym} ptr (MOVLstore  [off] {sym} ptr val _)) => (MOVLi2f val)

// Other load-like ops.
(ADDQload x [off] {sym} ptr (MOVSDstore [off] {sym} ptr y _)) => (ADDQ x (MOVQf2i y))
(ADDLload x [off] {sym} ptr (MOVSSstore [off] {sym} ptr y _)) => (ADDL x (MOVLf2i y))
(SUBQload x [off] {sym} ptr (MOVSDstore [off] {sym} ptr y _)) => (SUBQ x (MOVQf2i y))
(SUBLload x [off] {sym} ptr (MOVSSstore [off] {sym} ptr y _)) => (SUBL
```

```
 x (MOVLf2i y))
(ANDQload x [off] {sym} ptr (MOVSDstore [off] {sym} ptr y _)) => (ANDQ x (MOVQf2i y))
(ANDLload x [off] {sym} ptr (MOVSSstore [off] {sym} ptr y _)) => (ANDL x (MOVLf2i y))
( ORQload x [off] {sym} ptr (MOVSDstore [off] {sym} ptr y _)) => ( ORQ x (MOVQf2i y))
( ORLload x [off] {sym} ptr (MOVSSstore [off] {sym} ptr y _)) => ( ORL x (MOVLf2i y))
(XORQload x [off] {sym} ptr (MOVSDstore [off] {sym} ptr y _)) => (XORQ x (MOVQf2i y))
(XORLload x [off] {sym} ptr (MOVSSstore [off] {sym} ptr y _)) => (XORL x (MOVLf2i y))

(ADDSDload x [off] {sym} ptr (MOVQstore [off] {sym} ptr y _)) => (ADDSD x (MOVQi2f y))
(ADDSSload x [off] {sym} ptr (MOVLstore [off] {sym} ptr y _)) => (ADDSS x (MOVLi2f y))
(SUBSDload x [off] {sym} ptr (MOVQstore [off] {sym} ptr y _)) => (SUBSD x (MOVQi2f y))
(SUBSSload x [off] {sym} ptr (MOVLstore [off] {sym} ptr y _)) => (SUBSS x (MOVLi2f y))
(MULSDload x [off] {sym} ptr (MOVQstore [off] {sym} ptr y _)) => (MULSD x (MOVQi2f y))
(MULSSload x [off] {sym} ptr (MOVLstore
 [off] {sym} ptr y _)) => (MULSS x (MOVLi2f y))

// Redirect stores to use the other register set.
(MOVQstore  [off] {sym} ptr (MOVQf2i val) mem) => (MOVSDstore [off] {sym} ptr val mem)
(MOVLstore  [off] {sym} ptr (MOVLf2i val) mem) => (MOVSSstore [off] {sym} ptr val mem)
(MOVSDstore [off] {sym} ptr (MOVQi2f val) mem) => (MOVQstore  [off] {sym} ptr val mem)
(MOVSSstore [off] {sym} ptr (MOVLi2f val) mem) => (MOVLstore  [off] {sym} ptr val mem)

// Load args directly into the register class where it will be used.
// We do this by just modifying the type of the Arg.
(MOVQf2i <t> (Arg <u> [off] {sym})) && t.Size() == u.Size() => @b.Func.Entry (Arg <t> [off] {sym})
(MOVLf2i <t> (Arg <u> [off] {sym})) && t.Size() == u.Size() => @b.Func.Entry (Arg <t> [off] {sym})
(MOVQi2f <t> (Arg <u> [off] {sym})) && t.Size() == u.Size() => @b.Func.Entry (Arg <t> [off] {sym})
(MOVLi2f <t> (Arg <u> [off] {sym})) && t.Size() == u.Size() => @b.Func.Entry (Arg <t> [off] {sym})

// LEAQ is rematerializeable,
 so this helps to avoid register spill.
// See issue 22947 for details
(ADD(Q|L)const [off] x:(SP)) => (LEA(Q|L) [off] x)

// HMULx is commutative, but its first argument must go in AX.
// If possible, put a rematerializeable value in the first argument slot,
// to reduce the odds that another value will be have to spilled
// specifically to free up AX.
(HMUL(Q|L)  x y) && !x.rematerializeable() && y.rematerializeable() => (HMUL(Q|L)  y x)
(HMUL(Q|L)U x y) && !x.rematerializeable() && y.rematerializeable() => (HMUL(Q|L)U y x)

// Fold loads into compares
// Note: these may be undone by the flagalloc pass.
(CMP(Q|L|W|B) l:(MOV(Q|L|W|B)load {sym} [off] ptr mem) x) && canMergeLoad(v, l) && clobber(l) =>
(CMP(Q|L|W|B)load {sym} [off] ptr x mem)
(CMP(Q|L|W|B) x l:(MOV(Q|L|W|B)load {sym} [off] ptr mem)) && canMergeLoad(v, l) && clobber(l) =>
(InvertFlags (CMP(Q|L|W|B)load {sym} [off] ptr x mem))
```

```
(CMP(Q|L)const l:(MOV(Q|L)load {sym} [off] ptr mem) [c])
 && l.Uses == 1
 && clobber(l) =>
@l.Block
 (CMP(Q|L)constload {sym} [makeValAndOff(c,off)] ptr mem)
(CMP(W|B)const l:(MOV(W|B)load {sym} [off] ptr mem) [c])
 && l.Uses == 1
 && clobber(l) =>
@l.Block (CMP(W|B)constload {sym} [makeValAndOff(int32(c),off)] ptr mem)

(CMPQload {sym} [off] ptr (MOVQconst [c]) mem) && validVal(c) => (CMPQconstload {sym}
[makeValAndOff(int32(c),off)] ptr mem)
(CMPLload {sym} [off] ptr (MOVLconst [c]) mem) => (CMPLconstload {sym} [makeValAndOff(c,off)] ptr mem)
(CMPWload {sym} [off] ptr (MOVLconst [c]) mem) => (CMPWconstload {sym}
[makeValAndOff(int32(int16(c)),off)] ptr mem)
(CMPBload {sym} [off] ptr (MOVLconst [c]) mem) => (CMPBconstload {sym}
[makeValAndOff(int32(int8(c)),off)] ptr mem)

(TEST(Q|L|W|B)  l:(MOV(Q|L|W|B)load {sym} [off] ptr mem) l2)
      && l == l2
 && l.Uses == 2
 && clobber(l) =>
 @l.Block (CMP(Q|L|W|B)constload {sym} [makeValAndOff(0, off)] ptr mem)

// Convert ANDload to MOVload when we can do the AND in a containing TEST op.
// Only do when it's within the same block,
 so we don't have flags live across basic block boundaries.
// See issue 44228.
(TEST(Q|L) a:(AND(Q|L)load [off] {sym} x ptr mem) a) && a.Uses == 2 && a.Block == v.Block && clobber(a)
=> (TEST(Q|L) (MOV(Q|L)load <a.Type> [off] {sym} ptr mem) x)

(MOVBload [off] {sym} (SB) _) && symIsRO(sym) => (MOVLconst [int32(read8(sym, int64(off)))])
(MOVWload [off] {sym} (SB) _) && symIsRO(sym) => (MOVLconst [int32(read16(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVLload [off] {sym} (SB) _) && symIsRO(sym) => (MOVQconst [int64(read32(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVQload [off] {sym} (SB) _) && symIsRO(sym) => (MOVQconst [int64(read64(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVOstore [dstOff] {dstSym} ptr (MOVOload [srcOff] {srcSym} (SB) _) mem) && symIsRO(srcSym) =>
 (MOVQstore [dstOff+8] {dstSym} ptr (MOVQconst [int64(read64(srcSym, int64(srcOff)+8,
config.ctxt.Arch.ByteOrder))])
   (MOVQstore [dstOff] {dstSym} ptr (MOVQconst [int64(read64(srcSym, int64(srcOff),
 config.ctxt.Arch.ByteOrder))]) mem))

// Arch-specific inlining for small or disjoint runtime.memmove
// Match post-lowering calls, memory version.
(SelectN [0] call:(CALLstatic {sym} s1:(MOVQstoreconst _ [sc] s2:(MOVQstore _ src s3:(MOVQstore _ dst
mem)))))
```

```
 && sc.Val64() >= 0
 && isSameCall(sym, "runtime.memmove")
 && s1.Uses == 1 && s2.Uses == 1 && s3.Uses == 1
 && isInlinableMemmove(dst, src, sc.Val64(), config)
 && clobber(s1, s2, s3, call)
 => (Move [sc.Val64()] dst src mem)

// Match post-lowering calls, register version.
(SelectN [0] call:(CALLstatic {sym} dst src (MOVQconst [sz]) mem))
 && sz >= 0
 && isSameCall(sym, "runtime.memmove")
 && call.Uses == 1
 && isInlinableMemmove(dst, src, sz, config)
 && clobber(call)
 => (Move [sz] dst src mem)

// Prefetch instructions
(PrefetchCache ...)   => (PrefetchT0 ...)
(PrefetchCacheStreamed ...) => (PrefetchNTA ...)

// CPUID feature: BMI1.
(AND(Q|L) x (NOT(Q|L) y))          && buildcfg.GOAMD64 >= 3 => (ANDN(Q|L) x y)
(AND(Q|L) x
 (NEG(Q|L) x))          && buildcfg.GOAMD64 >= 3 => (BLSI(Q|L) x)
(XOR(Q|L) x (ADD(Q|L)const [-1] x)) && buildcfg.GOAMD64 >= 3 => (BLSMSK(Q|L) x)
(AND(Q|L) x (ADD(Q|L)const [-1] x)) && buildcfg.GOAMD64 >= 3 => (BLSR(Q|L) x)

(BSWAP(Q|L) (BSWAP(Q|L) p)) => p

// CPUID feature: MOVBE.
(MOV(Q|L)store   [i] {s} p x:(BSWAP(Q|L) w) mem) && x.Uses == 1 && buildcfg.GOAMD64 >= 3 =>
(MOVBE(Q|L)store [i] {s} p w mem)
(MOVBE(Q|L)store [i] {s} p x:(BSWAP(Q|L) w) mem) && x.Uses == 1                    => (MOV(Q|L)store   [i]
{s} p w mem)
(BSWAP(Q|L) x:(MOV(Q|L)load   [i] {s} p mem))  && x.Uses == 1 && buildcfg.GOAMD64 >= 3 => @x.Block
(MOVBE(Q|L)load [i] {s} p mem)
(BSWAP(Q|L) x:(MOVBE(Q|L)load [i] {s} p mem))  && x.Uses == 1                    => @x.Block
(MOV(Q|L)load   [i] {s} p mem)
(MOVWstore [i] {s} p x:(ROLWconst [8] w) mem)   && x.Uses == 1 && buildcfg.GOAMD64 >= 3 =>
(MOVBEWstore [i] {s} p w mem)
(MOVBEWstore [i] {s} p x:(ROLWconst [8] w) mem) && x.Uses == 1 => (MOVWstore [i] {s}
 p w mem)

(ORQ                x0:(MOVBELload [i0] {s} p mem)
  sh:(SHLQconst [32] x1:(MOVBELload [i1] {s} p mem)))
 && i0 == i1+4
 && x0.Uses == 1
 && x1.Uses == 1
```

```
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVBEQload [i1] {s} p mem)

(ORQ                x0:(MOVBELload [i] {s} p0 mem)
  sh:(SHLQconst [32] x1:(MOVBELload [i] {s} p1 mem)))
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && sequentialAddresses(p1, p0, 4)
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVBEQload [i] {s} p1 mem)

(SARX(Q|L) l:(MOV(Q|L)load [off] {sym} ptr mem) x) && canMergeLoad(v, l) && clobber(l) =>
(SARX(Q|L)load [off] {sym} ptr x mem)
(SHLX(Q|L) l:(MOV(Q|L)load [off] {sym} ptr mem) x) && canMergeLoad(v, l) && clobber(l) =>
(SHLX(Q|L)load [off] {sym} ptr x mem)
(SHRX(Q|L) l:(MOV(Q|L)load [off] {sym} ptr mem) x) && canMergeLoad(v, l) && clobber(l) =>
(SHRX(Q|L)load [off] {sym} ptr x mem)

((SHL|SHR|SAR)XQload
 [off] {sym} ptr (MOVQconst [c]) mem) => ((SHL|SHR|SAR)Qconst [int8(c&63)] (MOVQload [off] {sym} ptr
mem))
((SHL|SHR|SAR)XQload [off] {sym} ptr (MOVLconst [c]) mem) => ((SHL|SHR|SAR)Qconst [int8(c&63)]
(MOVQload [off] {sym} ptr mem))
((SHL|SHR|SAR)XLload [off] {sym} ptr (MOVLconst [c]) mem) => ((SHL|SHR|SAR)Lconst [int8(c&31)]
(MOVLload [off] {sym} ptr mem))

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* /compile-zip/compile/internal/ssa/gen/AMD64.rules
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## Introduction to the Go compiler

`cmd/compile` contains the main packages that form the Go compiler. The compiler
may be logically split in four phases, which we will briefly describe alongside
the list of packages that contain their code.

You may sometimes hear the terms "front-end" and "back-end" when referring to
the compiler. Roughly speaking, these translate to the first two and last two
```

phases we are going to list here. A third term, "middle-end", often refers to much of the work that happens in the second phase.

Note that the `go/*` family of packages, such as `go/parser` and `go/types`, are mostly unused by the compiler. Since the compiler was initially written in C, the `go/*` packages were developed to enable writing tools working with
Go code, such as `gofmt` and `vet`.
However, over time the compiler's internal APIs have slowly evolved to be more familiar to users of the `go/*` packages.

It should be clarified that the name "gc" stands for "Go compiler", and has little to do with uppercase "GC", which stands for garbage collection.

1. Parsing

* `cmd/compile/internal/syntax` (lexer, parser, syntax tree)

In the first phase of compilation, source code is tokenized (lexical analysis), parsed (syntax analysis), and a syntax tree is constructed for each source file.

Each syntax tree is an exact representation of the respective source file, with nodes corresponding to the various elements of the source such as expressions, declarations, and statements. The syntax tree also includes position information which is used for error reporting and the creation of debugging information.

2. Type checking

* `cmd/compile/internal/types2` (type checking)

The types2 package is a port of `go/types` to use the syntax package's
AST
instead of `go/ast`.

3. IR construction ("noding")

* `cmd/compile/internal/types` (compiler types)
* `cmd/compile/internal/ir` (compiler AST)
* `cmd/compile/internal/typecheck` (AST transformations)
* `cmd/compile/internal/noder` (create compiler AST)

The compiler middle end uses its own AST definition and representation of Go types carried over from when it was written in C. All of its code is written in terms of these, so the next step after type checking is to convert the syntax and types2 representations to ir and types. This process is referred to as "noding."

There are currently two noding implementations:

1. irgen (aka "-G=3" or sometimes "noder2") is the implementation used starting
  with Go 1.18, and

2. Unified IR is another, in-development implementation (enabled with
  `GOEXPERIMENT=unified`), which also implements import/export and inlining.

Up through Go 1.18, there was a third noding implementation (just
"noder" or "-G=0"), which directly converted
 the pre-type-checked
syntax representation into IR and then invoked package typecheck's
type checker. This implementation was removed after Go 1.18, so now
package typecheck is only used for IR transformations.

4. Middle end

* `cmd/compile/internal/deadcode` (dead code elimination)
* `cmd/compile/internal/inline` (function call inlining)
* `cmd/compile/internal/devirtualize` (devirtualization of known interface method calls)
* `cmd/compile/internal/escape` (escape analysis)

Several optimization passes are performed on the IR representation:
dead code elimination, (early) devirtualization, function call
inlining, and escape analysis.

5. Walk

* `cmd/compile/internal/walk` (order of evaluation, desugaring)

The final pass over the IR representation is "walk," which serves two purposes:

1. It decomposes complex statements into individual, simpler statements,
  introducing temporary variables and respecting order of evaluation. This step
  is also referred to as "order."

2.
 It desugars higher-level Go constructs into more primitive ones. For example,
  `switch` statements are turned into binary search or jump tables, and
  operations on maps and channels are replaced with runtime calls.

6. Generic SSA

* `cmd/compile/internal/ssa` (SSA passes and rules)
* `cmd/compile/internal/ssagen` (converting IR to SSA)

In this phase, IR is converted into Static Single Assignment (SSA) form, a
lower-level intermediate representation with specific properties that make it

easier to implement optimizations and to eventually generate machine code from it.

During this conversion, function intrinsics are applied. These are special functions that the compiler has been taught to replace with heavily optimized code on a case-by-case basis.

Certain nodes are also lowered into simpler components during the AST to SSA conversion, so that the rest of the compiler can work with them. For instance, the copy builtin is replaced by memory moves, and range loops are rewritten into
for loops. Some of these currently happen before the conversion to SSA due to historical reasons, but the long-term plan is to move all of them here.

Then, a series of machine-independent passes and rules are applied. These do not concern any single computer architecture, and thus run on all `GOARCH` variants. These passes include dead code elimination, removal of
unneeded nil checks, and removal of unused branches. The generic rewrite rules mainly concern expressions, such as replacing some expressions with constant values, and optimizing multiplications and float operations.

7. Generating machine code

* `cmd/compile/internal/ssa` (SSA lowering and arch-specific passes)
* `cmd/internal/obj` (machine code generation)

The machine-dependent phase of the compiler begins with the "lower" pass, which rewrites generic values into their machine-specific variants. For example, on amd64 memory operands are possible, so many load-store operations may be combined.

Note that the
lower pass runs all machine-specific rewrite rules, and thus it
currently applies lots of optimizations too.

Once the SSA has been "lowered" and is more specific to the target architecture, the final code optimization passes are run. This includes yet another dead code elimination pass, moving values closer to their uses, the removal of local variables that are never read from, and register allocation.

Other important pieces of work done as part of this step include stack frame layout, which assigns stack offsets to local variables, and pointer liveness analysis, which computes which on-stack pointers are live at each GC safe point.

At the end of the SSA generation phase, Go functions have been transformed into a series of obj.Prog instructions. These are passed to the assembler (`cmd/internal/obj`), which turns them into machine code and writes out the final object file. The object file will also contain reflect data, export data, and debugging information.

Further reading

To
 dig deeper into how the SSA package works, including its passes and rules,
head to [cmd/compile/internal/ssa/README.md](internal/ssa/README.md).

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* /compile-zip/compile/README.md
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* /compile-zip/compile/internal/test/testdata/gen/cmpConstGen.go
* /compile-zip/compile/internal/ssa/softfloat.go
* /compile-zip/compile/internal/ssa/magic_test.go
* /compile-zip/compile/internal/ssa/testdata/hist.go
* /compile-zip/compile/internal/syntax/branches.go
* /compile-zip/compile/internal/ssa/looprotate.go
* /compile-zip/compile/internal/ir/bitset.go
* /compile-zip/compile/internal/dwarfgen/dwinl.go
* /compile-zip/compile/internal/types/type.go
* /compile-zip/compile/internal/gc/pprof.go
* /compile-zip/compile/internal/types/scope.go
* /compile-zip/compile/internal/ssa/debug_test.go
* /compile-zip/compile/internal/ssa/branchelim.go
* /compile-zip/compile/internal/gc/bootstrap.go
* /compile-zip/compile/internal/ssa/cache.go
* /compile-zip/compile/internal/ssa/testdata/scopes.go
* /compile-zip/compile/internal/test/reproduciblebuilds_test.go
*
 /compile-zip/compile/internal/types/pkg.go
* /compile-zip/compile/internal/types/sizeof_test.go
* /compile-zip/compile/internal/types2/testdata/check/decls5.go
* /compile-zip/compile/internal/ssa/debug.go
* /compile-zip/compile/internal/dwarfgen/scope.go
* /compile-zip/compile/internal/types/utils.go
* /compile-zip/compile/internal/ssa/branchelim_test.go
* /compile-zip/compile/internal/types/sym.go
* /compile-zip/compile/internal/test/inl_test.go
* /compile-zip/compile/internal/test/truncconst_test.go
* /compile-zip/compile/internal/syntax/nodes_test.go
* /compile-zip/compile/internal/importer/testdata/issue20046.go
* /compile-zip/compile/internal/types2/testdata/check/cycles5.go
* /compile-zip/compile/internal/test/testdata/reproducible/issue20272.go
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* /compile-zip/compile/internal/types2/testdata/check/cycles1.go
* /compile-zip/compile/internal/types2/call.go
* /compile-zip/compile/internal/types2/objset.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51877.go
* /compile-zip/compile/internal/typebits/typebits.go
* /compile-zip/compile/internal/types2/self_test.go
* /compile-zip/compile/internal/types2/testdata/check/constdecl.go
* /compile-zip/compile/internal/types2/builtins_test.go
* /compile-zip/compile/internal/types2/testdata/check/stmt1.go
* /compile-zip/compile/internal/types2/testdata/check/shifts.go
* /compile-zip/compile/internal/types2/resolver.go
* /compile-zip/compile/internal/types2/sizes.go
* /compile-zip/compile/internal/types2/selection.go
* /compile-zip/compile/internal/types2/testdata/check/cycles3.go
* /compile-zip/compile/internal/types2/testdata/check/importdecl0/importdecl0b.go
*
 /compile-zip/compile/internal/types2/object.go
* /compile-zip/compile/internal/types2/testdata/check/vardecl.go
* /compile-zip/compile/internal/liveness/bvset.go
* /compile-zip/compile/internal/types2/stdlib_test.go
* /compile-zip/compile/internal/bitvec/bv.go
* /compile-zip/compile/internal/types2/testdata/check/errors.go
* /compile-zip/compile/internal/types2/typexpr.go
* /compile-zip/compile/internal/types2/return.go
* /compile-zip/compile/internal/types2/lookup.go
* /compile-zip/compile/internal/types2/testdata/check/cycles4.go
* /compile-zip/compile/internal/types2/assignments.go
* /compile-zip/compile/internal/types2/testdata/check/init0.go
* /compile-zip/compile/internal/types2/package.go
* /compile-zip/compile/internal/types2/hilbert_test.go
* /compile-zip/compile/internal/types2/labels.go
* /compile-zip/compile/internal/types2/testdata/check/init1.go
* /compile-zip/compile/internal/types2/testdata/check/cycles2.go
*
 /compile-zip/compile/internal/types2/issues_test.go
* /compile-zip/compile/internal/types2/typestring.go
* /compile-zip/compile/internal/types2/testdata/check/methodsets.go
* /compile-zip/compile/internal/types2/api_test.go
* /compile-zip/compile/internal/liveness/plive.go
* /compile-zip/compile/internal/types2/testdata/check/cycles0.go
* /compile-zip/compile/internal/types2/testdata/check/importdecl0/importdecl0a.go
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This package generates opcode tables, rewrite rules, etc. for the ssa compiler.
Run it with go-1.13 (or above):
  go run *.go

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* /compile-zip/compile/internal/typecheck/export.go
* /compile-zip/compile/internal/typecheck/func.go
* /compile-zip/compile/internal/staticinit/sched.go
* /compile-zip/compile/internal/ir/type.go
* /compile-zip/compile/internal/base/base.go
* /compile-zip/compile/internal/types/sort.go
* /compile-zip/compile/internal/ssagen/nowb.go
* /compile-zip/compile/internal/ir/node.go
* /compile-zip/compile/internal/walk/walk.go
* /compile-zip/compile/doc.go
* /compile-zip/compile/internal/ssagen/abi.go
* /compile-zip/compile/internal/walk/convert.go
* /compile-zip/compile/internal/typecheck/universe.go
* /compile-zip/compile/internal/objw/objw.go
* /compile-zip/compile/internal/walk/select.go
* /compile-zip/compile/internal/types/goversion.go
* /compile-zip/compile/internal/types/universe.go
* /compile-zip/compile/internal/x86/ggen.go
* /compile-zip/compile/internal/mips64/galign.go
*
 /compile-zip/compile/internal/noder/import.go
* /compile-zip/compile/internal/walk/compare.go
* /compile-zip/compile/internal/typecheck/subr.go
* /compile-zip/compile/internal/typecheck/dcl.go
* /compile-zip/compile/internal/x86/galign.go
* /compile-zip/compile/internal/ir/symtab.go
* /compile-zip/compile/internal/amd64/galign.go
* /compile-zip/compile/internal/noder/lex.go
* /compile-zip/compile/internal/walk/stmt.go
* /compile-zip/compile/internal/typecheck/target.go
* /compile-zip/compile/internal/amd64/ggen.go
* /compile-zip/compile/internal/arm/ggen.go
* /compile-zip/compile/internal/typecheck/typecheck.go
* /compile-zip/compile/internal/walk/expr.go

* /compile-zip/compile/internal/ir/val.go
* /compile-zip/compile/internal/walk/builtin.go
* /compile-zip/compile/internal/ppc64/ggen.go
* /compile-zip/compile/internal/typecheck/builtin/runtime.go
* /compile-zip/compile/internal/typecheck/stmt.go
* /compile-zip/compile/internal/walk/switch.go
* /compile-zip/compile/internal/staticdata/data.go
*
 /compile-zip/compile/internal/mips64/ggen.go
* /compile-zip/compile/internal/gc/export.go
* /compile-zip/compile/internal/gc/obj.go
* /compile-zip/compile/internal/pkginit/init.go
* /compile-zip/compile/internal/ssagen/arch.go
* /compile-zip/compile/internal/typecheck/expr.go
* /compile-zip/compile/internal/ir/const.go
* /compile-zip/compile/internal/base/flag.go
* /compile-zip/compile/internal/ppc64/galign.go
* /compile-zip/compile/internal/types/fmt.go
* /compile-zip/compile/internal/walk/complit.go
* /compile-zip/compile/internal/walk/range.go
* /compile-zip/compile/internal/ir/cfg.go
* /compile-zip/compile/internal/arm64/galign.go
* /compile-zip/compile/internal/deadcode/deadcode.go
* /compile-zip/compile/internal/reflectdata/reflect.go
* /compile-zip/compile/internal/types/size.go
* /compile-zip/compile/internal/ir/ir.go
* /compile-zip/compile/internal/walk/assign.go
* /compile-zip/compile/internal/typecheck/type.go
* /compile-zip/compile/internal/typecheck/syms.go
*
 /compile-zip/compile/internal/arm/galign.go
* /compile-zip/compile/internal/base/debug.go
* /compile-zip/compile/internal/gc/main.go
* /compile-zip/compile/internal/typecheck/const.go
* /compile-zip/compile/internal/walk/closure.go
* /compile-zip/compile/internal/arm64/ggen.go
No license file was found, but licenses were detected in source scan.

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(Add(Ptr|64|32|16|8) ...) => (ADDV ...)
(Add(32|64)F ...) => (ADD(F|D) ...)

(Sub(Ptr|64|32|16|8) ...) => (SUBV ...)
(Sub(32|64)F ...) => (SUB(F|D) ...)

```
(Mul(64|32|16|8) x y) => (Select1 (MULVU x y))
(Mul(32|64)F ...) => (MUL(F|D) ...)
(Mul64uhilo ...) => (MULVU ...)
(Select0 (Mul64uover x y)) => (Select1 <typ.UInt64> (MULVU x y))
(Select1 (Mul64uover x y)) => (SGTU <typ.Bool> (Select0 <typ.UInt64> (MULVU x y)) (MOVVconst
<typ.UInt64> [0]))

(Hmul64 x y) => (Select0 (MULV x y))
(Hmul64u x y) => (Select0 (MULVU x y))
(Hmul32 x y) => (SRAVconst (Select1 <typ.Int64> (MULV (SignExt32to64 x) (SignExt32to64 y))) [32])
(Hmul32u x y) => (SRLVconst (Select1 <typ.UInt64> (MULVU (ZeroExt32to64 x) (ZeroExt32to64 y))) [32])

(Div64 x y) => (Select1 (DIVV x y))
(Div64u x y)
 => (Select1 (DIVVU x y))
(Div32 x y) => (Select1 (DIVV (SignExt32to64 x) (SignExt32to64 y)))
(Div32u x y) => (Select1 (DIVVU (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Div16 x y) => (Select1 (DIVV (SignExt16to64 x) (SignExt16to64 y)))
(Div16u x y) => (Select1 (DIVVU (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Div8 x y) => (Select1 (DIVV (SignExt8to64 x) (SignExt8to64 y)))
(Div8u x y) => (Select1 (DIVVU (ZeroExt8to64 x) (ZeroExt8to64 y)))
(Div(32|64)F ...) => (DIV(F|D) ...)

(Mod64 x y) => (Select0 (DIVV x y))
(Mod64u x y) => (Select0 (DIVVU x y))
(Mod32 x y) => (Select0 (DIVV (SignExt32to64 x) (SignExt32to64 y)))
(Mod32u x y) => (Select0 (DIVVU (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Mod16 x y) => (Select0 (DIVV (SignExt16to64 x) (SignExt16to64 y)))
(Mod16u x y) => (Select0 (DIVVU (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Mod8 x y) => (Select0 (DIVV (SignExt8to64 x) (SignExt8to64 y)))
(Mod8u x y) => (Select0 (DIVVU (ZeroExt8to64 x) (ZeroExt8to64 y)))

// (x + y) / 2 with x>=y => (x - y) / 2 + y
(Avg64u
 <t> x y) => (ADDV (SRLVconst <t> (SUBV <t> x y) [1]) y)

(And(64|32|16|8) ...) => (AND ...)
(Or(64|32|16|8) ...) => (OR ...)
(Xor(64|32|16|8) ...) => (XOR ...)

// shifts
// hardware instruction uses only the low 6 bits of the shift
// we compare to 64 to ensure Go semantics for large shifts
(Lsh64x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh64x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV
<t> x (ZeroExt32to64 y)))
(Lsh64x16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SLLV
<t> x (ZeroExt16to64 y)))
```

(Lsh64x8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SLLV <t> x (ZeroExt8to64 y)))

(Lsh32x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh32x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV <t> x (ZeroExt32to64 y)))
(Lsh32x16 <t>
x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SLLV <t> x (ZeroExt16to64 y)))
(Lsh32x8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SLLV <t> x (ZeroExt8to64 y)))

(Lsh16x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh16x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV <t> x (ZeroExt32to64 y)))
(Lsh16x16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SLLV <t> x (ZeroExt16to64 y)))
(Lsh16x8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SLLV <t> x (ZeroExt8to64 y)))

(Lsh8x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh8x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV <t> x (ZeroExt32to64 y)))
(Lsh8x16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64
y))) (SLLV <t> x (ZeroExt16to64 y)))
(Lsh8x8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SLLV <t> x (ZeroExt8to64 y)))

(Rsh64Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> x y))
(Rsh64Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> x (ZeroExt32to64 y)))
(Rsh64Ux16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t> x (ZeroExt16to64 y)))
(Rsh64Ux8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SRLV <t> x (ZeroExt8to64 y)))

(Rsh32Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> (ZeroExt32to64 x) y))
(Rsh32Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Rsh32Ux16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t>
(ZeroExt32to64 x) (ZeroExt16to64 y)))
(Rsh32Ux8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SRLV <t> (ZeroExt32to64 x) (ZeroExt8to64 y)))

(Rsh16Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> (ZeroExt16to64 x) y))

(Rsh16Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> (ZeroExt16to64 x) (ZeroExt32to64 y)))
(Rsh16Ux16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t> (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Rsh16Ux8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SRLV <t> (ZeroExt16to64 x) (ZeroExt8to64 y)))

(Rsh8Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> (ZeroExt8to64 x) y))
(Rsh8Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> (ZeroExt8to64 x) (ZeroExt32to64 y)))
(Rsh8Ux16 <t> x y) => (AND (NEGV
<t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t> (ZeroExt8to64 x) (ZeroExt16to64 y)))
(Rsh8Ux8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SRLV <t> (ZeroExt8to64 x) (ZeroExt8to64 y)))

(Rsh64x64 <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh64x32 <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64 y)))
(Rsh64x16 <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh64x8 <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU (ZeroExt8to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt8to64 y)))

(Rsh32x64 <t> x y) => (SRAV (SignExt32to64 x) (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh32x32 <t> x y) => (SRAV (SignExt32to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64 y)))
(Rsh32x16 <t> x y) => (SRAV (SignExt32to64
x) (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh32x8 <t> x y) => (SRAV (SignExt32to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt8to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt8to64 y)))

(Rsh16x64 <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh16x32 <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64 y)))
(Rsh16x16 <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh16x8 <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt8to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt8to64 y)))

(Rsh8x64 <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh8x32 <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64

```
 y)))
(Rsh8x16 <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst
<typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh8x8  <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt8to64  y) (MOVVconst
<typ.UInt64> [63]))) (ZeroExt8to64  y)))

// rotates
(RotateLeft8 <t> x (MOVVconst [c])) => (Or8 (Lsh8x64 <t> x (MOVVconst [c&7])) (Rsh8Ux64 <t> x
(MOVVconst [-c&7])))
(RotateLeft16 <t> x (MOVVconst [c])) => (Or16 (Lsh16x64 <t> x (MOVVconst [c&15])) (Rsh16Ux64 <t> x
(MOVVconst [-c&15])))
(RotateLeft32 <t> x (MOVVconst [c])) => (Or32 (Lsh32x64 <t> x (MOVVconst [c&31])) (Rsh32Ux64 <t> x
(MOVVconst [-c&31])))
(RotateLeft64 <t> x (MOVVconst [c])) => (Or64 (Lsh64x64 <t> x (MOVVconst [c&63])) (Rsh64Ux64 <t> x
(MOVVconst [-c&63])))

// unary ops
(Neg(64|32|16|8) ...) => (NEGV ...)
(Neg(32|64)F ...) => (NEG(F|D) ...)

(Com(64|32|16|8) x) => (NOR (MOVVconst [0]) x)

(Sqrt ...) => (SQRTD ...)
(Sqrt32 ...) => (SQRTF ...)

// boolean ops -- booleans are
 represented with 0=false, 1=true
(AndB ...) => (AND ...)
(OrB ...) => (OR ...)
(EqB x y) => (XOR (MOVVconst [1]) (XOR <typ.Bool> x y))
(NeqB ...) => (XOR ...)
(Not x) => (XORconst [1] x)

// constants
(Const(64|32|16|8) [val]) => (MOVVconst [int64(val)])
(Const(32|64)F [val]) => (MOV(F|D)const [float64(val)])
(ConstNil) => (MOVVconst [0])
(ConstBool [t]) => (MOVVconst [int64(b2i(t))])

(Slicemask <t> x) => (SRAVconst (NEGV <t> x) [63])

// truncations
// Because we ignore high parts of registers, truncates are just copies.
(Trunc16to8 ...) => (Copy ...)
(Trunc32to8 ...) => (Copy ...)
(Trunc32to16 ...) => (Copy ...)
(Trunc64to8 ...) => (Copy ...)
(Trunc64to16 ...) => (Copy ...)
```

```
(Trunc64to32 ...) => (Copy ...)

// Zero-/Sign-extensions
(ZeroExt8to16 ...) => (MOVBUreg ...)
(ZeroExt8to32 ...) => (MOVBUreg ...)
(ZeroExt16to32 ...) => (MOVHUreg ...)
(ZeroExt8to64 ...) => (MOVBUreg ...)
(ZeroExt16to64 ...) => (MOVHUreg ...)
(ZeroExt32to64 ...) => (MOVWUreg ...)

(SignExt8to16 ...) => (MOVBreg
 ...)
(SignExt8to32 ...) => (MOVBreg ...)
(SignExt16to32 ...) => (MOVHreg ...)
(SignExt8to64 ...) => (MOVBreg ...)
(SignExt16to64 ...) => (MOVHreg ...)
(SignExt32to64 ...) => (MOVWreg ...)

// float <=> int conversion
(Cvt32to32F ...) => (MOVWF ...)
(Cvt32to64F ...) => (MOVWD ...)
(Cvt64to32F ...) => (MOVVF ...)
(Cvt64to64F ...) => (MOVVD ...)
(Cvt32Fto32 ...) => (TRUNCFW ...)
(Cvt64Fto32 ...) => (TRUNCDW ...)
(Cvt32Fto64 ...) => (TRUNCFV ...)
(Cvt64Fto64 ...) => (TRUNCDV ...)
(Cvt32Fto64F ...) => (MOVFD ...)
(Cvt64Fto32F ...) => (MOVDF ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round(32|64)F ...) => (Copy ...)

// comparisons
(Eq8 x y)  => (SGTU (MOVVconst [1]) (XOR (ZeroExt8to64 x) (ZeroExt8to64 y)))
(Eq16 x y) => (SGTU (MOVVconst [1]) (XOR (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Eq32 x y) => (SGTU (MOVVconst [1]) (XOR (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Eq64 x y) => (SGTU (MOVVconst [1]) (XOR x y))
(EqPtr x y) => (SGTU (MOVVconst [1]) (XOR x y))
(Eq(32|64)F x y) => (FPFlagTrue (CMPEQ(F|D)
 x y))

(Neq8 x y)  => (SGTU (XOR (ZeroExt8to64 x) (ZeroExt8to64 y)) (MOVVconst [0]))
(Neq16 x y) => (SGTU (XOR (ZeroExt16to32 x) (ZeroExt16to64 y)) (MOVVconst [0]))
(Neq32 x y) => (SGTU (XOR (ZeroExt32to64 x) (ZeroExt32to64 y)) (MOVVconst [0]))
(Neq64 x y) => (SGTU (XOR x y) (MOVVconst [0]))
(NeqPtr x y) => (SGTU (XOR x y) (MOVVconst [0]))
```

```
(Neq(32|64)F x y) => (FPFlagFalse (CMPEQ(F|D) x y))

(Less8 x y)  => (SGT (SignExt8to64 y) (SignExt8to64 x))
(Less16 x y) => (SGT (SignExt16to64 y) (SignExt16to64 x))
(Less32 x y) => (SGT (SignExt32to64 y) (SignExt32to64 x))
(Less64 x y) => (SGT y x)
(Less(32|64)F x y) => (FPFlagTrue (CMPGT(F|D) y x)) // reverse operands to work around NaN

(Less8U x y)  => (SGTU (ZeroExt8to64 y) (ZeroExt8to64 x))
(Less16U x y) => (SGTU (ZeroExt16to64 y) (ZeroExt16to64 x))
(Less32U x y) => (SGTU (ZeroExt32to64 y) (ZeroExt32to64 x))
(Less64U x y) => (SGTU y x)

(Leq8 x y)  => (XOR (MOVVconst [1]) (SGT (SignExt8to64 x) (SignExt8to64 y)))
(Leq16 x y) => (XOR
 (MOVVconst [1]) (SGT (SignExt16to64 x) (SignExt16to64 y)))
(Leq32 x y) => (XOR (MOVVconst [1]) (SGT (SignExt32to64 x) (SignExt32to64 y)))
(Leq64 x y) => (XOR (MOVVconst [1]) (SGT x y))
(Leq(32|64)F x y) => (FPFlagTrue (CMPGE(F|D) y x)) // reverse operands to work around NaN

(Leq8U x y)  => (XOR (MOVVconst [1]) (SGTU (ZeroExt8to64 x) (ZeroExt8to64 y)))
(Leq16U x y) => (XOR (MOVVconst [1]) (SGTU (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Leq32U x y) => (XOR (MOVVconst [1]) (SGTU (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Leq64U x y) => (XOR (MOVVconst [1]) (SGTU x y))

(OffPtr [off] ptr:(SP)) => (MOVVaddr [int32(off)] ptr)
(OffPtr [off] ptr) => (ADDVconst [off] ptr)

(Addr {sym} base) => (MOVVaddr {sym} base)
(LocalAddr {sym} base _) => (MOVVaddr {sym} base)

// loads
(Load <t> ptr mem) && t.IsBoolean() => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && isSigned(t)) => (MOVBload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && !isSigned(t)) => (MOVBUload ptr mem)
(Load <t> ptr mem) &&
 (is16BitInt(t) && isSigned(t)) => (MOVHload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && !isSigned(t)) => (MOVHUload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) && isSigned(t)) => (MOVWload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) && !isSigned(t)) => (MOVWUload ptr mem)
(Load <t> ptr mem) && (is64BitInt(t) || isPtr(t)) => (MOVVload ptr mem)
(Load <t> ptr mem) && is32BitFloat(t) => (MOVFload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (MOVDload ptr mem)

// stores
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVHstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && !is32BitFloat(val.Type) => (MOVWstore ptr val mem)
```

```
(Store {t} ptr val mem) && t.Size() == 8 && !is64BitFloat(val.Type) => (MOVVstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && is32BitFloat(val.Type) => (MOVFstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (MOVDstore ptr val mem)

//
 zeroing
(Zero [0] _ mem) => mem
(Zero [1] ptr mem) => (MOVBstore ptr (MOVVconst [0]) mem)
(Zero [2] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore ptr (MOVVconst [0]) mem)
(Zero [2] ptr mem) =>
 (MOVBstore [1] ptr (MOVVconst [0])
  (MOVBstore [0] ptr (MOVVconst [0]) mem))
(Zero [4] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore ptr (MOVVconst [0]) mem)
(Zero [4] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] ptr (MOVVconst [0])
  (MOVHstore [0] ptr (MOVVconst [0]) mem))
(Zero [4] ptr mem) =>
 (MOVBstore [3] ptr (MOVVconst [0])
  (MOVBstore [2] ptr (MOVVconst [0])
   (MOVBstore [1] ptr (MOVVconst [0])
    (MOVBstore [0] ptr (MOVVconst [0]) mem))))
(Zero [8] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVVstore ptr (MOVVconst [0]) mem)
(Zero [8] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [4] ptr (MOVVconst [0])
  (MOVWstore [0] ptr (MOVVconst [0]) mem))
(Zero [8] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [6] ptr (MOVVconst [0])
  (MOVHstore [4] ptr
 (MOVVconst [0])
   (MOVHstore [2] ptr (MOVVconst [0])
    (MOVHstore [0] ptr (MOVVconst [0]) mem))))

(Zero [3] ptr mem) =>
 (MOVBstore [2] ptr (MOVVconst [0])
  (MOVBstore [1] ptr (MOVVconst [0])
   (MOVBstore [0] ptr (MOVVconst [0]) mem)))
(Zero [6] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] ptr (MOVVconst [0])
  (MOVHstore [2] ptr (MOVVconst [0])
   (MOVHstore [0] ptr (MOVVconst [0]) mem)))
(Zero [12] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8] ptr (MOVVconst [0])
  (MOVWstore [4] ptr (MOVVconst [0])
   (MOVWstore [0] ptr (MOVVconst [0]) mem)))
(Zero [16] {t} ptr mem) && t.Alignment()%8 == 0 =>
```

```
 (MOVVstore [8] ptr (MOVVconst [0])
  (MOVVstore [0] ptr (MOVVconst [0]) mem))
(Zero [24] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVVstore [16] ptr (MOVVconst [0])
  (MOVVstore [8] ptr (MOVVconst [0])
   (MOVVstore [0] ptr (MOVVconst [0]) mem)))

// medium zeroing uses a duff device
// 8, and 128 are magic constants, see runtime/mkduff.go
(Zero [s] {t} ptr mem)
 &&
 s%8 == 0 && s > 24 && s <= 8*128
 && t.Alignment()%8 == 0 && !config.noDuffDevice =>
 (DUFFZERO [8 * (128 - s/8)] ptr mem)

// large or unaligned zeroing uses a loop
(Zero [s] {t} ptr mem)
 && (s > 8*128 || config.noDuffDevice) || t.Alignment()%8 != 0 =>
 (LoweredZero [t.Alignment()]
  ptr
  (ADDVconst <ptr.Type> ptr [s-moveSize(t.Alignment(), config)])
  mem)

// moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBload src mem) mem)
(Move [2] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore dst (MOVHload src mem) mem)
(Move [2] dst src mem) =>
 (MOVBstore [1] dst (MOVBload [1] src mem)
  (MOVBstore dst (MOVBload src mem) mem))
(Move [4] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore dst (MOVWload src mem) mem)
(Move [4] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] dst (MOVHload [2] src mem)
  (MOVHstore dst (MOVHload src mem) mem))
(Move [4] dst src mem) =>
 (MOVBstore [3] dst (MOVBload [3] src mem)
  (MOVBstore [2] dst (MOVBload
 [2] src mem)
   (MOVBstore [1] dst (MOVBload [1] src mem)
    (MOVBstore dst (MOVBload src mem) mem))))
(Move [8] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVVstore dst (MOVVload src mem) mem)
(Move [8] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [4] dst (MOVWload [4] src mem)
  (MOVWstore dst (MOVWload src mem) mem))
(Move [8] {t} dst src mem) && t.Alignment()%2 == 0 =>
```

```
 (MOVHstore [6] dst (MOVHload [6] src mem)
  (MOVHstore [4] dst (MOVHload [4] src mem)
   (MOVHstore [2] dst (MOVHload [2] src mem)
    (MOVHstore dst (MOVHload src mem) mem))))

(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBload [2] src mem)
  (MOVBstore [1] dst (MOVBload [1] src mem)
   (MOVBstore dst (MOVBload src mem) mem)))
(Move [6] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] dst (MOVHload [4] src mem)
  (MOVHstore [2] dst (MOVHload [2] src mem)
   (MOVHstore dst (MOVHload src mem) mem)))
(Move [12] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8] dst (MOVWload
 [8] src mem)
  (MOVWstore [4] dst (MOVWload [4] src mem)
   (MOVWstore dst (MOVWload src mem) mem)))
(Move [16] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVVstore [8] dst (MOVVload [8] src mem)
  (MOVVstore dst (MOVVload src mem) mem))
(Move [24] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVVstore [16] dst (MOVVload [16] src mem)
  (MOVVstore [8] dst (MOVVload [8] src mem)
   (MOVVstore dst (MOVVload src mem) mem)))

// medium move uses a duff device
(Move [s] {t} dst src mem)
 && s%8 == 0 && s >= 24 && s <= 8*128 && t.Alignment()%8 == 0
 && !config.noDuffDevice && logLargeCopy(v, s)  =>
 (DUFFCOPY [16 * (128 - s/8)] dst src mem)
// 16 and 128 are magic constants.  16 is the number of bytes to encode:
// MOVV (R1), R23
// ADDV $8, R1
// MOVV R23, (R2)
// ADDV $8, R2
// and 128 is the number of such blocks. See runtime/duff_mips64.s:duffcopy.

// large or unaligned move uses a loop
(Move [s] {t} dst src mem)
 && s > 24 && logLargeCopy(v, s) || t.Alignment()%8 != 0 =>
 (LoweredMove
 [t.Alignment()]
  dst
  src
  (ADDVconst <src.Type> src [s-moveSize(t.Alignment(), config)])
  mem)
```

```
// calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall ...) => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// atomic intrinsics
(AtomicLoad(8|32|64)   ...) => (LoweredAtomicLoad(8|32|64)  ...)
(AtomicLoadPtr ...) => (LoweredAtomicLoad64 ...)

(AtomicStore(8|32|64) ...) => (LoweredAtomicStore(8|32|64)  ...)
(AtomicStorePtrNoWB ...) => (LoweredAtomicStore64 ...)

(AtomicExchange(32|64) ...) => (LoweredAtomicExchange(32|64) ...)

(AtomicAdd(32|64) ...) => (LoweredAtomicAdd(32|64) ...)

(AtomicCompareAndSwap32 ptr old new mem) => (LoweredAtomicCas32 ptr (SignExt32to64 old) new mem)
(AtomicCompareAndSwap64 ...) => (LoweredAtomicCas64 ...)

// checks
(NilCheck ...) => (LoweredNilCheck ...)
(IsNonNil ptr) => (SGTU ptr (MOVVconst [0]))
(IsInBounds idx len) => (SGTU len idx)
(IsSliceInBounds idx len) => (XOR (MOVVconst [1]) (SGTU idx len))

//
 pseudo-ops
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)

(If cond yes no) => (NE cond yes no)

// Write barrier.
(WB ...) => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

// Optimizations

// Absorb boolean tests into block
(NE (FPFlagTrue cmp) yes no) => (FPT cmp yes no)
(NE (FPFlagFalse cmp) yes no) => (FPF cmp yes no)
(EQ (FPFlagTrue cmp) yes no) => (FPF cmp yes no)
(EQ (FPFlagFalse cmp) yes no) => (FPT cmp yes no)
```

(NE (XORconst [1] cmp:(SGT _ _)) yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTU _ _)) yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTconst _)) yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTUconst _)) yes no) =>
(EQ cmp yes no)
(EQ (XORconst [1] cmp:(SGT _ _)) yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTU _ _)) yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTconst _)) yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTUconst _)) yes no) => (NE cmp yes no)
(NE (SGTUconst [1] x) yes no) => (EQ x yes no)
(EQ (SGTUconst [1] x) yes no) => (NE x yes no)
(NE (SGTU x (MOVVconst [0])) yes no) => (NE x yes no)
(EQ (SGTU x (MOVVconst [0])) yes no) => (EQ x yes no)
(NE (SGTconst [0] x) yes no) => (LTZ x yes no)
(EQ (SGTconst [0] x) yes no) => (GEZ x yes no)
(NE (SGT x (MOVVconst [0])) yes no) => (GTZ x yes no)
(EQ (SGT x (MOVVconst [0])) yes no) => (LEZ x yes no)

// fold offset into address
(ADDVconst [off1] (MOVVaddr [off2] {sym} ptr)) && is32Bit(off1+int64(off2)) => (MOVVaddr [int32(off1)+int32(off2)] {sym} ptr)

// fold address into load/store
(MOVBload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVBload [off1+int32(off2)] {sym} ptr mem)
(MOVBUload [off1]
{sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVBUload [off1+int32(off2)] {sym} ptr mem)
(MOVHload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVHload [off1+int32(off2)] {sym} ptr mem)
(MOVHUload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVHUload [off1+int32(off2)] {sym} ptr mem)
(MOVWload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVWload [off1+int32(off2)] {sym} ptr mem)
(MOVWUload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVWUload [off1+int32(off2)] {sym} ptr mem)
(MOVVload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVVload [off1+int32(off2)] {sym} ptr mem)
(MOVFload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVFload [off1+int32(off2)] {sym} ptr mem)
(MOVDload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVDload [off1+int32(off2)]
{sym} ptr mem)

(MOVBstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVBstore [off1+int32(off2)] {sym} ptr val mem)
(MOVHstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVHstore [off1+int32(off2)] {sym} ptr val mem)

(MOVWstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVWstore [off1+int32(off2)] {sym} ptr val mem)
(MOVVstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVVstore [off1+int32(off2)] {sym} ptr val mem)
(MOVFstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVFstore [off1+int32(off2)] {sym} ptr val mem)
(MOVDstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVDstore [off1+int32(off2)] {sym} ptr val mem)
(MOVBstorezero [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVBstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVHstorezero [off1]
{sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVHstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVWstorezero [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVWstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVVstorezero [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVVstorezero [off1+int32(off2)] {sym} ptr mem)

(MOVBload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVBload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVBUload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVBUload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVHload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVHload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVHUload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem)
&& canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVHUload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVWload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVWload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVWUload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVWUload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVVload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVVload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVFload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVFload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVDload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVDload
[off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)

(MOVBstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) &&

```
is32Bit(int64(off1)+int64(off2)) =>
 (MOVBstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVHstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVHstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVWstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVWstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVVstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVVstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVFstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVFstore [off1+int32(off2)] {mergeSym(sym1,sym2)}
 ptr val mem)
(MOVDstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVDstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVBstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVBstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVHstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVHstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVWstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVWstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVVstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVVstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)

(LoweredAtomicStore(32|64)
 ptr (MOVVconst [0]) mem) => (LoweredAtomicStorezero(32|64) ptr mem)
(LoweredAtomicAdd32 ptr (MOVVconst [c]) mem) && is32Bit(c) => (LoweredAtomicAddconst32 [int32(c)] ptr
mem)
(LoweredAtomicAdd64 ptr (MOVVconst [c]) mem) && is32Bit(c) => (LoweredAtomicAddconst64 [c] ptr mem)

// don't extend after proper load
(MOVBreg x:(MOVBload _ _)) => (MOVVreg x)
(MOVBUreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVHreg x:(MOVBload _ _)) => (MOVVreg x)
(MOVHreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVHreg x:(MOVHload _ _)) => (MOVVreg x)
(MOVHUreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVHUreg x:(MOVHUload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVBload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVHload _ _)) => (MOVVreg x)
```

```
(MOVWreg x:(MOVHUload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVWload _ _)) => (MOVVreg x)
(MOVWUreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVWUreg x:(MOVHUload _ _)) => (MOVVreg x)
(MOVWUreg x:(MOVWUload _ _)) => (MOVVreg x)

// fold double extensions
(MOVBreg
 x:(MOVBreg _)) => (MOVVreg x)
(MOVBUreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVHreg x:(MOVBreg _)) => (MOVVreg x)
(MOVHreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVHreg x:(MOVHreg _)) => (MOVVreg x)
(MOVHUreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVHUreg x:(MOVHUreg _)) => (MOVVreg x)
(MOVWreg x:(MOVBreg _)) => (MOVVreg x)
(MOVWreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVWreg x:(MOVHreg _)) => (MOVVreg x)
(MOVWreg x:(MOVWreg _)) => (MOVVreg x)
(MOVWUreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVWUreg x:(MOVHUreg _)) => (MOVVreg x)
(MOVWUreg x:(MOVWUreg _)) => (MOVVreg x)

// don't extend before store
(MOVBstore [off] {sym} ptr (MOVBreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVWreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore
 [off] {sym} ptr (MOVWUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWreg x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVWstore [off] {sym} ptr x mem)

// if a register move has only 1 use, just use the same register without emitting instruction
// MOVVnop doesn't emit instruction, only for ensuring the type.
(MOVVreg x) && x.Uses == 1 => (MOVVnop x)

// fold constant into arithmetic ops
(ADDV x (MOVVconst [c])) && is32Bit(c) => (ADDVconst [c] x)
(SUBV x (MOVVconst [c])) && is32Bit(c) => (SUBVconst [c] x)
(AND x (MOVVconst [c])) && is32Bit(c) => (ANDconst [c] x)
(OR  x (MOVVconst
```

```
 [c])) && is32Bit(c) => (ORconst  [c] x)
(XOR x (MOVVconst [c])) && is32Bit(c) => (XORconst [c] x)
(NOR x (MOVVconst [c])) && is32Bit(c) => (NORconst [c] x)

(SLLV _ (MOVVconst [c])) && uint64(c)>=64 => (MOVVconst [0])
(SRLV _ (MOVVconst [c])) && uint64(c)>=64 => (MOVVconst [0])
(SRAV x (MOVVconst [c])) && uint64(c)>=64 => (SRAVconst x [63])
(SLLV x (MOVVconst [c])) => (SLLVconst x [c])
(SRLV x (MOVVconst [c])) => (SRLVconst x [c])
(SRAV x (MOVVconst [c])) => (SRAVconst x [c])

(SGT  (MOVVconst [c]) x) && is32Bit(c) => (SGTconst  [c] x)
(SGTU (MOVVconst [c]) x) && is32Bit(c) => (SGTUconst [c] x)

// mul by constant
(Select1 (MULVU x (MOVVconst [-1]))) => (NEGV x)
(Select1 (MULVU _ (MOVVconst [0]))) => (MOVVconst [0])
(Select1 (MULVU x (MOVVconst [1]))) => x
(Select1 (MULVU x (MOVVconst [c]))) && isPowerOfTwo64(c) => (SLLVconst [log64(c)] x)

// div by constant
(Select1 (DIVVU x (MOVVconst [1]))) => x
(Select1 (DIVVU x (MOVVconst [c]))) && isPowerOfTwo64(c) => (SRLVconst [log64(c)]
 x)
(Select0 (DIVVU _ (MOVVconst [1]))) => (MOVVconst [0])                  // mod
(Select0 (DIVVU x (MOVVconst [c]))) && isPowerOfTwo64(c) => (ANDconst [c-1] x) // mod

// generic simplifications
(ADDV x (NEGV y)) => (SUBV x y)
(SUBV x x) => (MOVVconst [0])
(SUBV (MOVVconst [0]) x) => (NEGV x)
(AND x x) => x
(OR  x x) => x
(XOR x x) => (MOVVconst [0])

// remove redundant *const ops
(ADDVconst [0]  x) => x
(SUBVconst [0]  x) => x
(ANDconst [0]  _) => (MOVVconst [0])
(ANDconst [-1] x) => x
(ORconst  [0]  x) => x
(ORconst  [-1] _) => (MOVVconst [-1])
(XORconst [0]  x) => x
(XORconst [-1] x) => (NORconst [0] x)

// generic constant folding
(ADDVconst [c] (MOVVconst [d]))  => (MOVVconst [c+d])
(ADDVconst [c] (ADDVconst [d] x)) && is32Bit(c+d) => (ADDVconst [c+d] x)
```

```
(ADDVconst [c] (SUBVconst [d] x)) && is32Bit(c-d) => (ADDVconst [c-d] x)
(SUBVconst [c] (MOVVconst [d]))  => (MOVVconst [d-c])
(SUBVconst [c] (SUBVconst [d] x)) && is32Bit(-c-d) => (ADDVconst [-c-d] x)
(SUBVconst [c] (ADDVconst
 [d] x)) && is32Bit(-c+d) => (ADDVconst [-c+d] x)
(SLLVconst [c] (MOVVconst [d]))  => (MOVVconst [d<<uint64(c)])
(SRLVconst [c] (MOVVconst [d]))  => (MOVVconst [int64(uint64(d)>>uint64(c))])
(SRAVconst [c] (MOVVconst [d]))  => (MOVVconst [d>>uint64(c)])
(Select1 (MULVU (MOVVconst [c]) (MOVVconst [d]))) => (MOVVconst [c*d])
(Select1 (DIVV  (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [c/d])
(Select1 (DIVVU (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [int64(uint64(c)/uint64(d))])
(Select0 (DIVV  (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [c%d])   // mod
(Select0 (DIVVU (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [int64(uint64(c)%uint64(d))])
// mod
(ANDconst [c] (MOVVconst [d])) => (MOVVconst [c&d])
(ANDconst [c] (ANDconst [d] x)) => (ANDconst [c&d] x)
(ORconst [c] (MOVVconst [d])) => (MOVVconst [c|d])
(ORconst [c] (ORconst [d] x)) && is32Bit(c|d) => (ORconst [c|d] x)
(XORconst [c] (MOVVconst [d])) => (MOVVconst [c^d])
(XORconst
 [c] (XORconst [d] x)) && is32Bit(c^d) => (XORconst [c^d] x)
(NORconst [c] (MOVVconst [d])) => (MOVVconst [^(c|d)])
(NEGV (MOVVconst [c])) => (MOVVconst [-c])
(MOVBreg  (MOVVconst [c])) => (MOVVconst [int64(int8(c))])
(MOVBUreg (MOVVconst [c])) => (MOVVconst [int64(uint8(c))])
(MOVHreg  (MOVVconst [c])) => (MOVVconst [int64(int16(c))])
(MOVHUreg (MOVVconst [c])) => (MOVVconst [int64(uint16(c))])
(MOVWreg  (MOVVconst [c])) => (MOVVconst [int64(int32(c))])
(MOVWUreg (MOVVconst [c])) => (MOVVconst [int64(uint32(c))])
(MOVVreg  (MOVVconst [c])) => (MOVVconst [c])

// constant comparisons
(SGTconst [c] (MOVVconst [d])) && c>d => (MOVVconst [1])
(SGTconst [c] (MOVVconst [d])) && c<=d => (MOVVconst [0])
(SGTUconst [c] (MOVVconst [d])) && uint64(c)>uint64(d) => (MOVVconst [1])
(SGTUconst [c] (MOVVconst [d])) && uint64(c)<=uint64(d) => (MOVVconst [0])

// other known comparisons
(SGTconst [c] (MOVBreg _)) && 0x7f < c => (MOVVconst [1])
(SGTconst [c] (MOVBreg _)) && c <= -0x80 => (MOVVconst [0])
(SGTconst
 [c] (MOVBUreg _)) && 0xff < c => (MOVVconst [1])
(SGTconst [c] (MOVBUreg _)) && c < 0 => (MOVVconst [0])
(SGTUconst [c] (MOVBUreg _)) && 0xff < uint64(c) => (MOVVconst [1])
(SGTconst [c] (MOVHreg _)) && 0x7fff < c => (MOVVconst [1])
(SGTconst [c] (MOVHreg _)) && c <= -0x8000 => (MOVVconst [0])
(SGTconst [c] (MOVHUreg _)) && 0xffff < c => (MOVVconst [1])
(SGTconst [c] (MOVHUreg _)) && c < 0 => (MOVVconst [0])
```

(SGTUconst [c] (MOVHUreg _)) && 0xffff < uint64(c) => (MOVVconst [1])
(SGTconst [c] (MOVWUreg _)) && c < 0 => (MOVVconst [0])
(SGTconst [c] (ANDconst [m] _)) && 0 <= m && m < c => (MOVVconst [1])
(SGTUconst [c] (ANDconst [m] _)) && uint64(m) < uint64(c) => (MOVVconst [1])
(SGTconst [c] (SRLVconst _ [d])) && 0 <= c && 0 < d && d <= 63 && 0xffffffffffffffff>>uint64(d) < uint64(c) => (MOVVconst [1])
(SGTUconst [c] (SRLVconst _ [d])) && 0 < d && d <= 63 && 0xffffffffffffffff>>uint64(d) < uint64(c) => (MOVVconst [1])

// absorb constants into branches
(EQ (MOVVconst [0])
 yes no) => (First yes no)
(EQ (MOVVconst [c]) yes no) && c != 0 => (First no yes)
(NE (MOVVconst [0]) yes no) => (First no yes)
(NE (MOVVconst [c]) yes no) && c != 0 => (First yes no)
(LTZ (MOVVconst [c]) yes no) && c < 0 => (First yes no)
(LTZ (MOVVconst [c]) yes no) && c >= 0 => (First no yes)
(LEZ (MOVVconst [c]) yes no) && c <= 0 => (First yes no)
(LEZ (MOVVconst [c]) yes no) && c > 0 => (First no yes)
(GTZ (MOVVconst [c]) yes no) && c > 0 => (First yes no)
(GTZ (MOVVconst [c]) yes no) && c <= 0 => (First no yes)
(GEZ (MOVVconst [c]) yes no) && c >= 0 => (First yes no)
(GEZ (MOVVconst [c]) yes no) && c < 0 => (First no yes)

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Found in path(s):
* /compile-zip/compile/internal/types2/decl.go
* /compile-zip/compile/internal/ppc64/opt.go
* /compile-zip/compile/internal/types2/testdata/check/issues0.go
* /compile-zip/compile/internal/types2/testdata/check/importdecl1/importdecl1a.go
* /compile-zip/compile/internal/types2/testdata/check/init2.go
* /compile-zip/compile/internal/types2/initorder.go
* /compile-zip/compile/internal/types2/testdata/check/blank.go
* /compile-zip/compile/internal/types2/testdata/check/importdecl1/importdecl1b.go
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* /compile-zip/compile/internal/types2/basic.go
* /compile-zip/compile/internal/types2/universe.go
* /compile-zip/compile/internal/types2/check.go
* /compile-zip/compile/internal/types2/named.go

* /compile-zip/compile/internal/importer/testdata/exports.go
* /compile-zip/compile/internal/dwarfgen/dwarf.go
* /compile-zip/compile/internal/types2/testdata/check/decls0.go
* /compile-zip/compile/internal/types2/pointer.go
* /compile-zip/compile/internal/types2/map.go
* /compile-zip/compile/internal/types2/chan.go
* /compile-zip/compile/internal/types2/testdata/check/gotos.go
* /compile-zip/compile/internal/types2/testdata/check/labels.go
* /compile-zip/compile/internal/inline/inl.go
* /compile-zip/compile/internal/ir/fmt.go
* /compile-zip/compile/internal/types2/resolver_test.go
* /compile-zip/compile/internal/ir/scc.go
* /compile-zip/compile/internal/importer/exportdata.go
*
 /compile-zip/compile/internal/types2/tuple.go
* /compile-zip/compile/internal/ssagen/pgen.go
* /compile-zip/compile/internal/gc/compile.go
* /compile-zip/compile/internal/types2/check_test.go
* /compile-zip/compile/internal/importer/gcimporter.go
* /compile-zip/compile/internal/importer/gcimporter_test.go
* /compile-zip/compile/internal/types2/slice.go
* /compile-zip/compile/internal/types2/array.go
* /compile-zip/compile/internal/types2/typeparam.go
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* /compile-zip/compile/internal/types2/testdata/check/expr0.go
* /compile-zip/compile/internal/types2/testdata/check/decls2/decls2b.go
* /compile-zip/compile/internal/types2/testdata/check/expr3.go
* /compile-zip/compile/internal/types2/predicates.go
* /compile-zip/compile/internal/types2/testdata/check/expr2.go
* /compile-zip/compile/internal/types2/testdata/check/decls2/decls2a.go
* /compile-zip/compile/internal/types2/conversions.go
* /compile-zip/compile/internal/types2/testdata/check/const1.go
* /compile-zip/compile/internal/walk/race.go
* /compile-zip/compile/internal/types2/testdata/check/compliterals.go
* /compile-zip/compile/internal/types2/typestring_test.go
* /compile-zip/compile/internal/types2/builtins.go
* /compile-zip/compile/internal/types2/expr.go
* /compile-zip/compile/internal/types2/testdata/check/expr1.go
* /compile-zip/compile/internal/types2/errors.go
*
 /compile-zip/compile/internal/types2/stmt.go
* /compile-zip/compile/internal/syntax/walk.go
* /compile-zip/compile/internal/types2/testdata/check/const0.go

* /compile-zip/compile/internal/types2/operand.go
* /compile-zip/compile/internal/types2/testdata/check/decls1.go
* /compile-zip/compile/internal/types2/testdata/check/conversions0.go
* /compile-zip/compile/internal/types2/testdata/check/decls3.go
* /compile-zip/compile/internal/types2/api.go
* /compile-zip/compile/internal/types2/testdata/check/stmt0.go
* /compile-zip/compile/internal/walk/order.go
* /compile-zip/compile/internal/types2/testdata/check/builtins0.go
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```
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// This file contains rules to decompose builtin compound types
// (complex,string,slice,interface) into their constituent
// types.  These rules work together with the decomposeBuiltIn
// pass which handles phis of these types.

// complex ops
(ComplexReal (ComplexMake real _  )) => real
(ComplexImag (ComplexMake _ imag )) => imag

(Load <t> ptr mem) && t.IsComplex() && t.Size() == 8 =>
 (ComplexMake
   (Load <typ.Float32> ptr mem)
   (Load <typ.Float32>
     (OffPtr <typ.Float32Ptr> [4] ptr)
     mem)
   )
(Store {t} dst (ComplexMake real imag) mem) && t.Size() == 8 =>
 (Store {typ.Float32}
   (OffPtr <typ.Float32Ptr> [4] dst)
   imag
   (Store {typ.Float32} dst real mem))
(Load <t> ptr mem) && t.IsComplex() && t.Size() == 16 =>
 (ComplexMake

 (Load <typ.Float64> ptr mem)
   (Load <typ.Float64>
     (OffPtr <typ.Float64Ptr> [8] ptr)
     mem)
   )
(Store {t} dst (ComplexMake real imag) mem) && t.Size() == 16 =>
 (Store {typ.Float64}
   (OffPtr <typ.Float64Ptr> [8] dst)
   imag
   (Store {typ.Float64} dst real mem))
```

```
// string ops
(StringPtr (StringMake ptr _)) => ptr
(StringLen (StringMake _ len)) => len

(Load <t> ptr mem) && t.IsString() =>
 (StringMake
   (Load <typ.BytePtr> ptr mem)
   (Load <typ.Int>
     (OffPtr <typ.IntPtr> [config.PtrSize] ptr)
     mem))
(Store dst (StringMake ptr len) mem) =>
 (Store {typ.Int}
   (OffPtr <typ.IntPtr> [config.PtrSize] dst)
   len
   (Store {typ.BytePtr} dst ptr mem))

// slice ops
(SlicePtr (SliceMake ptr _ _ )) => ptr
(SliceLen (SliceMake _ len _)) => len
(SliceCap (SliceMake _ _ cap)) => cap
(SlicePtrUnchecked (SliceMake ptr _ _ )) => ptr

(Load <t> ptr mem) && t.IsSlice() =>
 (SliceMake
   (Load <t.Elem().PtrTo()> ptr mem)
   (Load <typ.Int>
     (OffPtr <typ.IntPtr>
 [config.PtrSize] ptr)
     mem)
   (Load <typ.Int>
     (OffPtr <typ.IntPtr> [2*config.PtrSize] ptr)
     mem))
(Store {t} dst (SliceMake ptr len cap) mem) =>
 (Store {typ.Int}
   (OffPtr <typ.IntPtr> [2*config.PtrSize] dst)
   cap
   (Store {typ.Int}
     (OffPtr <typ.IntPtr> [config.PtrSize] dst)
     len
     (Store {t.Elem().PtrTo()} dst ptr mem)))

// interface ops
(ITab (IMake itab _)) => itab
(IData (IMake _ data)) => data

(Load <t> ptr mem) && t.IsInterface() =>
 (IMake
```

```
  (Load <typ.Uintptr> ptr mem)
  (Load <typ.BytePtr>
    (OffPtr <typ.BytePtrPtr> [config.PtrSize] ptr)
    mem))
(Store dst (IMake itab data) mem) =>
 (Store {typ.BytePtr}
  (OffPtr <typ.BytePtrPtr> [config.PtrSize] dst)
  data
  (Store {typ.Uintptr} dst itab mem))
```

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Found in path(s):
* /compile-zip/compile/internal/escape/solve.go
* /compile-zip/compile/internal/ssa/numberlines.go
* /compile-zip/compile/internal/test/testdata/slice_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue23203b.go
* /compile-zip/compile/internal/escape/stmt.go
* /compile-zip/compile/internal/base/mapfile_mmap.go
* /compile-zip/compile/internal/syntax/testdata/sample.go
* /compile-zip/compile/internal/escape/call.go
* /compile-zip/compile/internal/ssa/poset.go
* /compile-zip/compile/internal/base/mapfile_read.go
* /compile-zip/compile/internal/importer/testdata/issue25596.go
* /compile-zip/compile/internal/importer/testdata/issue25301.go
* /compile-zip/compile/internal/syntax/testdata/issue23434.go
* /compile-zip/compile/internal/escape/escape.go
* /compile-zip/compile/internal/escape/graph.go
* /compile-zip/compile/internal/types2/testdata/check/issue25008/issue25008b.go
*

/compile-zip/compile/internal/types2/infer.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue28251.go
* /compile-zip/compile/internal/escape/assign.go
* /compile-zip/compile/internal/types/identity.go
* /compile-zip/compile/internal/ssa/zeroextension_test.go
* /compile-zip/compile/internal/test/lang_test.go
* /compile-zip/compile/internal/syntax/testdata/issue31092.go
* /compile-zip/compile/internal/syntax/testdata/issue23385.go
* /compile-zip/compile/internal/types2/testdata/check/issue25008/issue25008a.go
* /compile-zip/compile/internal/types2/subst.go
* /compile-zip/compile/internal/typecheck/iimport.go
* /compile-zip/compile/internal/ir/dump.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue26390.go
* /compile-zip/compile/internal/test/testdata/reproducible/issue27013.go
* /compile-zip/compile/internal/syntax/testdata/issue20789.go
* /compile-zip/compile/internal/escape/expr.go
* /compile-zip/compile/internal/escape/utils.go
*
/compile-zip/compile/internal/syntax/pos.go
* /compile-zip/compile/internal/typecheck/iexport.go
* /compile-zip/compile/internal/syntax/error_test.go
* /compile-zip/compile/internal/wasm/ssa.go
* /compile-zip/compile/internal/ssa/biasedsparsemap.go
* /compile-zip/compile/internal/importer/iimport.go
* /compile-zip/compile/internal/ssa/gen/WasmOps.go
* /compile-zip/compile/internal/ssa/poset_test.go
* /compile-zip/compile/internal/ssa/loopbce.go
* /compile-zip/compile/internal/escape/leaks.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue23203a.go
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(Add(Ptr|32|16|8) ...) => (ADD ...)
(Add(32|64)F ...) => (ADD(F|D) ...)
(Add32carry ...) => (ADDS ...)
(Add32withcarry ...) => (ADC ...)

(Sub(Ptr|32|16|8) ...) => (SUB ...)
(Sub(32|64)F ...) => (SUB(F|D) ...)
(Sub32carry ...) => (SUBS ...)
(Sub32withcarry ...) => (SBC ...)

(Mul(32|16|8) ...) => (MUL ...)
(Mul(32|64)F ...) => (MUL(F|D) ...)
(Hmul(32|32u) ...) => (HMU(L|LU) ...)

```
(Mul32uhilo ...) => (MULLU ...)

(Div32 x y) =>
 (SUB (XOR <typ.UInt32>                                    // negate the result if one operand is negative
  (Select0 <typ.UInt32> (CALLudiv
   (SUB <typ.UInt32> (XOR x <typ.UInt32> (Signmask x)) (Signmask x))   // negate x if negative
   (SUB <typ.UInt32> (XOR y <typ.UInt32> (Signmask y)) (Signmask y)))) // negate y if
 negative
  (Signmask (XOR <typ.UInt32> x y))) (Signmask (XOR <typ.UInt32> x y)))
(Div32u x y) => (Select0 <typ.UInt32> (CALLudiv x y))
(Div16 x y) => (Div32 (SignExt16to32 x) (SignExt16to32 y))
(Div16u x y) => (Div32u (ZeroExt16to32 x) (ZeroExt16to32 y))
(Div8 x y) => (Div32 (SignExt8to32 x) (SignExt8to32 y))
(Div8u x y) => (Div32u (ZeroExt8to32 x) (ZeroExt8to32 y))
(Div(32|64)F ...) => (DIV(F|D) ...)

(Mod32 x y) =>
 (SUB (XOR <typ.UInt32>                                    // negate the result if x is negative
  (Select1 <typ.UInt32> (CALLudiv
   (SUB <typ.UInt32> (XOR <typ.UInt32> x (Signmask x)) (Signmask x))   // negate x if negative
   (SUB <typ.UInt32> (XOR <typ.UInt32> y (Signmask y)) (Signmask y)))) // negate y if negative
  (Signmask x)) (Signmask x))
(Mod32u x y) => (Select1 <typ.UInt32> (CALLudiv x y))
(Mod16 x y) => (Mod32 (SignExt16to32 x) (SignExt16to32 y))
(Mod16u x y) => (Mod32u (ZeroExt16to32 x) (ZeroExt16to32 y))
(Mod8 x y) => (Mod32 (SignExt8to32
 x) (SignExt8to32 y))
(Mod8u x y) => (Mod32u (ZeroExt8to32 x) (ZeroExt8to32 y))

// (x + y) / 2 with x>=y -> (x - y) / 2 + y
(Avg32u <t> x y) => (ADD (SRLconst <t> (SUB <t> x y) [1]) y)

(And(32|16|8) ...) => (AND ...)
(Or(32|16|8) ...) => (OR ...)
(Xor(32|16|8) ...) => (XOR ...)

// unary ops
(Neg(32|16|8) x) => (RSBconst [0] x)
(Neg(32|64)F ...) => (NEG(F|D) ...)

(Com(32|16|8) ...) => (MVN ...)

(Sqrt ...) => (SQRTD ...)
(Sqrt32 ...) => (SQRTF ...)
(Abs ...) => (ABSD ...)

// TODO: optimize this for ARMv5 and ARMv6
(Ctz32NonZero ...) => (Ctz32 ...)
```

```
(Ctz16NonZero ...) => (Ctz32 ...)
(Ctz8NonZero ...) => (Ctz32 ...)

// count trailing zero for ARMv5 and ARMv6
// 32 - CLZ(x&-x - 1)
(Ctz32 <t> x) && buildcfg.GOARM<=6 =>
 (RSBconst [32] (CLZ <t> (SUBconst <t> (AND <t> x (RSBconst <t> [0] x)) [1])))
(Ctz16 <t> x) && buildcfg.GOARM<=6 =>
 (RSBconst [32] (CLZ <t> (SUBconst <typ.UInt32> (AND <typ.UInt32> (ORconst <typ.UInt32> [0x10000] x)
(RSBconst <typ.UInt32> [0] (ORconst <typ.UInt32> [0x10000]
 x))) [1])))
(Ctz8 <t> x) && buildcfg.GOARM<=6 =>
 (RSBconst [32] (CLZ <t> (SUBconst <typ.UInt32> (AND <typ.UInt32> (ORconst <typ.UInt32> [0x100] x)
(RSBconst <typ.UInt32> [0] (ORconst <typ.UInt32> [0x100] x))) [1])))

// count trailing zero for ARMv7
(Ctz32 <t> x) && buildcfg.GOARM==7 => (CLZ <t> (RBIT <t> x))
(Ctz16 <t> x) && buildcfg.GOARM==7 => (CLZ <t> (RBIT <typ.UInt32> (ORconst <typ.UInt32> [0x10000] x)))
(Ctz8 <t> x) && buildcfg.GOARM==7 => (CLZ <t> (RBIT <typ.UInt32> (ORconst <typ.UInt32> [0x100] x)))

// bit length
(BitLen32 <t> x) => (RSBconst [32] (CLZ <t> x))

// byte swap for ARMv5
// let (a, b, c, d) be the bytes of x from high to low
// t1 = x right rotate 16 bits -- (c,  d,  a,  b )
// t2 = x ^ t1                 -- (a^c, b^d, a^c, b^d)
// t3 = t2 &^ 0xff0000         -- (a^c, 0,  a^c, b^d)
// t4 = t3 >> 8                -- (0,  a^c, 0,  a^c)
// t5 = x right rotate 8 bits  -- (d,  a,  b,  c )
// result = t4 ^ t5            -- (d,  c,  b,  a )
// using
 shifted ops this can be done in 4 instructions.
(Bswap32 <t> x) && buildcfg.GOARM==5 =>
 (XOR <t>
  (SRLconst <t> (BICconst <t> (XOR <t> x (SRRconst <t> [16] x)) [0xff0000]) [8])
  (SRRconst <t> x [8]))

// byte swap for ARMv6 and above
(Bswap32 x) && buildcfg.GOARM>=6 => (REV x)

// boolean ops -- booleans are represented with 0=false, 1=true
(AndB ...) => (AND ...)
(OrB ...) => (OR ...)
(EqB x y) => (XORconst [1] (XOR <typ.Bool> x y))
(NeqB ...) => (XOR ...)
(Not x) => (XORconst [1] x)
```

```
// shifts
// hardware instruction uses only the low byte of the shift
// we compare to 256 to ensure Go semantics for large shifts
(Lsh32x32 x y) => (CMOVWHSconst (SLL <x.Type> x y) (CMPconst [256] y) [0])
(Lsh32x16 x y) => (CMOVWHSconst (SLL <x.Type> x (ZeroExt16to32 y)) (CMPconst [256] (ZeroExt16to32 y)) [0])
(Lsh32x8  x y) => (SLL x (ZeroExt8to32 y))

(Lsh16x32 x y) => (CMOVWHSconst (SLL <x.Type> x y) (CMPconst [256] y) [0])
(Lsh16x16 x y) => (CMOVWHSconst (SLL <x.Type> x (ZeroExt16to32 y)) (CMPconst
 [256] (ZeroExt16to32 y)) [0])
(Lsh16x8  x y) => (SLL x (ZeroExt8to32 y))

(Lsh8x32 x y) => (CMOVWHSconst (SLL <x.Type> x y) (CMPconst [256] y) [0])
(Lsh8x16 x y) => (CMOVWHSconst (SLL <x.Type> x (ZeroExt16to32 y)) (CMPconst [256] (ZeroExt16to32 y)) [0])
(Lsh8x8  x y) => (SLL x (ZeroExt8to32 y))

(Rsh32Ux32 x y) => (CMOVWHSconst (SRL <x.Type> x y) (CMPconst [256] y) [0])
(Rsh32Ux16 x y) => (CMOVWHSconst (SRL <x.Type> x (ZeroExt16to32 y)) (CMPconst [256] (ZeroExt16to32 y)) [0])
(Rsh32Ux8  x y) => (SRL x (ZeroExt8to32 y))

(Rsh16Ux32 x y) => (CMOVWHSconst (SRL <x.Type> (ZeroExt16to32 x) y) (CMPconst [256] y) [0])
(Rsh16Ux16 x y) => (CMOVWHSconst (SRL <x.Type> (ZeroExt16to32 x) (ZeroExt16to32 y)) (CMPconst [256] (ZeroExt16to32 y)) [0])
(Rsh16Ux8  x y) => (SRL (ZeroExt16to32 x) (ZeroExt8to32 y))

(Rsh8Ux32 x y) => (CMOVWHSconst (SRL <x.Type> (ZeroExt8to32 x) y) (CMPconst [256] y) [0])
(Rsh8Ux16 x y) => (CMOVWHSconst (SRL <x.Type> (ZeroExt8to32 x) (ZeroExt16to32 y)) (CMPconst [256] (ZeroExt16to32
 y)) [0])
(Rsh8Ux8  x y) => (SRL (ZeroExt8to32 x) (ZeroExt8to32 y))

(Rsh32x32 x y) => (SRAcond x y (CMPconst [256] y))
(Rsh32x16 x y) => (SRAcond x (ZeroExt16to32 y) (CMPconst [256] (ZeroExt16to32 y)))
(Rsh32x8  x y) => (SRA x (ZeroExt8to32 y))

(Rsh16x32 x y) => (SRAcond (SignExt16to32 x) y (CMPconst [256] y))
(Rsh16x16 x y) => (SRAcond (SignExt16to32 x) (ZeroExt16to32 y) (CMPconst [256] (ZeroExt16to32 y)))
(Rsh16x8  x y) => (SRA (SignExt16to32 x) (ZeroExt8to32 y))

(Rsh8x32 x y) => (SRAcond (SignExt8to32 x) y (CMPconst [256] y))
(Rsh8x16 x y) => (SRAcond (SignExt8to32 x) (ZeroExt16to32 y) (CMPconst [256] (ZeroExt16to32 y)))
(Rsh8x8  x y) => (SRA (SignExt8to32 x) (ZeroExt8to32 y))

// constant shifts
// generic opt rewrites all constant shifts to shift by Const64
```

```
(Lsh32x64 x (Const64 [c])) && uint64(c) < 32 => (SLLconst x [int32(c)])
(Rsh32x64 x (Const64 [c])) && uint64(c) < 32 => (SRAconst x [int32(c)])
(Rsh32Ux64 x (Const64 [c])) && uint64(c) < 32 => (SRLconst x [int32(c)])
(Lsh16x64
 x (Const64 [c])) && uint64(c) < 16 => (SLLconst x [int32(c)])
(Rsh16x64 x (Const64 [c])) && uint64(c) < 16 => (SRAconst (SLLconst <typ.UInt32> x [16]) [int32(c+16)])
(Rsh16Ux64 x (Const64 [c])) && uint64(c) < 16 => (SRLconst (SLLconst <typ.UInt32> x [16]) [int32(c+16)])
(Lsh8x64 x (Const64 [c])) && uint64(c) < 8 => (SLLconst x [int32(c)])
(Rsh8x64 x (Const64 [c])) && uint64(c) < 8 => (SRAconst (SLLconst <typ.UInt32> x [24]) [int32(c+24)])
(Rsh8Ux64 x (Const64 [c])) && uint64(c) < 8 => (SRLconst (SLLconst <typ.UInt32> x [24]) [int32(c+24)])

// large constant shifts
(Lsh32x64 _ (Const64 [c])) && uint64(c) >= 32 => (Const32 [0])
(Rsh32Ux64 _ (Const64 [c])) && uint64(c) >= 32 => (Const32 [0])
(Lsh16x64 _ (Const64 [c])) && uint64(c) >= 16 => (Const16 [0])
(Rsh16Ux64 _ (Const64 [c])) && uint64(c) >= 16 => (Const16 [0])
(Lsh8x64 _ (Const64 [c])) && uint64(c) >= 8 => (Const8 [0])
(Rsh8Ux64 _ (Const64 [c])) && uint64(c) >= 8 => (Const8 [0])

// large constant signed right shift,
 we leave the sign bit
(Rsh32x64 x (Const64 [c])) && uint64(c) >= 32 => (SRAconst x [31])
(Rsh16x64 x (Const64 [c])) && uint64(c) >= 16 => (SRAconst (SLLconst <typ.UInt32> x [16]) [31])
(Rsh8x64 x (Const64 [c])) && uint64(c) >= 8 => (SRAconst (SLLconst <typ.UInt32> x [24]) [31])

// constants
(Const(8|16|32) [val]) => (MOVWconst [int32(val)])
(Const(32|64)F [val]) => (MOV(F|D)const [float64(val)])
(ConstNil) => (MOVWconst [0])
(ConstBool [t]) => (MOVWconst [b2i32(t)])

// truncations
// Because we ignore high parts of registers, truncates are just copies.
(Trunc16to8 ...) => (Copy ...)
(Trunc32to8 ...) => (Copy ...)
(Trunc32to16 ...) => (Copy ...)

// Zero-/Sign-extensions
(ZeroExt8to16 ...) => (MOVBUreg ...)
(ZeroExt8to32 ...) => (MOVBUreg ...)
(ZeroExt16to32 ...) => (MOVHUreg ...)

(SignExt8to16 ...) => (MOVBreg ...)
(SignExt8to32 ...) => (MOVBreg ...)
(SignExt16to32 ...) => (MOVHreg ...)

(Signmask x) => (SRAconst x [31])
(Zeromask x) => (SRAconst (RSBshiftRL <typ.Int32> x x [1]) [31])
```

```
 // sign bit of uint32(x)>>1 - x
(Slicemask <t> x) => (SRAconst (RSBconst <t> [0] x) [31])

// float <-> int conversion
(Cvt32to32F ...) => (MOVWF ...)
(Cvt32to64F ...) => (MOVWD ...)
(Cvt32Uto32F ...) => (MOVWUF ...)
(Cvt32Uto64F ...) => (MOVWUD ...)
(Cvt32Fto32 ...) => (MOVFW ...)
(Cvt64Fto32 ...) => (MOVDW ...)
(Cvt32Fto32U ...) => (MOVFWU ...)
(Cvt64Fto32U ...) => (MOVDWU ...)
(Cvt32Fto64F ...) => (MOVFD ...)
(Cvt64Fto32F ...) => (MOVDF ...)

(Round(32|64)F ...) => (Copy ...)

(CvtBoolToUint8 ...) => (Copy ...)

// fused-multiply-add
(FMA x y z) => (FMULAD z x y)

// comparisons
(Eq8 x y)  => (Equal (CMP (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Eq16 x y) => (Equal (CMP (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Eq32 x y) => (Equal (CMP x y))
(EqPtr x y) => (Equal (CMP x y))
(Eq(32|64)F x y) => (Equal (CMP(F|D) x y))

(Neq8 x y)  => (NotEqual (CMP (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Neq16 x y) => (NotEqual (CMP (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Neq32 x y) => (NotEqual (CMP x y))
(NeqPtr
 x y) => (NotEqual (CMP x y))
(Neq(32|64)F x y) => (NotEqual (CMP(F|D) x y))

(Less8 x y)  => (LessThan (CMP (SignExt8to32 x) (SignExt8to32 y)))
(Less16 x y) => (LessThan (CMP (SignExt16to32 x) (SignExt16to32 y)))
(Less32 x y) => (LessThan (CMP x y))
(Less(32|64)F x y) => (GreaterThan (CMP(F|D) y x)) // reverse operands to work around NaN

(Less8U x y)  => (LessThanU (CMP (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Less16U x y) => (LessThanU (CMP (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Less32U x y) => (LessThanU (CMP x y))

(Leq8 x y)  => (LessEqual (CMP (SignExt8to32 x) (SignExt8to32 y)))
(Leq16 x y) => (LessEqual (CMP (SignExt16to32 x) (SignExt16to32 y)))
(Leq32 x y) => (LessEqual (CMP x y))
```

```
(Leq(32|64)F x y) => (GreaterEqual (CMP(F|D) y x)) // reverse operands to work around NaN

(Leq8U x y)  => (LessEqualU (CMP (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Leq16U x y) => (LessEqualU (CMP (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Leq32U x y) => (LessEqualU (CMP x y))

(OffPtr [off] ptr:(SP)) => (MOVWaddr
 [int32(off)] ptr)
(OffPtr [off] ptr) => (ADDconst [int32(off)] ptr)

(Addr {sym} base) => (MOVWaddr {sym} base)
(LocalAddr {sym} base _) => (MOVWaddr {sym} base)

// loads
(Load <t> ptr mem) && t.IsBoolean() => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && isSigned(t)) => (MOVBload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && !isSigned(t)) => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && isSigned(t)) => (MOVHload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && !isSigned(t)) => (MOVHUload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) || isPtr(t)) => (MOVWload ptr mem)
(Load <t> ptr mem) && is32BitFloat(t) => (MOVFload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (MOVDload ptr mem)

// stores
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVHstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && !is32BitFloat(val.Type) => (MOVWstore ptr val mem)
(Store {t} ptr val mem) &&
 t.Size() == 4 && is32BitFloat(val.Type) => (MOVFstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (MOVDstore ptr val mem)

// zero instructions
(Zero [0] _ mem) => mem
(Zero [1] ptr mem) => (MOVBstore ptr (MOVWconst [0]) mem)
(Zero [2] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore ptr (MOVWconst [0]) mem)
(Zero [2] ptr mem) =>
 (MOVBstore [1] ptr (MOVWconst [0])
  (MOVBstore [0] ptr (MOVWconst [0]) mem))
(Zero [4] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore ptr (MOVWconst [0]) mem)
(Zero [4] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] ptr (MOVWconst [0])
  (MOVHstore [0] ptr (MOVWconst [0]) mem))
(Zero [4] ptr mem) =>
 (MOVBstore [3] ptr (MOVWconst [0])
  (MOVBstore [2] ptr (MOVWconst [0])
   (MOVBstore [1] ptr (MOVWconst [0])
```

```
   (MOVBstore [0] ptr (MOVWconst [0]) mem))))

(Zero [3] ptr mem) =>
 (MOVBstore [2] ptr (MOVWconst [0])
  (MOVBstore [1] ptr (MOVWconst [0])
   (MOVBstore [0] ptr (MOVWconst [0]) mem)))

// Medium
 zeroing uses a duff device
// 4 and 128 are magic constants, see runtime/mkduff.go
(Zero [s] {t} ptr mem)
 && s%4 == 0 && s > 4 && s <= 512
 && t.Alignment()%4 == 0 && !config.noDuffDevice =>
 (DUFFZERO [4 * (128 - s/4)] ptr (MOVWconst [0]) mem)

// Large zeroing uses a loop
(Zero [s] {t} ptr mem)
 && (s > 512 || config.noDuffDevice) || t.Alignment()%4 != 0 =>
 (LoweredZero [t.Alignment()]
  ptr
  (ADDconst <ptr.Type> ptr [int32(s-moveSize(t.Alignment(), config))])
  (MOVWconst [0])
  mem)

// moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBUload src mem) mem)
(Move [2] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore dst (MOVHUload src mem) mem)
(Move [2] dst src mem) =>
 (MOVBstore [1] dst (MOVBUload [1] src mem)
  (MOVBstore dst (MOVBUload src mem) mem))
(Move [4] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore dst (MOVWload src mem) mem)
(Move [4] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] dst (MOVHUload [2] src mem)
  (MOVHstore
 dst (MOVHUload src mem) mem))
(Move [4] dst src mem) =>
 (MOVBstore [3] dst (MOVBUload [3] src mem)
  (MOVBstore [2] dst (MOVBUload [2] src mem)
   (MOVBstore [1] dst (MOVBUload [1] src mem)
    (MOVBstore dst (MOVBUload src mem) mem))))

(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBUload [2] src mem)
  (MOVBstore [1] dst (MOVBUload [1] src mem)
   (MOVBstore dst (MOVBUload src mem) mem)))
```

```
// Medium move uses a duff device
// 8 and 128 are magic constants, see runtime/mkduff.go
(Move [s] {t} dst src mem)
 && s%4 == 0 && s > 4 && s <= 512
 && t.Alignment()%4 == 0 && !config.noDuffDevice && logLargeCopy(v, s) =>
 (DUFFCOPY [8 * (128 - s/4)] dst src mem)

// Large move uses a loop
(Move [s] {t} dst src mem)
 && ((s > 512 || config.noDuffDevice) || t.Alignment()%4 != 0) && logLargeCopy(v, s) =>
 (LoweredMove [t.Alignment()]
  dst
  src
  (ADDconst <src.Type> src [int32(s-moveSize(t.Alignment(), config))])
  mem)

// calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall
 ...) => (CALLclosure ...)
(InterCall ...) => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// checks
(NilCheck ...) => (LoweredNilCheck ...)
(IsNonNil ptr) => (NotEqual (CMPconst [0] ptr))
(IsInBounds idx len) => (LessThanU (CMP idx len))
(IsSliceInBounds idx len) => (LessEqualU (CMP idx len))

// pseudo-ops
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)

// Absorb pseudo-ops into blocks.
(If (Equal cc) yes no) => (EQ cc yes no)
(If (NotEqual cc) yes no) => (NE cc yes no)
(If (LessThan cc) yes no) => (LT cc yes no)
(If (LessThanU cc) yes no) => (ULT cc yes no)
(If (LessEqual cc) yes no) => (LE cc yes no)
(If (LessEqualU cc) yes no) => (ULE cc yes no)
(If (GreaterThan cc) yes no) => (GT cc yes no)
(If (GreaterThanU cc) yes no) => (UGT cc yes no)
(If (GreaterEqual cc) yes no) => (GE cc yes no)
(If (GreaterEqualU cc) yes no) => (UGE cc yes no)

(If cond yes no) => (NE (CMPconst [0] cond) yes
```

```
no)

// Absorb boolean tests into block
(NE (CMPconst [0] (Equal cc)) yes no) => (EQ cc yes no)
(NE (CMPconst [0] (NotEqual cc)) yes no) => (NE cc yes no)
(NE (CMPconst [0] (LessThan cc)) yes no) => (LT cc yes no)
(NE (CMPconst [0] (LessThanU cc)) yes no) => (ULT cc yes no)
(NE (CMPconst [0] (LessEqual cc)) yes no) => (LE cc yes no)
(NE (CMPconst [0] (LessEqualU cc)) yes no) => (ULE cc yes no)
(NE (CMPconst [0] (GreaterThan cc)) yes no) => (GT cc yes no)
(NE (CMPconst [0] (GreaterThanU cc)) yes no) => (UGT cc yes no)
(NE (CMPconst [0] (GreaterEqual cc)) yes no) => (GE cc yes no)
(NE (CMPconst [0] (GreaterEqualU cc)) yes no) => (UGE cc yes no)

// Write barrier.
(WB ...) => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

(PanicExtend [kind]
 hi lo y mem) && boundsABI(kind) == 0 => (LoweredPanicExtendA [kind] hi lo y mem)
(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 1 => (LoweredPanicExtendB [kind] hi lo y mem)
(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 2 => (LoweredPanicExtendC [kind] hi lo y mem)

// Optimizations

// fold offset into address
(ADDconst [off1] (MOVWaddr [off2] {sym} ptr)) => (MOVWaddr [off1+off2] {sym} ptr)
(SUBconst [off1] (MOVWaddr [off2] {sym} ptr)) => (MOVWaddr [off2-off1] {sym} ptr)

// fold address into load/store
(MOVBload [off1] {sym} (ADDconst [off2] ptr) mem) => (MOVBload [off1+off2] {sym} ptr mem)
(MOVBload [off1] {sym} (SUBconst [off2] ptr) mem) => (MOVBload [off1-off2] {sym} ptr mem)
(MOVBUload [off1] {sym} (ADDconst [off2] ptr) mem) => (MOVBUload [off1+off2] {sym} ptr mem)
(MOVBUload [off1] {sym} (SUBconst [off2] ptr) mem) => (MOVBUload [off1-off2] {sym} ptr mem)
(MOVHload [off1] {sym} (ADDconst [off2] ptr) mem) => (MOVHload [off1+off2] {sym} ptr mem)
(MOVHload [off1]
 {sym} (SUBconst [off2] ptr) mem) => (MOVHload [off1-off2] {sym} ptr mem)
(MOVHUload [off1] {sym} (ADDconst [off2] ptr) mem) => (MOVHUload [off1+off2] {sym} ptr mem)
(MOVHUload [off1] {sym} (SUBconst [off2] ptr) mem) => (MOVHUload [off1-off2] {sym} ptr mem)
(MOVWload [off1] {sym} (ADDconst [off2] ptr) mem) => (MOVWload [off1+off2] {sym} ptr mem)
(MOVWload [off1] {sym} (SUBconst [off2] ptr) mem) => (MOVWload [off1-off2] {sym} ptr mem)
(MOVFload [off1] {sym} (ADDconst [off2] ptr) mem) => (MOVFload [off1+off2] {sym} ptr mem)
(MOVFload [off1] {sym} (SUBconst [off2] ptr) mem) => (MOVFload [off1-off2] {sym} ptr mem)
(MOVDload [off1] {sym} (ADDconst [off2] ptr) mem) => (MOVDload [off1+off2] {sym} ptr mem)
(MOVDload [off1] {sym} (SUBconst [off2] ptr) mem) => (MOVDload [off1-off2] {sym} ptr mem)
```

```
(MOVBstore [off1] {sym} (ADDconst [off2] ptr) val mem) => (MOVBstore [off1+off2] {sym} ptr val mem)
(MOVBstore [off1] {sym} (SUBconst [off2] ptr) val mem) => (MOVBstore [off1-off2] {sym} ptr val mem)
(MOVHstore
 [off1] {sym} (ADDconst [off2] ptr) val mem) => (MOVHstore [off1+off2] {sym} ptr val mem)
(MOVHstore [off1] {sym} (SUBconst [off2] ptr) val mem) => (MOVHstore [off1-off2] {sym} ptr val mem)
(MOVWstore [off1] {sym} (ADDconst [off2] ptr) val mem) => (MOVWstore [off1+off2] {sym} ptr val mem)
(MOVWstore [off1] {sym} (SUBconst [off2] ptr) val mem) => (MOVWstore [off1-off2] {sym} ptr val mem)
(MOVFstore [off1] {sym} (ADDconst [off2] ptr) val mem) => (MOVFstore [off1+off2] {sym} ptr val mem)
(MOVFstore [off1] {sym} (SUBconst [off2] ptr) val mem) => (MOVFstore [off1-off2] {sym} ptr val mem)
(MOVDstore [off1] {sym} (ADDconst [off2] ptr) val mem) => (MOVDstore [off1+off2] {sym} ptr val mem)
(MOVDstore [off1] {sym} (SUBconst [off2] ptr) val mem) => (MOVDstore [off1-off2] {sym} ptr val mem)

(MOVBload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVBload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVBUload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) &&
 canMergeSym(sym1,sym2) =>
 (MOVBUload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVHload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHUload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVHUload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVWload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVFload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVFload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVDload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVDload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)

(MOVBstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVBstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVHstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val
 mem) && canMergeSym(sym1,sym2) =>
 (MOVHstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVWstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVWstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVFstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVFstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVDstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVDstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)

// replace load from same location as preceding store with zero/sign extension (or copy in case of full width)
(MOVBload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVBreg x)
(MOVBUload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVBUreg x)
(MOVHload [off] {sym} ptr (MOVHstore [off2] {sym2} ptr2 x _)) && sym == sym2 &&
```

```
 off == off2 && isSamePtr(ptr, ptr2) => (MOVHreg x)
(MOVHUload [off] {sym} ptr (MOVHstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVHUreg x)
(MOVWload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x

(MOVFload [off] {sym} ptr (MOVFstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x
(MOVDload [off] {sym} ptr (MOVDstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x

(MOVWloadidx ptr idx (MOVWstoreidx ptr2 idx x _)) && isSamePtr(ptr, ptr2) => x
(MOVWloadshiftLL ptr idx [c] (MOVWstoreshiftLL ptr2 idx [d] x _)) && c==d && isSamePtr(ptr, ptr2) => x
(MOVWloadshiftRL ptr idx [c] (MOVWstoreshiftRL ptr2 idx [d] x _)) && c==d && isSamePtr(ptr, ptr2) => x
(MOVWloadshiftRA ptr idx [c] (MOVWstoreshiftRA ptr2 idx [d] x _)) && c==d && isSamePtr(ptr, ptr2) => x
(MOVBUloadidx ptr idx (MOVBstoreidx ptr2 idx x _)) && isSamePtr(ptr,
 ptr2) => (MOVBUreg x)
(MOVBloadidx ptr idx (MOVBstoreidx ptr2 idx x _)) && isSamePtr(ptr, ptr2) => (MOVBreg x)
(MOVHUloadidx ptr idx (MOVHstoreidx ptr2 idx x _)) && isSamePtr(ptr, ptr2) => (MOVHUreg x)
(MOVHloadidx ptr idx (MOVHstoreidx ptr2 idx x _)) && isSamePtr(ptr, ptr2) => (MOVHreg x)

// fold constant into arithmetic ops
(ADD x (MOVWconst [c])) => (ADDconst [c] x)
(SUB (MOVWconst [c]) x) => (RSBconst [c] x)
(SUB x (MOVWconst [c])) => (SUBconst [c] x)
(RSB (MOVWconst [c]) x) => (SUBconst [c] x)
(RSB x (MOVWconst [c])) => (RSBconst [c] x)

(ADDS x (MOVWconst [c])) => (ADDSconst [c] x)
(SUBS x (MOVWconst [c])) => (SUBSconst [c] x)

(ADC (MOVWconst [c]) x flags) => (ADCconst [c] x flags)
(SBC (MOVWconst [c]) x flags) => (RSCconst [c] x flags)
(SBC x (MOVWconst [c]) flags) => (SBCconst [c] x flags)

(AND x (MOVWconst [c])) => (ANDconst [c] x)
(OR  x (MOVWconst [c])) => (ORconst [c] x)
(XOR x (MOVWconst [c])) => (XORconst [c] x)
(BIC x (MOVWconst [c])) => (BICconst [c] x)

(SLL
 x (MOVWconst [c])) && 0 <= c && c < 32 => (SLLconst x [c])
(SRL x (MOVWconst [c])) && 0 <= c && c < 32 => (SRLconst x [c])
(SRA x (MOVWconst [c])) && 0 <= c && c < 32 => (SRAconst x [c])

(CMP x (MOVWconst [c])) => (CMPconst [c] x)
(CMP (MOVWconst [c]) x) => (InvertFlags (CMPconst [c] x))
(CMN x (MOVWconst [c])) => (CMNconst [c] x)
```

```
(TST x (MOVWconst [c])) => (TSTconst [c] x)
(TEQ x (MOVWconst [c])) => (TEQconst [c] x)

(SRR x (MOVWconst [c])) => (SRRconst x [c&31])

// Canonicalize the order of arguments to comparisons - helps with CSE.
(CMP x y) && canonLessThan(x,y) => (InvertFlags (CMP y x))

// don't extend after proper load
// MOVWreg instruction is not emitted if src and dst registers are same, but it ensures the type.
(MOVBreg x:(MOVBload _ _)) => (MOVWreg x)
(MOVBUreg x:(MOVBUload _ _)) => (MOVWreg x)
(MOVHreg x:(MOVBload _ _)) => (MOVWreg x)
(MOVHreg x:(MOVBUload _ _)) => (MOVWreg x)
(MOVHreg x:(MOVHload _ _)) => (MOVWreg x)
(MOVHUreg x:(MOVBUload _ _)) => (MOVWreg x)
(MOVHUreg
 x:(MOVHUload _ _)) => (MOVWreg x)

// fold extensions and ANDs together
(MOVBUreg (ANDconst [c] x)) => (ANDconst [c&0xff] x)
(MOVHUreg (ANDconst [c] x)) => (ANDconst [c&0xffff] x)
(MOVBreg (ANDconst [c] x)) && c & 0x80 == 0 => (ANDconst [c&0x7f] x)
(MOVHreg (ANDconst [c] x)) && c & 0x8000 == 0 => (ANDconst [c&0x7fff] x)

// fold double extensions
(MOVBreg x:(MOVBreg _)) => (MOVWreg x)
(MOVBUreg x:(MOVBUreg _)) => (MOVWreg x)
(MOVHreg x:(MOVBreg _)) => (MOVWreg x)
(MOVHreg x:(MOVBUreg _)) => (MOVWreg x)
(MOVHreg x:(MOVHreg _)) => (MOVWreg x)
(MOVHUreg x:(MOVBUreg _)) => (MOVWreg x)
(MOVHUreg x:(MOVHUreg _)) => (MOVWreg x)

// don't extend before store
(MOVBstore [off] {sym} ptr (MOVBreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVHstore [off]
 {sym} ptr (MOVHreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)

// if a register move has only 1 use, just use the same register without emitting instruction
// MOVWnop doesn't emit instruction, only for ensuring the type.
(MOVWreg x) && x.Uses == 1 => (MOVWnop x)

// TODO: we should be able to get rid of MOVWnop all together.
```

```
// But for now, this is enough to get rid of lots of them.
(MOVWnop (MOVWconst [c])) => (MOVWconst [c])

// mul by constant
(MUL x (MOVWconst [c])) && int32(c) == -1 => (RSBconst [0] x)
(MUL _ (MOVWconst [0])) => (MOVWconst [0])
(MUL x (MOVWconst [1])) => x
(MUL x (MOVWconst [c])) && isPowerOfTwo32(c) => (SLLconst [int32(log32(c))] x)
(MUL x (MOVWconst [c])) && isPowerOfTwo32(c-1) && c >= 3 => (ADDshiftLL x x [int32(log32(c-1))])
(MUL x (MOVWconst [c])) && isPowerOfTwo32(c+1) && c >= 7 => (RSBshiftLL x x [int32(log32(c+1))])
(MUL x (MOVWconst [c])) && c%3 == 0 && isPowerOfTwo32(c/3)
 => (SLLconst [int32(log32(c/3))] (ADDshiftLL <x.Type> x x [1]))
(MUL x (MOVWconst [c])) && c%5 == 0 && isPowerOfTwo32(c/5) => (SLLconst [int32(log32(c/5))]
(ADDshiftLL <x.Type> x x [2]))
(MUL x (MOVWconst [c])) && c%7 == 0 && isPowerOfTwo32(c/7) => (SLLconst [int32(log32(c/7))]
(RSBshiftLL <x.Type> x x [3]))
(MUL x (MOVWconst [c])) && c%9 == 0 && isPowerOfTwo32(c/9) => (SLLconst [int32(log32(c/9))]
(ADDshiftLL <x.Type> x x [3]))

(MULA x (MOVWconst [c]) a) && c == -1 => (SUB a x)
(MULA _ (MOVWconst [0]) a) => a
(MULA x (MOVWconst [1]) a) => (ADD x a)
(MULA x (MOVWconst [c]) a) && isPowerOfTwo32(c) => (ADD (SLLconst <x.Type> [int32(log32(c))] x) a)
(MULA x (MOVWconst [c]) a) && isPowerOfTwo32(c-1) && c >= 3 => (ADD (ADDshiftLL <x.Type> x x
[int32(log32(c-1))]) a)
(MULA x (MOVWconst [c]) a) && isPowerOfTwo32(c+1) && c >= 7 => (ADD (RSBshiftLL <x.Type> x x
[int32(log32(c+1))]) a)
(MULA x (MOVWconst [c]) a) && c%3 == 0 && isPowerOfTwo32(c/3) => (ADD (SLLconst <x.Type>
[int32(log32(c/3))]
 (ADDshiftLL <x.Type> x x [1])) a)
(MULA x (MOVWconst [c]) a) && c%5 == 0 && isPowerOfTwo32(c/5) => (ADD (SLLconst <x.Type>
[int32(log32(c/5))] (ADDshiftLL <x.Type> x x [2])) a)
(MULA x (MOVWconst [c]) a) && c%7 == 0 && isPowerOfTwo32(c/7) => (ADD (SLLconst <x.Type>
[int32(log32(c/7))] (RSBshiftLL <x.Type> x x [3])) a)
(MULA x (MOVWconst [c]) a) && c%9 == 0 && isPowerOfTwo32(c/9) => (ADD (SLLconst <x.Type>
[int32(log32(c/9))] (ADDshiftLL <x.Type> x x [3])) a)

(MULA (MOVWconst [c]) x a) && c == -1 => (SUB a x)
(MULA (MOVWconst [0]) _ a) => a
(MULA (MOVWconst [1]) x a) => (ADD x a)
(MULA (MOVWconst [c]) x a) && isPowerOfTwo32(c) => (ADD (SLLconst <x.Type> [int32(log32(c))] x) a)
(MULA (MOVWconst [c]) x a) && isPowerOfTwo32(c-1) && c >= 3 => (ADD (ADDshiftLL <x.Type> x x
[int32(log32(c-1))]) a)
(MULA (MOVWconst [c]) x a) && isPowerOfTwo32(c+1) && c >= 7 => (ADD (RSBshiftLL <x.Type> x x
[int32(log32(c+1))]) a)
(MULA (MOVWconst [c]) x a) && c%3 == 0 && isPowerOfTwo32(c/3) => (ADD (SLLconst
 <x.Type> [int32(log32(c/3))] (ADDshiftLL <x.Type> x x [1])) a)
(MULA (MOVWconst [c]) x a) && c%5 == 0 && isPowerOfTwo32(c/5) => (ADD (SLLconst <x.Type>
```

```
[int32(log32(c/5))] (ADDshiftLL <x.Type> x x [2])) a)
(MULA (MOVWconst [c]) x a) && c%7 == 0 && isPowerOfTwo32(c/7) => (ADD (SLLconst <x.Type>
[int32(log32(c/7))] (RSBshiftLL <x.Type> x x [3])) a)
(MULA (MOVWconst [c]) x a) && c%9 == 0 && isPowerOfTwo32(c/9) => (ADD (SLLconst <x.Type>
[int32(log32(c/9))] (ADDshiftLL <x.Type> x x [3])) a)

(MULS x (MOVWconst [c]) a) && c == -1 => (ADD a x)
(MULS _ (MOVWconst [0]) a) => a
(MULS x (MOVWconst [1]) a) => (RSB x a)
(MULS x (MOVWconst [c]) a) && isPowerOfTwo32(c) => (RSB (SLLconst <x.Type> [int32(log32(c))] x) a)
(MULS x (MOVWconst [c]) a) && isPowerOfTwo32(c-1) && c >= 3 => (RSB (ADDshiftLL <x.Type> x x
[int32(log32(c-1))]) a)
(MULS x (MOVWconst [c]) a) && isPowerOfTwo32(c+1) && c >= 7 => (RSB (RSBshiftLL <x.Type> x x
[int32(log32(c+1))]) a)
(MULS x (MOVWconst [c]) a) && c%3 == 0 && isPowerOfTwo32(c/3)
 => (RSB (SLLconst <x.Type> [int32(log32(c/3))] (ADDshiftLL <x.Type> x x [1])) a)
(MULS x (MOVWconst [c]) a) && c%5 == 0 && isPowerOfTwo32(c/5) => (RSB (SLLconst <x.Type>
[int32(log32(c/5))] (ADDshiftLL <x.Type> x x [2])) a)
(MULS x (MOVWconst [c]) a) && c%7 == 0 && isPowerOfTwo32(c/7) => (RSB (SLLconst <x.Type>
[int32(log32(c/7))] (RSBshiftLL <x.Type> x x [3])) a)
(MULS x (MOVWconst [c]) a) && c%9 == 0 && isPowerOfTwo32(c/9) => (RSB (SLLconst <x.Type>
[int32(log32(c/9))] (ADDshiftLL <x.Type> x x [3])) a)

(MULS (MOVWconst [c]) x a) && c == -1 => (ADD a x)
(MULS (MOVWconst [0]) _ a) => a
(MULS (MOVWconst [1]) x a) => (RSB x a)
(MULS (MOVWconst [c]) x a) && isPowerOfTwo32(c) => (RSB (SLLconst <x.Type> [int32(log32(c))] x) a)
(MULS (MOVWconst [c]) x a) && isPowerOfTwo32(c-1) && c >= 3 => (RSB (ADDshiftLL <x.Type> x x
[int32(log32(c-1))]) a)
(MULS (MOVWconst [c]) x a) && isPowerOfTwo32(c+1) && c >= 7 => (RSB (RSBshiftLL <x.Type> x x
[int32(log32(c+1))]) a)
(MULS (MOVWconst
 [c]) x a) && c%3 == 0 && isPowerOfTwo32(c/3) => (RSB (SLLconst <x.Type> [int32(log32(c/3))] (ADDshiftLL
<x.Type> x x [1])) a)
(MULS (MOVWconst [c]) x a) && c%5 == 0 && isPowerOfTwo32(c/5) => (RSB (SLLconst <x.Type>
[int32(log32(c/5))] (ADDshiftLL <x.Type> x x [2])) a)
(MULS (MOVWconst [c]) x a) && c%7 == 0 && isPowerOfTwo32(c/7) => (RSB (SLLconst <x.Type>
[int32(log32(c/7))] (RSBshiftLL <x.Type> x x [3])) a)
(MULS (MOVWconst [c]) x a) && c%9 == 0 && isPowerOfTwo32(c/9) => (RSB (SLLconst <x.Type>
[int32(log32(c/9))] (ADDshiftLL <x.Type> x x [3])) a)

// div by constant
(Select0 (CALLudiv x (MOVWconst [1]))) => x
(Select1 (CALLudiv _ (MOVWconst [1]))) => (MOVWconst [0])
(Select0 (CALLudiv x (MOVWconst [c]))) && isPowerOfTwo32(c) => (SRLconst [int32(log32(c))] x)
(Select1 (CALLudiv x (MOVWconst [c]))) && isPowerOfTwo32(c) => (ANDconst [c-1] x)

// constant comparisons
```

```
(CMPconst (MOVWconst [x]) [y]) => (FlagConstant [subFlags32(x,y)])
(CMNconst (MOVWconst [x]) [y]) => (FlagConstant [addFlags32(x,y)])
(TSTconst
 (MOVWconst [x]) [y]) => (FlagConstant [logicFlags32(x&y)])
(TEQconst (MOVWconst [x]) [y]) => (FlagConstant [logicFlags32(x^y)])

// other known comparisons
(CMPconst (MOVBUreg _) [c]) && 0xff < c => (FlagConstant [subFlags32(0, 1)])
(CMPconst (MOVHUreg _) [c]) && 0xffff < c => (FlagConstant [subFlags32(0, 1)])
(CMPconst (ANDconst _ [m]) [n]) && 0 <= m && m < n => (FlagConstant [subFlags32(0, 1)])
(CMPconst (SRLconst _ [c]) [n]) && 0 <= n && 0 < c && c <= 32 && (1<<uint32(32-c)) <= uint32(n) =>
(FlagConstant [subFlags32(0, 1)])

// absorb flag constants into branches
(EQ (FlagConstant [fc]) yes no) &&  fc.eq() => (First yes no)
(EQ (FlagConstant [fc]) yes no) && !fc.eq() => (First no yes)

(NE (FlagConstant [fc]) yes no) &&  fc.ne() => (First yes no)
(NE (FlagConstant [fc]) yes no) && !fc.ne() => (First no yes)

(LT (FlagConstant [fc]) yes no) &&  fc.lt() => (First yes no)
(LT (FlagConstant [fc]) yes no) && !fc.lt() => (First no yes)

(LE (FlagConstant [fc]) yes no)
 &&  fc.le() => (First yes no)
(LE (FlagConstant [fc]) yes no) && !fc.le() => (First no yes)

(GT (FlagConstant [fc]) yes no) &&  fc.gt() => (First yes no)
(GT (FlagConstant [fc]) yes no) && !fc.gt() => (First no yes)

(GE (FlagConstant [fc]) yes no) &&  fc.ge() => (First yes no)
(GE (FlagConstant [fc]) yes no) && !fc.ge() => (First no yes)

(ULT (FlagConstant [fc]) yes no) &&  fc.ult() => (First yes no)
(ULT (FlagConstant [fc]) yes no) && !fc.ult() => (First no yes)

(ULE (FlagConstant [fc]) yes no) &&  fc.ule() => (First yes no)
(ULE (FlagConstant [fc]) yes no) && !fc.ule() => (First no yes)

(UGT (FlagConstant [fc]) yes no) &&  fc.ugt() => (First yes no)
(UGT (FlagConstant [fc]) yes no) && !fc.ugt() => (First no yes)

(UGE (FlagConstant [fc]) yes no) &&  fc.uge() => (First yes no)
(UGE (FlagConstant [fc]) yes no) && !fc.uge() => (First no yes)

(LTnoov (FlagConstant [fc]) yes no) &&  fc.ltNoov() => (First yes no)
(LTnoov (FlagConstant [fc]) yes no) && !fc.ltNoov() => (First no yes)
```

```
(LEnoov
 (FlagConstant [fc]) yes no) &&  fc.leNoov() => (First yes no)
(LEnoov (FlagConstant [fc]) yes no) && !fc.leNoov() => (First no yes)

(GTnoov (FlagConstant [fc]) yes no) &&  fc.gtNoov() => (First yes no)
(GTnoov (FlagConstant [fc]) yes no) && !fc.gtNoov() => (First no yes)

(GEnoov (FlagConstant [fc]) yes no) &&  fc.geNoov() => (First yes no)
(GEnoov (FlagConstant [fc]) yes no) && !fc.geNoov() => (First no yes)

// absorb InvertFlags into branches
(LT (InvertFlags cmp) yes no) => (GT cmp yes no)
(GT (InvertFlags cmp) yes no) => (LT cmp yes no)
(LE (InvertFlags cmp) yes no) => (GE cmp yes no)
(GE (InvertFlags cmp) yes no) => (LE cmp yes no)
(ULT (InvertFlags cmp) yes no) => (UGT cmp yes no)
(UGT (InvertFlags cmp) yes no) => (ULT cmp yes no)
(ULE (InvertFlags cmp) yes no) => (UGE cmp yes no)
(UGE (InvertFlags cmp) yes no) => (ULE cmp yes no)
(EQ (InvertFlags cmp) yes no) => (EQ cmp yes no)
(NE (InvertFlags cmp) yes no) => (NE cmp yes no)
(LTnoov (InvertFlags cmp) yes no) => (GTnoov
 cmp yes no)
(GEnoov (InvertFlags cmp) yes no) => (LEnoov cmp yes no)
(LEnoov (InvertFlags cmp) yes no) => (GEnoov cmp yes no)
(GTnoov (InvertFlags cmp) yes no) => (LTnoov cmp yes no)

// absorb flag constants into boolean values
(Equal (FlagConstant [fc])) => (MOVWconst [b2i32(fc.eq())])
(NotEqual (FlagConstant [fc])) => (MOVWconst [b2i32(fc.ne())])
(LessThan (FlagConstant [fc])) => (MOVWconst [b2i32(fc.lt())])
(LessThanU (FlagConstant [fc])) => (MOVWconst [b2i32(fc.ult())])
(LessEqual (FlagConstant [fc])) => (MOVWconst [b2i32(fc.le())])
(LessEqualU (FlagConstant [fc])) => (MOVWconst [b2i32(fc.ule())])
(GreaterThan (FlagConstant [fc])) => (MOVWconst [b2i32(fc.gt())])
(GreaterThanU (FlagConstant [fc])) => (MOVWconst [b2i32(fc.ugt())])
(GreaterEqual (FlagConstant [fc])) => (MOVWconst [b2i32(fc.ge())])
(GreaterEqualU (FlagConstant [fc])) => (MOVWconst [b2i32(fc.uge())])

// absorb InvertFlags into boolean values
(Equal (InvertFlags x)) => (Equal x)
(NotEqual (InvertFlags x)) => (NotEqual
 x)
(LessThan (InvertFlags x)) => (GreaterThan x)
(LessThanU (InvertFlags x)) => (GreaterThanU x)
(GreaterThan (InvertFlags x)) => (LessThan x)
(GreaterThanU (InvertFlags x)) => (LessThanU x)
(LessEqual (InvertFlags x)) => (GreaterEqual x)
```

```
(LessEqualU (InvertFlags x)) => (GreaterEqualU x)
(GreaterEqual (InvertFlags x)) => (LessEqual x)
(GreaterEqualU (InvertFlags x)) => (LessEqualU x)

// absorb flag constants into conditional instructions
(CMOVWLSconst _ (FlagConstant [fc]) [c]) && fc.ule() => (MOVWconst [c])
(CMOVWLSconst x (FlagConstant [fc]) [c]) && fc.ugt() => x

(CMOVWHSconst _ (FlagConstant [fc]) [c]) && fc.uge() => (MOVWconst [c])
(CMOVWHSconst x (FlagConstant [fc]) [c]) && fc.ult() => x

(CMOVWLSconst x (InvertFlags flags) [c]) => (CMOVWHSconst x flags [c])
(CMOVWHSconst x (InvertFlags flags) [c]) => (CMOVWLSconst x flags [c])

(SRAcond x _ (FlagConstant [fc])) && fc.uge() => (SRAconst x [31])
(SRAcond x y (FlagConstant [fc])) && fc.ult() => (SRA x y)

// remove redundant
 *const ops
(ADDconst [0] x) => x
(SUBconst [0] x) => x
(ANDconst [0] _) => (MOVWconst [0])
(ANDconst [c] x) && int32(c)==-1 => x
(ORconst [0] x) => x
(ORconst [c] _) && int32(c)==-1 => (MOVWconst [-1])
(XORconst [0] x) => x
(BICconst [0] x) => x
(BICconst [c] _) && int32(c)==-1 => (MOVWconst [0])

// generic constant folding
(ADDconst [c] x) && !isARMImmRot(uint32(c)) && isARMImmRot(uint32(-c)) => (SUBconst [-c] x)
(SUBconst [c] x) && !isARMImmRot(uint32(c)) && isARMImmRot(uint32(-c)) => (ADDconst [-c] x)
(ANDconst [c] x) && !isARMImmRot(uint32(c)) && isARMImmRot(^uint32(c)) => (BICconst [int32(^uint32(c))]
x)
(BICconst [c] x) && !isARMImmRot(uint32(c)) && isARMImmRot(^uint32(c)) => (ANDconst [int32(^uint32(c))]
x)
(ADDconst [c] x) && buildcfg.GOARM==7 && !isARMImmRot(uint32(c)) && uint32(c)>0xffff && uint32(-
c)<=0xffff => (SUBconst [-c] x)
(SUBconst [c] x) && buildcfg.GOARM==7 && !isARMImmRot(uint32(c)) && uint32(c)>0xffff && uint32(-
c)<=0xffff => (ADDconst [-c] x)
(ANDconst [c] x) &&
 buildcfg.GOARM==7 && !isARMImmRot(uint32(c)) && uint32(c)>0xffff && ^uint32(c)<=0xffff => (BICconst
[int32(^uint32(c))] x)
(BICconst [c] x) && buildcfg.GOARM==7 && !isARMImmRot(uint32(c)) && uint32(c)>0xffff &&
^uint32(c)<=0xffff => (ANDconst [int32(^uint32(c))] x)
(ADDconst [c] (MOVWconst [d])) => (MOVWconst [c+d])
(ADDconst [c] (ADDconst [d] x)) => (ADDconst [c+d] x)
(ADDconst [c] (SUBconst [d] x)) => (ADDconst [c-d] x)
```

```
(ADDconst [c] (RSBconst [d] x)) => (RSBconst [c+d] x)
(ADCconst [c] (ADDconst [d] x) flags) => (ADCconst [c+d] x flags)
(ADCconst [c] (SUBconst [d] x) flags) => (ADCconst [c-d] x flags)
(SUBconst [c] (MOVWconst [d])) => (MOVWconst [d-c])
(SUBconst [c] (SUBconst [d] x)) => (ADDconst [-c-d] x)
(SUBconst [c] (ADDconst [d] x)) => (ADDconst [-c+d] x)
(SUBconst [c] (RSBconst [d] x)) => (RSBconst [-c+d] x)
(SBCconst [c] (ADDconst [d] x) flags) => (SBCconst [c-d] x flags)
(SBCconst [c] (SUBconst [d] x) flags) => (SBCconst [c+d] x flags)
(RSBconst [c] (MOVWconst [d])) => (MOVWconst
 [c-d])
(RSBconst [c] (RSBconst [d] x)) => (ADDconst [c-d] x)
(RSBconst [c] (ADDconst [d] x)) => (RSBconst [c-d] x)
(RSBconst [c] (SUBconst [d] x)) => (RSBconst [c+d] x)
(RSCconst [c] (ADDconst [d] x) flags) => (RSCconst [c-d] x flags)
(RSCconst [c] (SUBconst [d] x) flags) => (RSCconst [c+d] x flags)
(SLLconst [c] (MOVWconst [d])) => (MOVWconst [d<<uint64(c)])
(SRLconst [c] (MOVWconst [d])) => (MOVWconst [int32(uint32(d)>>uint64(c))])
(SRAconst [c] (MOVWconst [d])) => (MOVWconst [d>>uint64(c)])
(MUL (MOVWconst [c]) (MOVWconst [d])) => (MOVWconst [c*d])
(MULA (MOVWconst [c]) (MOVWconst [d]) a) => (ADDconst [c*d] a)
(MULS (MOVWconst [c]) (MOVWconst [d]) a) => (SUBconst [c*d] a)
(Select0 (CALLudiv (MOVWconst [c]) (MOVWconst [d]))) && d != 0 => (MOVWconst
[int32(uint32(c)/uint32(d))])
(Select1 (CALLudiv (MOVWconst [c]) (MOVWconst [d]))) && d != 0 => (MOVWconst
[int32(uint32(c)%uint32(d))])
(ANDconst [c] (MOVWconst [d])) => (MOVWconst [c&d])
(ANDconst [c] (ANDconst [d] x)) => (ANDconst
 [c&d] x)
(ORconst [c] (MOVWconst [d])) => (MOVWconst [c|d])
(ORconst [c] (ORconst [d] x)) => (ORconst [c|d] x)
(XORconst [c] (MOVWconst [d])) => (MOVWconst [c^d])
(XORconst [c] (XORconst [d] x)) => (XORconst [c^d] x)
(BICconst [c] (MOVWconst [d])) => (MOVWconst [d&^c])
(BICconst [c] (BICconst [d] x)) => (BICconst [c|d] x)
(MVN (MOVWconst [c])) => (MOVWconst [^c])
(MOVBreg (MOVWconst [c])) => (MOVWconst [int32(int8(c))])
(MOVBUreg (MOVWconst [c])) => (MOVWconst [int32(uint8(c))])
(MOVHreg (MOVWconst [c])) => (MOVWconst [int32(int16(c))])
(MOVHUreg (MOVWconst [c])) => (MOVWconst [int32(uint16(c))])
(MOVWreg (MOVWconst [c])) => (MOVWconst [c])
// BFX: Width = c >> 8, LSB = c & 0xff, result = d << (32 - Width - LSB) >> (32 - Width)
(BFX [c] (MOVWconst [d])) => (MOVWconst [d<<(32-uint32(c&0xff)-uint32(c>>8))>>(32-uint32(c>>8))])
(BFXU [c] (MOVWconst [d])) => (MOVWconst [int32(uint32(d)<<(32-uint32(c&0xff)-uint32(c>>8))>>(32-
uint32(c>>8)))])

// absorb shifts into ops
(ADD x (SLLconst [c]
```

```
y)) => (ADDshiftLL x y [c])
(ADD x (SRLconst [c] y)) => (ADDshiftRL x y [c])
(ADD x (SRAconst [c] y)) => (ADDshiftRA x y [c])
(ADD x (SLL y z)) => (ADDshiftLLreg x y z)
(ADD x (SRL y z)) => (ADDshiftRLreg x y z)
(ADD x (SRA y z)) => (ADDshiftRAreg x y z)
(ADC x (SLLconst [c] y) flags) => (ADCshiftLL x y [c] flags)
(ADC x (SRLconst [c] y) flags) => (ADCshiftRL x y [c] flags)
(ADC x (SRAconst [c] y) flags) => (ADCshiftRA x y [c] flags)
(ADC x (SLL y z) flags) => (ADCshiftLLreg x y z flags)
(ADC x (SRL y z) flags) => (ADCshiftRLreg x y z flags)
(ADC x (SRA y z) flags) => (ADCshiftRAreg x y z flags)
(ADDS x (SLLconst [c] y)) => (ADDSshiftLL x y [c])
(ADDS x (SRLconst [c] y)) => (ADDSshiftRL x y [c])
(ADDS x (SRAconst [c] y)) => (ADDSshiftRA x y [c])
(ADDS x (SLL y z)) => (ADDSshiftLLreg x y z)
(ADDS x (SRL y z)) => (ADDSshiftRLreg x y z)
(ADDS x (SRA y z)) => (ADDSshiftRAreg x y z)
(SUB x (SLLconst [c] y)) => (SUBshiftLL x y [c])
(SUB (SLLconst [c] y) x) => (RSBshiftLL x y [c])
(SUB x (SRLconst
 [c] y)) => (SUBshiftRL x y [c])
(SUB (SRLconst [c] y) x) => (RSBshiftRL x y [c])
(SUB x (SRAconst [c] y)) => (SUBshiftRA x y [c])
(SUB (SRAconst [c] y) x) => (RSBshiftRA x y [c])
(SUB x (SLL y z)) => (SUBshiftLLreg x y z)
(SUB (SLL y z) x) => (RSBshiftLLreg x y z)
(SUB x (SRL y z)) => (SUBshiftRLreg x y z)
(SUB (SRL y z) x) => (RSBshiftRLreg x y z)
(SUB x (SRA y z)) => (SUBshiftRAreg x y z)
(SUB (SRA y z) x) => (RSBshiftRAreg x y z)
(SBC x (SLLconst [c] y) flags) => (SBCshiftLL x y [c] flags)
(SBC (SLLconst [c] y) x flags) => (RSCshiftLL x y [c] flags)
(SBC x (SRLconst [c] y) flags) => (SBCshiftRL x y [c] flags)
(SBC (SRLconst [c] y) x flags) => (RSCshiftRL x y [c] flags)
(SBC x (SRAconst [c] y) flags) => (SBCshiftRA x y [c] flags)
(SBC (SRAconst [c] y) x flags) => (RSCshiftRA x y [c] flags)
(SBC x (SLL y z) flags) => (SBCshiftLLreg x y z flags)
(SBC (SLL y z) x flags) => (RSCshiftLLreg x y z flags)
(SBC x (SRL y z) flags) => (SBCshiftRLreg x y z flags)
(SBC (SRL y z) x flags) =>
 (RSCshiftRLreg x y z flags)
(SBC x (SRA y z) flags) => (SBCshiftRAreg x y z flags)
(SBC (SRA y z) x flags) => (RSCshiftRAreg x y z flags)
(SUBS x (SLLconst [c] y)) => (SUBSshiftLL x y [c])
(SUBS (SLLconst [c] y) x) => (RSBSshiftLL x y [c])
(SUBS x (SRLconst [c] y)) => (SUBSshiftRL x y [c])
(SUBS (SRLconst [c] y) x) => (RSBSshiftRL x y [c])
```

(SUBS x (SRAconst [c] y)) => (SUBSshiftRA x y [c])
(SUBS (SRAconst [c] y) x) => (RSBSshiftRA x y [c])
(SUBS x (SLL y z)) => (SUBSshiftLLreg x y z)
(SUBS (SLL y z) x) => (RSBSshiftLLreg x y z)
(SUBS x (SRL y z)) => (SUBSshiftRLreg x y z)
(SUBS (SRL y z) x) => (RSBSshiftRLreg x y z)
(SUBS x (SRA y z)) => (SUBSshiftRAreg x y z)
(SUBS (SRA y z) x) => (RSBSshiftRAreg x y z)
(RSB x (SLLconst [c] y)) => (RSBshiftLL x y [c])
(RSB (SLLconst [c] y) x) => (SUBshiftLL x y [c])
(RSB x (SRLconst [c] y)) => (RSBshiftRL x y [c])
(RSB (SRLconst [c] y) x) => (SUBshiftRL x y [c])
(RSB x (SRAconst [c] y)) => (RSBshiftRA x y [c])
(RSB (SRAconst [c] y) x) => (SUBshiftRA
x y [c])
(RSB x (SLL y z)) => (RSBshiftLLreg x y z)
(RSB (SLL y z) x) => (SUBshiftLLreg x y z)
(RSB x (SRL y z)) => (RSBshiftRLreg x y z)
(RSB (SRL y z) x) => (SUBshiftRLreg x y z)
(RSB x (SRA y z)) => (RSBshiftRAreg x y z)
(RSB (SRA y z) x) => (SUBshiftRAreg x y z)
(AND x (SLLconst [c] y)) => (ANDshiftLL x y [c])
(AND x (SRLconst [c] y)) => (ANDshiftRL x y [c])
(AND x (SRAconst [c] y)) => (ANDshiftRA x y [c])
(AND x (SLL y z)) => (ANDshiftLLreg x y z)
(AND x (SRL y z)) => (ANDshiftRLreg x y z)
(AND x (SRA y z)) => (ANDshiftRAreg x y z)
(OR x (SLLconst [c] y)) => (ORshiftLL x y [c])
(OR x (SRLconst [c] y)) => (ORshiftRL x y [c])
(OR x (SRAconst [c] y)) => (ORshiftRA x y [c])
(OR x (SLL y z)) => (ORshiftLLreg x y z)
(OR x (SRL y z)) => (ORshiftRLreg x y z)
(OR x (SRA y z)) => (ORshiftRAreg x y z)
(XOR x (SLLconst [c] y)) => (XORshiftLL x y [c])
(XOR x (SRLconst [c] y)) => (XORshiftRL x y [c])
(XOR x (SRAconst [c] y)) => (XORshiftRA x y [c])
(XOR x (SRRconst [c] y)) => (XORshiftRR x y [c])
(XOR
x (SLL y z)) => (XORshiftLLreg x y z)
(XOR x (SRL y z)) => (XORshiftRLreg x y z)
(XOR x (SRA y z)) => (XORshiftRAreg x y z)
(BIC x (SLLconst [c] y)) => (BICshiftLL x y [c])
(BIC x (SRLconst [c] y)) => (BICshiftRL x y [c])
(BIC x (SRAconst [c] y)) => (BICshiftRA x y [c])
(BIC x (SLL y z)) => (BICshiftLLreg x y z)
(BIC x (SRL y z)) => (BICshiftRLreg x y z)
(BIC x (SRA y z)) => (BICshiftRAreg x y z)
(MVN (SLLconst [c] x)) => (MVNshiftLL x [c])

```
(MVN (SRLconst [c] x)) => (MVNshiftRL x [c])
(MVN (SRAconst [c] x)) => (MVNshiftRA x [c])
(MVN (SLL x y)) => (MVNshiftLLreg x y)
(MVN (SRL x y)) => (MVNshiftRLreg x y)
(MVN (SRA x y)) => (MVNshiftRAreg x y)

(CMP x (SLLconst [c] y)) => (CMPshiftLL x y [c])
(CMP (SLLconst [c] y) x) => (InvertFlags (CMPshiftLL x y [c]))
(CMP x (SRLconst [c] y)) => (CMPshiftRL x y [c])
(CMP (SRLconst [c] y) x) => (InvertFlags (CMPshiftRL x y [c]))
(CMP x (SRAconst [c] y)) => (CMPshiftRA x y [c])
(CMP (SRAconst [c] y) x) => (InvertFlags (CMPshiftRA x y [c]))
(CMP
 x (SLL y z)) => (CMPshiftLLreg x y z)
(CMP (SLL y z) x) => (InvertFlags (CMPshiftLLreg x y z))
(CMP x (SRL y z)) => (CMPshiftRLreg x y z)
(CMP (SRL y z) x) => (InvertFlags (CMPshiftRLreg x y z))
(CMP x (SRA y z)) => (CMPshiftRAreg x y z)
(CMP (SRA y z) x) => (InvertFlags (CMPshiftRAreg x y z))
(TST x (SLLconst [c] y)) => (TSTshiftLL x y [c])
(TST x (SRLconst [c] y)) => (TSTshiftRL x y [c])
(TST x (SRAconst [c] y)) => (TSTshiftRA x y [c])
(TST x (SLL y z)) => (TSTshiftLLreg x y z)
(TST x (SRL y z)) => (TSTshiftRLreg x y z)
(TST x (SRA y z)) => (TSTshiftRAreg x y z)
(TEQ x (SLLconst [c] y)) => (TEQshiftLL x y [c])
(TEQ x (SRLconst [c] y)) => (TEQshiftRL x y [c])
(TEQ x (SRAconst [c] y)) => (TEQshiftRA x y [c])
(TEQ x (SLL y z)) => (TEQshiftLLreg x y z)
(TEQ x (SRL y z)) => (TEQshiftRLreg x y z)
(TEQ x (SRA y z)) => (TEQshiftRAreg x y z)
(CMN x (SLLconst [c] y)) => (CMNshiftLL x y [c])
(CMN x (SRLconst [c] y)) => (CMNshiftRL x y [c])
(CMN x (SRAconst [c] y)) => (CMNshiftRA x y [c])
(CMN
 x (SLL y z)) => (CMNshiftLLreg x y z)
(CMN x (SRL y z)) => (CMNshiftRLreg x y z)
(CMN x (SRA y z)) => (CMNshiftRAreg x y z)

// prefer *const ops to *shift ops
(ADDshiftLL (MOVWconst [c]) x [d]) => (ADDconst [c] (SLLconst <x.Type> x [d]))
(ADDshiftRL (MOVWconst [c]) x [d]) => (ADDconst [c] (SRLconst <x.Type> x [d]))
(ADDshiftRA (MOVWconst [c]) x [d]) => (ADDconst [c] (SRAconst <x.Type> x [d]))
(ADCshiftLL (MOVWconst [c]) x [d] flags) => (ADCconst [c] (SLLconst <x.Type> x [d]) flags)
(ADCshiftRL (MOVWconst [c]) x [d] flags) => (ADCconst [c] (SRLconst <x.Type> x [d]) flags)
(ADCshiftRA (MOVWconst [c]) x [d] flags) => (ADCconst [c] (SRAconst <x.Type> x [d]) flags)
(ADDSshiftLL (MOVWconst [c]) x [d]) => (ADDSconst [c] (SLLconst <x.Type> x [d]))
(ADDSshiftRL (MOVWconst [c]) x [d]) => (ADDSconst [c] (SRLconst <x.Type> x [d]))
```

```
(ADDSshiftRA (MOVWconst [c]) x [d]) => (ADDSconst [c] (SRAconst <x.Type> x [d]))
(SUBshiftLL (MOVWconst [c]) x [d]) => (RSBconst [c] (SLLconst <x.Type> x [d]))
(SUBshiftRL
 (MOVWconst [c]) x [d]) => (RSBconst [c] (SRLconst <x.Type> x [d]))
(SUBshiftRA (MOVWconst [c]) x [d]) => (RSBconst [c] (SRAconst <x.Type> x [d]))
(SBCshiftLL (MOVWconst [c]) x [d] flags) => (RSCconst [c] (SLLconst <x.Type> x [d]) flags)
(SBCshiftRL (MOVWconst [c]) x [d] flags) => (RSCconst [c] (SRLconst <x.Type> x [d]) flags)
(SBCshiftRA (MOVWconst [c]) x [d] flags) => (RSCconst [c] (SRAconst <x.Type> x [d]) flags)
(SUBSshiftLL (MOVWconst [c]) x [d]) => (RSBSconst [c] (SLLconst <x.Type> x [d]))
(SUBSshiftRL (MOVWconst [c]) x [d]) => (RSBSconst [c] (SRLconst <x.Type> x [d]))
(SUBSshiftRA (MOVWconst [c]) x [d]) => (RSBSconst [c] (SRAconst <x.Type> x [d]))
(RSBshiftLL (MOVWconst [c]) x [d]) => (SUBconst [c] (SLLconst <x.Type> x [d]))
(RSBshiftRL (MOVWconst [c]) x [d]) => (SUBconst [c] (SRLconst <x.Type> x [d]))
(RSBshiftRA (MOVWconst [c]) x [d]) => (SUBconst [c] (SRAconst <x.Type> x [d]))
(RSCshiftLL (MOVWconst [c]) x [d] flags) => (SBCconst [c] (SLLconst <x.Type> x [d]) flags)
(RSCshiftRL
 (MOVWconst [c]) x [d] flags) => (SBCconst [c] (SRLconst <x.Type> x [d]) flags)
(RSCshiftRA (MOVWconst [c]) x [d] flags) => (SBCconst [c] (SRAconst <x.Type> x [d]) flags)
(RSBSshiftLL (MOVWconst [c]) x [d]) => (SUBSconst [c] (SLLconst <x.Type> x [d]))
(RSBSshiftRL (MOVWconst [c]) x [d]) => (SUBSconst [c] (SRLconst <x.Type> x [d]))
(RSBSshiftRA (MOVWconst [c]) x [d]) => (SUBSconst [c] (SRAconst <x.Type> x [d]))
(ANDshiftLL (MOVWconst [c]) x [d]) => (ANDconst [c] (SLLconst <x.Type> x [d]))
(ANDshiftRL (MOVWconst [c]) x [d]) => (ANDconst [c] (SRLconst <x.Type> x [d]))
(ANDshiftRA (MOVWconst [c]) x [d]) => (ANDconst [c] (SRAconst <x.Type> x [d]))
(ORshiftLL (MOVWconst [c]) x [d]) => (ORconst [c] (SLLconst <x.Type> x [d]))
(ORshiftRL (MOVWconst [c]) x [d]) => (ORconst [c] (SRLconst <x.Type> x [d]))
(ORshiftRA (MOVWconst [c]) x [d]) => (ORconst [c] (SRAconst <x.Type> x [d]))
(XORshiftLL (MOVWconst [c]) x [d]) => (XORconst [c] (SLLconst <x.Type> x [d]))
(XORshiftRL (MOVWconst [c]) x [d])
 => (XORconst [c] (SRLconst <x.Type> x [d]))
(XORshiftRA (MOVWconst [c]) x [d]) => (XORconst [c] (SRAconst <x.Type> x [d]))
(XORshiftRR (MOVWconst [c]) x [d]) => (XORconst [c] (SRRconst <x.Type> x [d]))
(CMPshiftLL (MOVWconst [c]) x [d]) => (InvertFlags (CMPconst [c] (SLLconst <x.Type> x [d])))
(CMPshiftRL (MOVWconst [c]) x [d]) => (InvertFlags (CMPconst [c] (SRLconst <x.Type> x [d])))
(CMPshiftRA (MOVWconst [c]) x [d]) => (InvertFlags (CMPconst [c] (SRAconst <x.Type> x [d])))
(TSTshiftLL (MOVWconst [c]) x [d]) => (TSTconst [c] (SLLconst <x.Type> x [d]))
(TSTshiftRL (MOVWconst [c]) x [d]) => (TSTconst [c] (SRLconst <x.Type> x [d]))
(TSTshiftRA (MOVWconst [c]) x [d]) => (TSTconst [c] (SRAconst <x.Type> x [d]))
(TEQshiftLL (MOVWconst [c]) x [d]) => (TEQconst [c] (SLLconst <x.Type> x [d]))
(TEQshiftRL (MOVWconst [c]) x [d]) => (TEQconst [c] (SRLconst <x.Type> x [d]))
(TEQshiftRA (MOVWconst [c]) x [d]) => (TEQconst [c] (SRAconst <x.Type> x [d]))
(CMNshiftLL (MOVWconst [c]) x [d]) => (CMNconst
 [c] (SLLconst <x.Type> x [d]))
(CMNshiftRL (MOVWconst [c]) x [d]) => (CMNconst [c] (SRLconst <x.Type> x [d]))
(CMNshiftRA (MOVWconst [c]) x [d]) => (CMNconst [c] (SRAconst <x.Type> x [d]))

(ADDshiftLLreg (MOVWconst [c]) x y) => (ADDconst [c] (SLL <x.Type> x y))
(ADDshiftRLreg (MOVWconst [c]) x y) => (ADDconst [c] (SRL <x.Type> x y))
```

(ADDshiftRAreg (MOVWconst [c]) x y) => (ADDconst [c] (SRA <x.Type> x y))
(ADCshiftLLreg (MOVWconst [c]) x y flags) => (ADCconst [c] (SLL <x.Type> x y) flags)
(ADCshiftRLreg (MOVWconst [c]) x y flags) => (ADCconst [c] (SRL <x.Type> x y) flags)
(ADCshiftRAreg (MOVWconst [c]) x y flags) => (ADCconst [c] (SRA <x.Type> x y) flags)
(ADDSshiftLLreg (MOVWconst [c]) x y) => (ADDSconst [c] (SLL <x.Type> x y))
(ADDSshiftRLreg (MOVWconst [c]) x y) => (ADDSconst [c] (SRL <x.Type> x y))
(ADDSshiftRAreg (MOVWconst [c]) x y) => (ADDSconst [c] (SRA <x.Type> x y))
(SUBshiftLLreg (MOVWconst [c]) x y) => (RSBconst [c] (SLL <x.Type> x y))
(SUBshiftRLreg (MOVWconst [c]) x
y) => (RSBconst [c] (SRL <x.Type> x y))
(SUBshiftRAreg (MOVWconst [c]) x y) => (RSBconst [c] (SRA <x.Type> x y))
(SBCshiftLLreg (MOVWconst [c]) x y flags) => (RSCconst [c] (SLL <x.Type> x y) flags)
(SBCshiftRLreg (MOVWconst [c]) x y flags) => (RSCconst [c] (SRL <x.Type> x y) flags)
(SBCshiftRAreg (MOVWconst [c]) x y flags) => (RSCconst [c] (SRA <x.Type> x y) flags)
(SUBSshiftLLreg (MOVWconst [c]) x y) => (RSBSconst [c] (SLL <x.Type> x y))
(SUBSshiftRLreg (MOVWconst [c]) x y) => (RSBSconst [c] (SRL <x.Type> x y))
(SUBSshiftRAreg (MOVWconst [c]) x y) => (RSBSconst [c] (SRA <x.Type> x y))
(RSBshiftLLreg (MOVWconst [c]) x y) => (SUBconst [c] (SLL <x.Type> x y))
(RSBshiftRLreg (MOVWconst [c]) x y) => (SUBconst [c] (SRL <x.Type> x y))
(RSBshiftRAreg (MOVWconst [c]) x y) => (SUBconst [c] (SRA <x.Type> x y))
(RSCshiftLLreg (MOVWconst [c]) x y flags) => (SBCconst [c] (SLL <x.Type> x y) flags)
(RSCshiftRLreg (MOVWconst [c]) x y flags) => (SBCconst [c] (SRL <x.Type> x y) flags)
(RSCshiftRAreg (MOVWconst
[c]) x y flags) => (SBCconst [c] (SRA <x.Type> x y) flags)
(RSBSshiftLLreg (MOVWconst [c]) x y) => (SUBSconst [c] (SLL <x.Type> x y))
(RSBSshiftRLreg (MOVWconst [c]) x y) => (SUBSconst [c] (SRL <x.Type> x y))
(RSBSshiftRAreg (MOVWconst [c]) x y) => (SUBSconst [c] (SRA <x.Type> x y))
(ANDshiftLLreg (MOVWconst [c]) x y) => (ANDconst [c] (SLL <x.Type> x y))
(ANDshiftRLreg (MOVWconst [c]) x y) => (ANDconst [c] (SRL <x.Type> x y))
(ANDshiftRAreg (MOVWconst [c]) x y) => (ANDconst [c] (SRA <x.Type> x y))
(ORshiftLLreg (MOVWconst [c]) x y) => (ORconst [c] (SLL <x.Type> x y))
(ORshiftRLreg (MOVWconst [c]) x y) => (ORconst [c] (SRL <x.Type> x y))
(ORshiftRAreg (MOVWconst [c]) x y) => (ORconst [c] (SRA <x.Type> x y))
(XORshiftLLreg (MOVWconst [c]) x y) => (XORconst [c] (SLL <x.Type> x y))
(XORshiftRLreg (MOVWconst [c]) x y) => (XORconst [c] (SRL <x.Type> x y))
(XORshiftRAreg (MOVWconst [c]) x y) => (XORconst [c] (SRA <x.Type> x y))
(CMPshiftLLreg (MOVWconst [c]) x y) => (InvertFlags (CMPconst
[c] (SLL <x.Type> x y)))
(CMPshiftRLreg (MOVWconst [c]) x y) => (InvertFlags (CMPconst [c] (SRL <x.Type> x y)))
(CMPshiftRAreg (MOVWconst [c]) x y) => (InvertFlags (CMPconst [c] (SRA <x.Type> x y)))
(TSTshiftLLreg (MOVWconst [c]) x y) => (TSTconst [c] (SLL <x.Type> x y))
(TSTshiftRLreg (MOVWconst [c]) x y) => (TSTconst [c] (SRL <x.Type> x y))
(TSTshiftRAreg (MOVWconst [c]) x y) => (TSTconst [c] (SRA <x.Type> x y))
(TEQshiftLLreg (MOVWconst [c]) x y) => (TEQconst [c] (SLL <x.Type> x y))
(TEQshiftRLreg (MOVWconst [c]) x y) => (TEQconst [c] (SRL <x.Type> x y))
(TEQshiftRAreg (MOVWconst [c]) x y) => (TEQconst [c] (SRA <x.Type> x y))
(CMNshiftLLreg (MOVWconst [c]) x y) => (CMNconst [c] (SLL <x.Type> x y))
(CMNshiftRLreg (MOVWconst [c]) x y) => (CMNconst [c] (SRL <x.Type> x y))

```
(CMNshiftRAreg (MOVWconst [c]) x y) => (CMNconst [c] (SRA <x.Type> x y))

// constant folding in *shift ops
(ADDshiftLL x (MOVWconst [c]) [d]) => (ADDconst x [c<<uint64(d)])
(ADDshiftRL x (MOVWconst [c]) [d]) =>
 (ADDconst x [int32(uint32(c)>>uint64(d))])
(ADDshiftRA x (MOVWconst [c]) [d]) => (ADDconst x [c>>uint64(d)])
(ADCshiftLL x (MOVWconst [c]) [d] flags) => (ADCconst x [c<<uint64(d)] flags)
(ADCshiftRL x (MOVWconst [c]) [d] flags) => (ADCconst x [int32(uint32(c)>>uint64(d))] flags)
(ADCshiftRA x (MOVWconst [c]) [d] flags) => (ADCconst x [c>>uint64(d)] flags)
(ADDSshiftLL x (MOVWconst [c]) [d]) => (ADDSconst x [c<<uint64(d)])
(ADDSshiftRL x (MOVWconst [c]) [d]) => (ADDSconst x [int32(uint32(c)>>uint64(d))])
(ADDSshiftRA x (MOVWconst [c]) [d]) => (ADDSconst x [c>>uint64(d)])
(SUBshiftLL x (MOVWconst [c]) [d]) => (SUBconst x [c<<uint64(d)])
(SUBshiftRL x (MOVWconst [c]) [d]) => (SUBconst x [int32(uint32(c)>>uint64(d))])
(SUBshiftRA x (MOVWconst [c]) [d]) => (SUBconst x [c>>uint64(d)])
(SBCshiftLL x (MOVWconst [c]) [d] flags) => (SBCconst x [c<<uint64(d)] flags)
(SBCshiftRL x (MOVWconst [c]) [d] flags) => (SBCconst x [int32(uint32(c)>>uint64(d))] flags)
(SBCshiftRA x (MOVWconst [c]) [d] flags)
 => (SBCconst x [c>>uint64(d)] flags)
(SUBSshiftLL x (MOVWconst [c]) [d]) => (SUBSconst x [c<<uint64(d)])
(SUBSshiftRL x (MOVWconst [c]) [d]) => (SUBSconst x [int32(uint32(c)>>uint64(d))])
(SUBSshiftRA x (MOVWconst [c]) [d]) => (SUBSconst x [c>>uint64(d)])
(RSBshiftLL x (MOVWconst [c]) [d]) => (RSBconst x [c<<uint64(d)])
(RSBshiftRL x (MOVWconst [c]) [d]) => (RSBconst x [int32(uint32(c)>>uint64(d))])
(RSBshiftRA x (MOVWconst [c]) [d]) => (RSBconst x [c>>uint64(d)])
(RSCshiftLL x (MOVWconst [c]) [d] flags) => (RSCconst x [c<<uint64(d)] flags)
(RSCshiftRL x (MOVWconst [c]) [d] flags) => (RSCconst x [int32(uint32(c)>>uint64(d))] flags)
(RSCshiftRA x (MOVWconst [c]) [d] flags) => (RSCconst x [c>>uint64(d)] flags)
(RSBSshiftLL x (MOVWconst [c]) [d]) => (RSBSconst x [c<<uint64(d)])
(RSBSshiftRL x (MOVWconst [c]) [d]) => (RSBSconst x [int32(uint32(c)>>uint64(d))])
(RSBSshiftRA x (MOVWconst [c]) [d]) => (RSBSconst x [c>>uint64(d)])
(ANDshiftLL x (MOVWconst [c]) [d]) => (ANDconst x [c<<uint64(d)])
(ANDshiftRL
 x (MOVWconst [c]) [d]) => (ANDconst x [int32(uint32(c)>>uint64(d))])
(ANDshiftRA x (MOVWconst [c]) [d]) => (ANDconst x [c>>uint64(d)])
(ORshiftLL x (MOVWconst [c]) [d]) => (ORconst x [c<<uint64(d)])
(ORshiftRL x (MOVWconst [c]) [d]) => (ORconst x [int32(uint32(c)>>uint64(d))])
(ORshiftRA x (MOVWconst [c]) [d]) => (ORconst x [c>>uint64(d)])
(XORshiftLL x (MOVWconst [c]) [d]) => (XORconst x [c<<uint64(d)])
(XORshiftRL x (MOVWconst [c]) [d]) => (XORconst x [int32(uint32(c)>>uint64(d))])
(XORshiftRA x (MOVWconst [c]) [d]) => (XORconst x [c>>uint64(d)])
(XORshiftRR x (MOVWconst [c]) [d]) => (XORconst x [int32(uint32(c)>>uint64(d)|uint32(c)<<uint64(32-d))])
(BICshiftLL x (MOVWconst [c]) [d]) => (BICconst x [c<<uint64(d)])
(BICshiftRL x (MOVWconst [c]) [d]) => (BICconst x [int32(uint32(c)>>uint64(d))])
(BICshiftRA x (MOVWconst [c]) [d]) => (BICconst x [c>>uint64(d)])
(MVNshiftLL (MOVWconst [c]) [d]) => (MOVWconst [^(c<<uint64(d))])
(MVNshiftRL (MOVWconst [c]) [d]) => (MOVWconst
```

```
 [^int32(uint32(c)>>uint64(d))])
(MVNshiftRA (MOVWconst [c]) [d]) => (MOVWconst [int32(c)>>uint64(d)])
(CMPshiftLL x (MOVWconst [c]) [d]) => (CMPconst x [c<<uint64(d)])
(CMPshiftRL x (MOVWconst [c]) [d]) => (CMPconst x [int32(uint32(c)>>uint64(d))])
(CMPshiftRA x (MOVWconst [c]) [d]) => (CMPconst x [c>>uint64(d)])
(TSTshiftLL x (MOVWconst [c]) [d]) => (TSTconst x [c<<uint64(d)])
(TSTshiftRL x (MOVWconst [c]) [d]) => (TSTconst x [int32(uint32(c)>>uint64(d))])
(TSTshiftRA x (MOVWconst [c]) [d]) => (TSTconst x [c>>uint64(d)])
(TEQshiftLL x (MOVWconst [c]) [d]) => (TEQconst x [c<<uint64(d)])
(TEQshiftRL x (MOVWconst [c]) [d]) => (TEQconst x [int32(uint32(c)>>uint64(d))])
(TEQshiftRA x (MOVWconst [c]) [d]) => (TEQconst x [c>>uint64(d)])
(CMNshiftLL x (MOVWconst [c]) [d]) => (CMNconst x [c<<uint64(d)])
(CMNshiftRL x (MOVWconst [c]) [d]) => (CMNconst x [int32(uint32(c)>>uint64(d))])
(CMNshiftRA x (MOVWconst [c]) [d]) => (CMNconst x [c>>uint64(d)])

(ADDshiftLLreg x y (MOVWconst [c])) && 0 <=
 c && c < 32 => (ADDshiftLL x y [c])
(ADDshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ADDshiftRL x y [c])
(ADDshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ADDshiftRA x y [c])
(ADCshiftLLreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (ADCshiftLL x y [c] flags)
(ADCshiftRLreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (ADCshiftRL x y [c] flags)
(ADCshiftRAreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (ADCshiftRA x y [c] flags)
(ADDSshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ADDSshiftLL x y [c])
(ADDSshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ADDSshiftRL x y [c])
(ADDSshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ADDSshiftRA x y [c])
(SUBshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (SUBshiftLL x y [c])
(SUBshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (SUBshiftRL x y [c])
(SUBshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (SUBshiftRA x y [c])
(SBCshiftLLreg x y (MOVWconst [c]) flags)
 && 0 <= c && c < 32 => (SBCshiftLL x y [c] flags)
(SBCshiftRLreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (SBCshiftRL x y [c] flags)
(SBCshiftRAreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (SBCshiftRA x y [c] flags)
(SUBSshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (SUBSshiftLL x y [c])
(SUBSshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (SUBSshiftRL x y [c])
(SUBSshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (SUBSshiftRA x y [c])
(RSBshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (RSBshiftLL x y [c])
(RSBshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (RSBshiftRL x y [c])
(RSBshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (RSBshiftRA x y [c])
(RSCshiftLLreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (RSCshiftLL x y [c] flags)
(RSCshiftRLreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (RSCshiftRL x y [c] flags)
(RSCshiftRAreg x y (MOVWconst [c]) flags) && 0 <= c && c < 32 => (RSCshiftRA x y [c] flags)
(RSBSshiftLLreg
 x y (MOVWconst [c])) && 0 <= c && c < 32 => (RSBSshiftLL x y [c])
(RSBSshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (RSBSshiftRL x y [c])
(RSBSshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (RSBSshiftRA x y [c])
(ANDshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ANDshiftLL x y [c])
(ANDshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ANDshiftRL x y [c])
(ANDshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ANDshiftRA x y [c])
```

```
(ORshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ORshiftLL x y [c])
(ORshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ORshiftRL x y [c])
(ORshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (ORshiftRA x y [c])
(XORshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (XORshiftLL x y [c])
(XORshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (XORshiftRL x y [c])
(XORshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (XORshiftRA x y [c])
(BICshiftLLreg x y (MOVWconst [c])) && 0 <=
 c && c < 32 => (BICshiftLL x y [c])
(BICshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (BICshiftRL x y [c])
(BICshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (BICshiftRA x y [c])
(MVNshiftLLreg x (MOVWconst [c])) && 0 <= c && c < 32 => (MVNshiftLL x [c])
(MVNshiftRLreg x (MOVWconst [c])) && 0 <= c && c < 32 => (MVNshiftRL x [c])
(MVNshiftRAreg x (MOVWconst [c])) && 0 <= c && c < 32 => (MVNshiftRA x [c])
(CMPshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (CMPshiftLL x y [c])
(CMPshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (CMPshiftRL x y [c])
(CMPshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (CMPshiftRA x y [c])
(TSTshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (TSTshiftLL x y [c])
(TSTshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (TSTshiftRL x y [c])
(TSTshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (TSTshiftRA x y [c])
(TEQshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (TEQshiftLL x y [c])
(TEQshiftRLreg
 x y (MOVWconst [c])) && 0 <= c && c < 32 => (TEQshiftRL x y [c])
(TEQshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (TEQshiftRA x y [c])
(CMNshiftLLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (CMNshiftLL x y [c])
(CMNshiftRLreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (CMNshiftRL x y [c])
(CMNshiftRAreg x y (MOVWconst [c])) && 0 <= c && c < 32 => (CMNshiftRA x y [c])

// Generate rotates
(ADDshiftLL [c] (SRLconst x [32-c]) x) => (SRRconst [32-c] x)
( ORshiftLL [c] (SRLconst x [32-c]) x) => (SRRconst [32-c] x)
(XORshiftLL [c] (SRLconst x [32-c]) x) => (SRRconst [32-c] x)
(ADDshiftRL [c] (SLLconst x [32-c]) x) => (SRRconst [   c] x)
( ORshiftRL [c] (SLLconst x [32-c]) x) => (SRRconst [   c] x)
(XORshiftRL [c] (SLLconst x [32-c]) x) => (SRRconst [   c] x)

(RotateLeft16 <t> x (MOVWconst [c])) => (Or16 (Lsh16x32 <t> x (MOVWconst [c&15])) (Rsh16Ux32 <t> x
(MOVWconst [-c&15])))
(RotateLeft8 <t> x (MOVWconst [c])) => (Or8 (Lsh8x32 <t> x (MOVWconst [c&7])) (Rsh8Ux32 <t> x
(MOVWconst
 [-c&7])))
(RotateLeft32 x y) => (SRR x (RSBconst [0] <y.Type> y))

// ((x>>8) | (x<<8)) -> (REV16 x), the type of x is uint16, "|" can also be "^" or "+".
// UBFX instruction is supported by ARMv6T2, ARMv7 and above versions, REV16 is supported by
// ARMv6 and above versions. So for ARMv6, we need to match SLLconst, SRLconst and ORshiftLL.
((ADDshiftLL|ORshiftLL|XORshiftLL) <typ.UInt16> [8] (BFXU <typ.UInt16> [int32(armBFAuxInt(8, 8))] x) x)
=> (REV16 x)
((ADDshiftLL|ORshiftLL|XORshiftLL) <typ.UInt16> [8] (SRLconst <typ.UInt16> [24] (SLLconst [16] x)) x) &&
```

```
buildcfg.GOARM>=6 => (REV16 x)

// use indexed loads and stores
(MOVWload [0] {sym} (ADD ptr idx) mem) && sym == nil => (MOVWloadidx ptr idx mem)
(MOVWstore [0] {sym} (ADD ptr idx) val mem) && sym == nil => (MOVWstoreidx ptr idx val mem)
(MOVWload [0] {sym} (ADDshiftLL ptr idx [c]) mem) && sym == nil => (MOVWloadshiftLL ptr idx [c] mem)
(MOVWload [0] {sym} (ADDshiftRL ptr idx [c]) mem) && sym == nil => (MOVWloadshiftRL ptr idx
 [c] mem)
(MOVWload [0] {sym} (ADDshiftRA ptr idx [c]) mem) && sym == nil => (MOVWloadshiftRA ptr idx [c] mem)
(MOVWstore [0] {sym} (ADDshiftLL ptr idx [c]) val mem) && sym == nil => (MOVWstoreshiftLL ptr idx [c] val
mem)
(MOVWstore [0] {sym} (ADDshiftRL ptr idx [c]) val mem) && sym == nil => (MOVWstoreshiftRL ptr idx [c] val
mem)
(MOVWstore [0] {sym} (ADDshiftRA ptr idx [c]) val mem) && sym == nil => (MOVWstoreshiftRA ptr idx [c]
val mem)
(MOVBUload [0] {sym} (ADD ptr idx) mem) && sym == nil => (MOVBUloadidx ptr idx mem)
(MOVBload [0] {sym} (ADD ptr idx) mem) && sym == nil => (MOVBloadidx ptr idx mem)
(MOVBstore [0] {sym} (ADD ptr idx) val mem) && sym == nil => (MOVBstoreidx ptr idx val mem)
(MOVHUload [0] {sym} (ADD ptr idx) mem) && sym == nil => (MOVHUloadidx ptr idx mem)
(MOVHload [0] {sym} (ADD ptr idx) mem) && sym == nil => (MOVHloadidx ptr idx mem)
(MOVHstore [0] {sym} (ADD ptr idx) val mem) && sym == nil => (MOVHstoreidx ptr idx val mem)

// constant folding in indexed loads and
 stores
(MOVWloadidx ptr (MOVWconst [c]) mem) => (MOVWload [c] ptr mem)
(MOVWloadidx (MOVWconst [c]) ptr mem) => (MOVWload [c] ptr mem)
(MOVBloadidx ptr (MOVWconst [c]) mem) => (MOVBload [c] ptr mem)
(MOVBloadidx (MOVWconst [c]) ptr mem) => (MOVBload [c] ptr mem)
(MOVBUloadidx ptr (MOVWconst [c]) mem) => (MOVBUload [c] ptr mem)
(MOVBUloadidx (MOVWconst [c]) ptr mem) => (MOVBUload [c] ptr mem)
(MOVHUloadidx ptr (MOVWconst [c]) mem) => (MOVHUload [c] ptr mem)
(MOVHUloadidx (MOVWconst [c]) ptr mem) => (MOVHUload [c] ptr mem)
(MOVHloadidx ptr (MOVWconst [c]) mem) => (MOVHload [c] ptr mem)
(MOVHloadidx (MOVWconst [c]) ptr mem) => (MOVHload [c] ptr mem)

(MOVWstoreidx ptr (MOVWconst [c]) val mem) => (MOVWstore [c] ptr val mem)
(MOVWstoreidx (MOVWconst [c]) ptr val mem) => (MOVWstore [c] ptr val mem)
(MOVBstoreidx ptr (MOVWconst [c]) val mem) => (MOVBstore [c] ptr val mem)
(MOVBstoreidx (MOVWconst [c]) ptr val mem) => (MOVBstore [c] ptr val mem)
(MOVHstoreidx ptr (MOVWconst [c]) val mem) =>
 (MOVHstore [c] ptr val mem)
(MOVHstoreidx (MOVWconst [c]) ptr val mem) => (MOVHstore [c] ptr val mem)

(MOVWloadidx ptr (SLLconst idx [c]) mem) => (MOVWloadshiftLL ptr idx [c] mem)
(MOVWloadidx (SLLconst idx [c]) ptr mem) => (MOVWloadshiftLL ptr idx [c] mem)
(MOVWloadidx ptr (SRLconst idx [c]) mem) => (MOVWloadshiftRL ptr idx [c] mem)
(MOVWloadidx (SRLconst idx [c]) ptr mem) => (MOVWloadshiftRL ptr idx [c] mem)
(MOVWloadidx ptr (SRAconst idx [c]) mem) => (MOVWloadshiftRA ptr idx [c] mem)
```

```
(MOVWloadidx (SRAconst idx [c]) ptr mem) => (MOVWloadshiftRA ptr idx [c] mem)

(MOVWstoreidx ptr (SLLconst idx [c]) val mem) => (MOVWstoreshiftLL ptr idx [c] val mem)
(MOVWstoreidx (SLLconst idx [c]) ptr val mem) => (MOVWstoreshiftLL ptr idx [c] val mem)
(MOVWstoreidx ptr (SRLconst idx [c]) val mem) => (MOVWstoreshiftRL ptr idx [c] val mem)
(MOVWstoreidx (SRLconst idx [c]) ptr val mem) => (MOVWstoreshiftRL ptr idx [c] val mem)
(MOVWstoreidx ptr (SRAconst idx [c]) val mem) => (MOVWstoreshiftRA ptr idx [c]
 val mem)
(MOVWstoreidx (SRAconst idx [c]) ptr val mem) => (MOVWstoreshiftRA ptr idx [c] val mem)

(MOVWloadshiftLL ptr (MOVWconst [c]) [d] mem) => (MOVWload [int32(uint32(c)<<uint64(d))] ptr mem)
(MOVWloadshiftRL ptr (MOVWconst [c]) [d] mem) => (MOVWload [int32(uint32(c)>>uint64(d))] ptr mem)
(MOVWloadshiftRA ptr (MOVWconst [c]) [d] mem) => (MOVWload [c>>uint64(d)] ptr mem)

(MOVWstoreshiftLL ptr (MOVWconst [c]) [d] val mem) => (MOVWstore [int32(uint32(c)<<uint64(d))] ptr val
mem)
(MOVWstoreshiftRL ptr (MOVWconst [c]) [d] val mem) => (MOVWstore [int32(uint32(c)>>uint64(d))] ptr val
mem)
(MOVWstoreshiftRA ptr (MOVWconst [c]) [d] val mem) => (MOVWstore [c>>uint64(d)] ptr val mem)

// generic simplifications
(ADD x (RSBconst [0] y)) => (SUB x y)
(ADD <t> (RSBconst [c] x) (RSBconst [d] y)) => (RSBconst [c+d] (ADD <t> x y))
(SUB x x) => (MOVWconst [0])
(RSB x x) => (MOVWconst [0])
(AND x x) => x
(OR x x) => x
(XOR x x) => (MOVWconst [0])
(BIC x x) => (MOVWconst [0])

(ADD (MUL x y) a) =>
 (MULA x y a)
(SUB a (MUL x y)) && buildcfg.GOARM == 7 => (MULS x y a)
(RSB (MUL x y) a) && buildcfg.GOARM == 7 => (MULS x y a)

(NEGF (MULF x y)) && buildcfg.GOARM >= 6 => (NMULF x y)
(NEGD (MULD x y)) && buildcfg.GOARM >= 6 => (NMULD x y)
(MULF (NEGF x) y) && buildcfg.GOARM >= 6 => (NMULF x y)
(MULD (NEGD x) y) && buildcfg.GOARM >= 6 => (NMULD x y)
(NMULF (NEGF x) y) => (MULF x y)
(NMULD (NEGD x) y) => (MULD x y)

// the result will overwrite the addend, since they are in the same register
(ADDF a (MULF x y)) && a.Uses == 1 && buildcfg.GOARM >= 6 => (MULAF a x y)
(ADDF a (NMULF x y)) && a.Uses == 1 && buildcfg.GOARM >= 6 => (MULSF a x y)
(ADDD a (MULD x y)) && a.Uses == 1 && buildcfg.GOARM >= 6 => (MULAD a x y)
(ADDD a (NMULD x y)) && a.Uses == 1 && buildcfg.GOARM >= 6 => (MULSD a x y)
(SUBF a (MULF x y)) && a.Uses == 1 && buildcfg.GOARM >= 6 => (MULSF a x y)
```

```
(SUBF a (NMULF x y)) && a.Uses == 1 && buildcfg.GOARM >= 6 => (MULAF a x y)
(SUBD a (MULD x y)) && a.Uses == 1 && buildcfg.GOARM
 >= 6 => (MULSD a x y)
(SUBD a (NMULD x y)) && a.Uses == 1 && buildcfg.GOARM >= 6 => (MULAD a x y)

(AND x (MVN y)) => (BIC x y)

// simplification with *shift ops
(SUBshiftLL (SLLconst x [c]) x [c]) => (MOVWconst [0])
(SUBshiftRL (SRLconst x [c]) x [c]) => (MOVWconst [0])
(SUBshiftRA (SRAconst x [c]) x [c]) => (MOVWconst [0])
(RSBshiftLL (SLLconst x [c]) x [c]) => (MOVWconst [0])
(RSBshiftRL (SRLconst x [c]) x [c]) => (MOVWconst [0])
(RSBshiftRA (SRAconst x [c]) x [c]) => (MOVWconst [0])
(ANDshiftLL y:(SLLconst x [c]) x [c]) => y
(ANDshiftRL y:(SRLconst x [c]) x [c]) => y
(ANDshiftRA y:(SRAconst x [c]) x [c]) => y
(ORshiftLL y:(SLLconst x [c]) x [c]) => y
(ORshiftRL y:(SRLconst x [c]) x [c]) => y
(ORshiftRA y:(SRAconst x [c]) x [c]) => y
(XORshiftLL (SLLconst x [c]) x [c]) => (MOVWconst [0])
(XORshiftRL (SRLconst x [c]) x [c]) => (MOVWconst [0])
(XORshiftRA (SRAconst x [c]) x [c]) => (MOVWconst [0])
(BICshiftLL (SLLconst x [c]) x [c]) => (MOVWconst [0])
(BICshiftRL (SRLconst x [c])
 x [c]) => (MOVWconst [0])
(BICshiftRA (SRAconst x [c]) x [c]) => (MOVWconst [0])
(AND x (MVNshiftLL y [c])) => (BICshiftLL x y [c])
(AND x (MVNshiftRL y [c])) => (BICshiftRL x y [c])
(AND x (MVNshiftRA y [c])) => (BICshiftRA x y [c])

// floating point optimizations
(CMPF x (MOVFconst [0])) => (CMPF0 x)
(CMPD x (MOVDconst [0])) => (CMPD0 x)

// bit extraction
(SRAconst (SLLconst x [c]) [d]) && buildcfg.GOARM==7 && uint64(d)>=uint64(c) && uint64(d)<=31 => (BFX
[(d-c)|(32-d)<<8] x)
(SRLconst (SLLconst x [c]) [d]) && buildcfg.GOARM==7 && uint64(d)>=uint64(c) && uint64(d)<=31 =>
(BFXU [(d-c)|(32-d)<<8] x)

// comparison simplification
((EQ|NE) (CMP x (RSBconst [0] y))) => ((EQ|NE) (CMN x y)) // sense of carry bit not preserved; see also #50854
((EQ|NE) (CMN x (RSBconst [0] y))) => ((EQ|NE) (CMP x y)) // sense of carry bit not preserved; see also #50864
(EQ (CMPconst [0] l:(SUB x y)) yes no) && l.Uses==1 => (EQ (CMP x y) yes no)
(EQ (CMPconst [0] l:(MULS x y a)) yes no) && l.Uses==1 => (EQ
 (CMP a (MUL <x.Type> x y)) yes no)
(EQ (CMPconst [0] l:(SUBconst [c] x)) yes no) && l.Uses==1 => (EQ (CMPconst [c] x) yes no)
```

(EQ (CMPconst [0] l:(SUBshiftLL x y [c])) yes no) && l.Uses==1 => (EQ (CMPshiftLL x y [c]) yes no)
(EQ (CMPconst [0] l:(SUBshiftRL x y [c])) yes no) && l.Uses==1 => (EQ (CMPshiftRL x y [c]) yes no)
(EQ (CMPconst [0] l:(SUBshiftRA x y [c])) yes no) && l.Uses==1 => (EQ (CMPshiftRA x y [c]) yes no)
(EQ (CMPconst [0] l:(SUBshiftLLreg x y z)) yes no) && l.Uses==1 => (EQ (CMPshiftLLreg x y z) yes no)
(EQ (CMPconst [0] l:(SUBshiftRLreg x y z)) yes no) && l.Uses==1 => (EQ (CMPshiftRLreg x y z) yes no)
(EQ (CMPconst [0] l:(SUBshiftRAreg x y z)) yes no) && l.Uses==1 => (EQ (CMPshiftRAreg x y z) yes no)
(NE (CMPconst [0] l:(SUB x y)) yes no) && l.Uses==1 => (NE (CMP x y) yes no)
(NE (CMPconst [0] l:(MULS x y a)) yes no) && l.Uses==1 => (NE (CMP a (MUL <x.Type> x y)) yes no)
(NE (CMPconst [0] l:(SUBconst [c] x)) yes no) && l.Uses==1 => (NE (CMPconst [c] x) yes no)
(NE (CMPconst
[0] l:(SUBshiftLL x y [c])) yes no) && l.Uses==1 => (NE (CMPshiftLL x y [c]) yes no)
(NE (CMPconst [0] l:(SUBshiftRL x y [c])) yes no) && l.Uses==1 => (NE (CMPshiftRL x y [c]) yes no)
(NE (CMPconst [0] l:(SUBshiftRA x y [c])) yes no) && l.Uses==1 => (NE (CMPshiftRA x y [c]) yes no)
(NE (CMPconst [0] l:(SUBshiftLLreg x y z)) yes no) && l.Uses==1 => (NE (CMPshiftLLreg x y z) yes no)
(NE (CMPconst [0] l:(SUBshiftRLreg x y z)) yes no) && l.Uses==1 => (NE (CMPshiftRLreg x y z) yes no)
(NE (CMPconst [0] l:(SUBshiftRAreg x y z)) yes no) && l.Uses==1 => (NE (CMPshiftRAreg x y z) yes no)
(EQ (CMPconst [0] l:(ADD x y)) yes no) && l.Uses==1 => (EQ (CMN x y) yes no)
(EQ (CMPconst [0] l:(MULA x y a)) yes no) && l.Uses==1 => (EQ (CMN a (MUL <x.Type> x y)) yes no)
(EQ (CMPconst [0] l:(ADDconst [c] x)) yes no) && l.Uses==1 => (EQ (CMNconst [c] x) yes no)
(EQ (CMPconst [0] l:(ADDshiftLL x y [c])) yes no) && l.Uses==1 => (EQ (CMNshiftLL x y [c]) yes no)
(EQ (CMPconst [0] l:(ADDshiftRL x y [c])) yes
no) && l.Uses==1 => (EQ (CMNshiftRL x y [c]) yes no)
(EQ (CMPconst [0] l:(ADDshiftRA x y [c])) yes no) && l.Uses==1 => (EQ (CMNshiftRA x y [c]) yes no)
(EQ (CMPconst [0] l:(ADDshiftLLreg x y z)) yes no) && l.Uses==1 => (EQ (CMNshiftLLreg x y z) yes no)
(EQ (CMPconst [0] l:(ADDshiftRLreg x y z)) yes no) && l.Uses==1 => (EQ (CMNshiftRLreg x y z) yes no)
(EQ (CMPconst [0] l:(ADDshiftRAreg x y z)) yes no) && l.Uses==1 => (EQ (CMNshiftRAreg x y z) yes no)
(NE (CMPconst [0] l:(ADD x y)) yes no) && l.Uses==1 => (NE (CMN x y) yes no)
(NE (CMPconst [0] l:(MULA x y a)) yes no) && l.Uses==1 => (NE (CMN a (MUL <x.Type> x y)) yes no)
(NE (CMPconst [0] l:(ADDconst [c] x)) yes no) && l.Uses==1 => (NE (CMNconst [c] x) yes no)
(NE (CMPconst [0] l:(ADDshiftLL x y [c])) yes no) && l.Uses==1 => (NE (CMNshiftLL x y [c]) yes no)
(NE (CMPconst [0] l:(ADDshiftRL x y [c])) yes no) && l.Uses==1 => (NE (CMNshiftRL x y [c]) yes no)
(NE (CMPconst [0] l:(ADDshiftRA x y [c])) yes no) && l.Uses==1 => (NE (CMNshiftRA
x y [c]) yes no)
(NE (CMPconst [0] l:(ADDshiftLLreg x y z)) yes no) && l.Uses==1 => (NE (CMNshiftLLreg x y z) yes no)
(NE (CMPconst [0] l:(ADDshiftRLreg x y z)) yes no) && l.Uses==1 => (NE (CMNshiftRLreg x y z) yes no)
(NE (CMPconst [0] l:(ADDshiftRAreg x y z)) yes no) && l.Uses==1 => (NE (CMNshiftRAreg x y z) yes no)
(EQ (CMPconst [0] l:(AND x y)) yes no) && l.Uses==1 => (EQ (TST x y) yes no)
(EQ (CMPconst [0] l:(ANDconst [c] x)) yes no) && l.Uses==1 => (EQ (TSTconst [c] x) yes no)
(EQ (CMPconst [0] l:(ANDshiftLL x y [c])) yes no) && l.Uses==1 => (EQ (TSTshiftLL x y [c]) yes no)
(EQ (CMPconst [0] l:(ANDshiftRL x y [c])) yes no) && l.Uses==1 => (EQ (TSTshiftRL x y [c]) yes no)
(EQ (CMPconst [0] l:(ANDshiftRA x y [c])) yes no) && l.Uses==1 => (EQ (TSTshiftRA x y [c]) yes no)
(EQ (CMPconst [0] l:(ANDshiftLLreg x y z)) yes no) && l.Uses==1 => (EQ (TSTshiftLLreg x y z) yes no)
(EQ (CMPconst [0] l:(ANDshiftRLreg x y z)) yes no) && l.Uses==1 => (EQ (TSTshiftRLreg x y z) yes no)
(EQ (CMPconst
[0] l:(ANDshiftRAreg x y z)) yes no) && l.Uses==1 => (EQ (TSTshiftRAreg x y z) yes no)
(NE (CMPconst [0] l:(AND x y)) yes no) && l.Uses==1 => (NE (TST x y) yes no)
(NE (CMPconst [0] l:(ANDconst [c] x)) yes no) && l.Uses==1 => (NE (TSTconst [c] x) yes no)
(NE (CMPconst [0] l:(ANDshiftLL x y [c])) yes no) && l.Uses==1 => (NE (TSTshiftLL x y [c]) yes no)

(NE (CMPconst [0] l:(ANDshiftRL x y [c])) yes no) && l.Uses==1 => (NE (TSTshiftRL x y [c]) yes no)
(NE (CMPconst [0] l:(ANDshiftRA x y [c])) yes no) && l.Uses==1 => (NE (TSTshiftRA x y [c]) yes no)
(NE (CMPconst [0] l:(ANDshiftLLreg x y z)) yes no) && l.Uses==1 => (NE (TSTshiftLLreg x y z) yes no)
(NE (CMPconst [0] l:(ANDshiftRLreg x y z)) yes no) && l.Uses==1 => (NE (TSTshiftRLreg x y z) yes no)
(NE (CMPconst [0] l:(ANDshiftRAreg x y z)) yes no) && l.Uses==1 => (NE (TSTshiftRAreg x y z) yes no)
(EQ (CMPconst [0] l:(XOR x y)) yes no) && l.Uses==1 => (EQ (TEQ x y) yes no)
(EQ (CMPconst [0] l:(XORconst [c] x)) yes no) && l.Uses==1 => (EQ
(TEQconst [c] x) yes no)
(EQ (CMPconst [0] l:(XORshiftLL x y [c])) yes no) && l.Uses==1 => (EQ (TEQshiftLL x y [c]) yes no)
(EQ (CMPconst [0] l:(XORshiftRL x y [c])) yes no) && l.Uses==1 => (EQ (TEQshiftRL x y [c]) yes no)
(EQ (CMPconst [0] l:(XORshiftRA x y [c])) yes no) && l.Uses==1 => (EQ (TEQshiftRA x y [c]) yes no)
(EQ (CMPconst [0] l:(XORshiftLLreg x y z)) yes no) && l.Uses==1 => (EQ (TEQshiftLLreg x y z) yes no)
(EQ (CMPconst [0] l:(XORshiftRLreg x y z)) yes no) && l.Uses==1 => (EQ (TEQshiftRLreg x y z) yes no)
(EQ (CMPconst [0] l:(XORshiftRAreg x y z)) yes no) && l.Uses==1 => (EQ (TEQshiftRAreg x y z) yes no)
(NE (CMPconst [0] l:(XOR x y)) yes no) && l.Uses==1 => (NE (TEQ x y) yes no)
(NE (CMPconst [0] l:(XORconst [c] x)) yes no) && l.Uses==1 => (NE (TEQconst [c] x) yes no)
(NE (CMPconst [0] l:(XORshiftLL x y [c])) yes no) && l.Uses==1 => (NE (TEQshiftLL x y [c]) yes no)
(NE (CMPconst [0] l:(XORshiftRL x y [c])) yes no) && l.Uses==1 => (NE (TEQshiftRL x y [c]) yes no)
(NE (CMPconst
[0] l:(XORshiftRA x y [c])) yes no) && l.Uses==1 => (NE (TEQshiftRA x y [c]) yes no)
(NE (CMPconst [0] l:(XORshiftLLreg x y z)) yes no) && l.Uses==1 => (NE (TEQshiftLLreg x y z) yes no)
(NE (CMPconst [0] l:(XORshiftRLreg x y z)) yes no) && l.Uses==1 => (NE (TEQshiftRLreg x y z) yes no)
(NE (CMPconst [0] l:(XORshiftRAreg x y z)) yes no) && l.Uses==1 => (NE (TEQshiftRAreg x y z) yes no)
(LT (CMPconst [0] l:(SUB x y)) yes no) && l.Uses==1 => (LTnoov (CMP x y) yes no)
(LT (CMPconst [0] l:(MULS x y a)) yes no) && l.Uses==1 => (LTnoov (CMP a (MUL <x.Type> x y)) yes no)
(LT (CMPconst [0] l:(SUBconst [c] x)) yes no) && l.Uses==1 => (LTnoov (CMPconst [c] x) yes no)
(LT (CMPconst [0] l:(SUBshiftLL x y [c])) yes no) && l.Uses==1 => (LTnoov (CMPshiftLL x y [c]) yes no)
(LT (CMPconst [0] l:(SUBshiftRL x y [c])) yes no) && l.Uses==1 => (LTnoov (CMPshiftRL x y [c]) yes no)
(LT (CMPconst [0] l:(SUBshiftRA x y [c])) yes no) && l.Uses==1 => (LTnoov (CMPshiftRA x y [c]) yes no)
(LT (CMPconst [0] l:(SUBshiftLLreg
x y z)) yes no) && l.Uses==1 => (LTnoov (CMPshiftLLreg x y z) yes no)
(LT (CMPconst [0] l:(SUBshiftRLreg x y z)) yes no) && l.Uses==1 => (LTnoov (CMPshiftRLreg x y z) yes no)
(LT (CMPconst [0] l:(SUBshiftRAreg x y z)) yes no) && l.Uses==1 => (LTnoov (CMPshiftRAreg x y z) yes no)
(LE (CMPconst [0] l:(SUB x y)) yes no) && l.Uses==1 => (LEnoov (CMP x y) yes no)
(LE (CMPconst [0] l:(MULS x y a)) yes no) && l.Uses==1 => (LEnoov (CMP a (MUL <x.Type> x y)) yes no)
(LE (CMPconst [0] l:(SUBconst [c] x)) yes no) && l.Uses==1 => (LEnoov (CMPconst [c] x) yes no)
(LE (CMPconst [0] l:(SUBshiftLL x y [c])) yes no) && l.Uses==1 => (LEnoov (CMPshiftLL x y [c]) yes no)
(LE (CMPconst [0] l:(SUBshiftRL x y [c])) yes no) && l.Uses==1 => (LEnoov (CMPshiftRL x y [c]) yes no)
(LE (CMPconst [0] l:(SUBshiftRA x y [c])) yes no) && l.Uses==1 => (LEnoov (CMPshiftRA x y [c]) yes no)
(LE (CMPconst [0] l:(SUBshiftLLreg x y z)) yes no) && l.Uses==1 => (LEnoov (CMPshiftLLreg x y z) yes no)
(LE (CMPconst [0]
l:(SUBshiftRLreg x y z)) yes no) && l.Uses==1 => (LEnoov (CMPshiftRLreg x y z) yes no)
(LE (CMPconst [0] l:(SUBshiftRAreg x y z)) yes no) && l.Uses==1 => (LEnoov (CMPshiftRAreg x y z) yes no)
(LT (CMPconst [0] l:(ADD x y)) yes no) && l.Uses==1 => (LTnoov (CMN x y) yes no)
(LT (CMPconst [0] l:(MULA x y a)) yes no) && l.Uses==1 => (LTnoov (CMN a (MUL <x.Type> x y)) yes no)
(LT (CMPconst [0] l:(ADDconst [c] x)) yes no) && l.Uses==1 => (LTnoov (CMNconst [c] x) yes no)
(LT (CMPconst [0] l:(ADDshiftLL x y [c])) yes no) && l.Uses==1 => (LTnoov (CMNshiftLL x y [c]) yes no)
(LT (CMPconst [0] l:(ADDshiftRL x y [c])) yes no) && l.Uses==1 => (LTnoov (CMNshiftRL x y [c]) yes no)

(LT (CMPconst [0] l:(ADDshiftRA x y [c])) yes no) && l.Uses==1 => (LTnoov (CMNshiftRA x y [c]) yes no)
(LT (CMPconst [0] l:(ADDshiftLLreg x y z)) yes no) && l.Uses==1 => (LTnoov (CMNshiftLLreg x y z) yes no)
(LT (CMPconst [0] l:(ADDshiftRLreg x y z)) yes no) && l.Uses==1 => (LTnoov (CMNshiftRLreg x y z) yes no)
(LT (CMPconst
[0] l:(ADDshiftRAreg x y z)) yes no) && l.Uses==1 => (LTnoov (CMNshiftRAreg x y z) yes no)
(LE (CMPconst [0] l:(ADD x y)) yes no) && l.Uses==1 => (LEnoov (CMN x y) yes no)
(LE (CMPconst [0] l:(MULA x y a)) yes no) && l.Uses==1 => (LEnoov (CMN a (MUL <x.Type> x y)) yes no)
(LE (CMPconst [0] l:(ADDconst [c] x)) yes no) && l.Uses==1 => (LEnoov (CMNconst [c] x) yes no)
(LE (CMPconst [0] l:(ADDshiftLL x y [c])) yes no) && l.Uses==1 => (LEnoov (CMNshiftLL x y [c]) yes no)
(LE (CMPconst [0] l:(ADDshiftRL x y [c])) yes no) && l.Uses==1 => (LEnoov (CMNshiftRL x y [c]) yes no)
(LE (CMPconst [0] l:(ADDshiftRA x y [c])) yes no) && l.Uses==1 => (LEnoov (CMNshiftRA x y [c]) yes no)
(LE (CMPconst [0] l:(ADDshiftLLreg x y z)) yes no) && l.Uses==1 => (LEnoov (CMNshiftLLreg x y z) yes no)
(LE (CMPconst [0] l:(ADDshiftRLreg x y z)) yes no) && l.Uses==1 => (LEnoov (CMNshiftRLreg x y z) yes no)
(LE (CMPconst [0] l:(ADDshiftRAreg x y z)) yes no) && l.Uses==1 => (LEnoov (CMNshiftRAreg x y z) yes no)
(LT
(CMPconst [0] l:(AND x y)) yes no) && l.Uses==1 => (LTnoov (TST x y) yes no)
(LT (CMPconst [0] l:(ANDconst [c] x)) yes no) && l.Uses==1 => (LTnoov (TSTconst [c] x) yes no)
(LT (CMPconst [0] l:(ANDshiftLL x y [c])) yes no) && l.Uses==1 => (LTnoov (TSTshiftLL x y [c]) yes no)
(LT (CMPconst [0] l:(ANDshiftRL x y [c])) yes no) && l.Uses==1 => (LTnoov (TSTshiftRL x y [c]) yes no)
(LT (CMPconst [0] l:(ANDshiftRA x y [c])) yes no) && l.Uses==1 => (LTnoov (TSTshiftRA x y [c]) yes no)
(LT (CMPconst [0] l:(ANDshiftLLreg x y z)) yes no) && l.Uses==1 => (LTnoov (TSTshiftLLreg x y z) yes no)
(LT (CMPconst [0] l:(ANDshiftRLreg x y z)) yes no) && l.Uses==1 => (LTnoov (TSTshiftRLreg x y z) yes no)
(LT (CMPconst [0] l:(ANDshiftRAreg x y z)) yes no) && l.Uses==1 => (LTnoov (TSTshiftRAreg x y z) yes no)
(LE (CMPconst [0] l:(AND x y)) yes no) && l.Uses==1 => (LEnoov (TST x y) yes no)
(LE (CMPconst [0] l:(ANDconst [c] x)) yes no) && l.Uses==1 => (LEnoov (TSTconst [c] x) yes no)
(LE (CMPconst [0] l:(ANDshiftLL
x y [c])) yes no) && l.Uses==1 => (LEnoov (TSTshiftLL x y [c]) yes no)
(LE (CMPconst [0] l:(ANDshiftRL x y [c])) yes no) && l.Uses==1 => (LEnoov (TSTshiftRL x y [c]) yes no)
(LE (CMPconst [0] l:(ANDshiftRA x y [c])) yes no) && l.Uses==1 => (LEnoov (TSTshiftRA x y [c]) yes no)
(LE (CMPconst [0] l:(ANDshiftLLreg x y z)) yes no) && l.Uses==1 => (LEnoov (TSTshiftLLreg x y z) yes no)
(LE (CMPconst [0] l:(ANDshiftRLreg x y z)) yes no) && l.Uses==1 => (LEnoov (TSTshiftRLreg x y z) yes no)
(LE (CMPconst [0] l:(ANDshiftRAreg x y z)) yes no) && l.Uses==1 => (LEnoov (TSTshiftRAreg x y z) yes no)
(LT (CMPconst [0] l:(XOR x y)) yes no) && l.Uses==1 => (LTnoov (TEQ x y) yes no)
(LT (CMPconst [0] l:(XORconst [c] x)) yes no) && l.Uses==1 => (LTnoov (TEQconst [c] x) yes no)
(LT (CMPconst [0] l:(XORshiftLL x y [c])) yes no) && l.Uses==1 => (LTnoov (TEQshiftLL x y [c]) yes no)
(LT (CMPconst [0] l:(XORshiftRL x y [c])) yes no) && l.Uses==1 => (LTnoov (TEQshiftRL x y [c]) yes no)
(LT (CMPconst [0] l:(XORshiftRA
x y [c])) yes no) && l.Uses==1 => (LTnoov (TEQshiftRA x y [c]) yes no)
(LT (CMPconst [0] l:(XORshiftLLreg x y z)) yes no) && l.Uses==1 => (LTnoov (TEQshiftLLreg x y z) yes no)
(LT (CMPconst [0] l:(XORshiftRLreg x y z)) yes no) && l.Uses==1 => (LTnoov (TEQshiftRLreg x y z) yes no)
(LT (CMPconst [0] l:(XORshiftRAreg x y z)) yes no) && l.Uses==1 => (LTnoov (TEQshiftRAreg x y z) yes no)
(LE (CMPconst [0] l:(XOR x y)) yes no) && l.Uses==1 => (LEnoov (TEQ x y) yes no)
(LE (CMPconst [0] l:(XORconst [c] x)) yes no) && l.Uses==1 => (LEnoov (TEQconst [c] x) yes no)
(LE (CMPconst [0] l:(XORshiftLL x y [c])) yes no) && l.Uses==1 => (LEnoov (TEQshiftLL x y [c]) yes no)
(LE (CMPconst [0] l:(XORshiftRL x y [c])) yes no) && l.Uses==1 => (LEnoov (TEQshiftRL x y [c]) yes no)
(LE (CMPconst [0] l:(XORshiftRA x y [c])) yes no) && l.Uses==1 => (LEnoov (TEQshiftRA x y [c]) yes no)
(LE (CMPconst [0] l:(XORshiftLLreg x y z)) yes no) && l.Uses==1 => (LEnoov (TEQshiftLLreg x y z) yes no)
(LE (CMPconst

[0] l:(XORshiftRLreg x y z)) yes no) && l.Uses==1 => (LEnoov (TEQshiftRLreg x y z) yes no)
(LE (CMPconst [0] l:(XORshiftRAreg x y z)) yes no) && l.Uses==1 => (LEnoov (TEQshiftRAreg x y z) yes no)
(GT (CMPconst [0] l:(SUB x y)) yes no) && l.Uses==1 => (GTnoov (CMP x y) yes no)
(GT (CMPconst [0] l:(MULS x y a)) yes no) && l.Uses==1 => (GTnoov (CMP a (MUL <x.Type> x y)) yes no)
(GT (CMPconst [0] l:(SUBconst [c] x)) yes no) && l.Uses==1 => (GTnoov (CMPconst [c] x) yes no)
(GT (CMPconst [0] l:(SUBshiftLL x y [c])) yes no) && l.Uses==1 => (GTnoov (CMPshiftLL x y [c]) yes no)
(GT (CMPconst [0] l:(SUBshiftRL x y [c])) yes no) && l.Uses==1 => (GTnoov (CMPshiftRL x y [c]) yes no)
(GT (CMPconst [0] l:(SUBshiftRA x y [c])) yes no) && l.Uses==1 => (GTnoov (CMPshiftRA x y [c]) yes no)
(GT (CMPconst [0] l:(SUBshiftLLreg x y z)) yes no) && l.Uses==1 => (GTnoov (CMPshiftLLreg x y z) yes no)
(GT (CMPconst [0] l:(SUBshiftRLreg x y z)) yes no) && l.Uses==1 => (GTnoov (CMPshiftRLreg x y z) yes no)
(GT (CMPconst
[0] l:(SUBshiftRAreg x y z)) yes no) && l.Uses==1 => (GTnoov (CMPshiftRAreg x y z) yes no)
(GE (CMPconst [0] l:(SUB x y)) yes no) && l.Uses==1 => (GEnoov (CMP x y) yes no)
(GE (CMPconst [0] l:(MULS x y a)) yes no) && l.Uses==1 => (GEnoov (CMP a (MUL <x.Type> x y)) yes no)
(GE (CMPconst [0] l:(SUBconst [c] x)) yes no) && l.Uses==1 => (GEnoov (CMPconst [c] x) yes no)
(GE (CMPconst [0] l:(SUBshiftLL x y [c])) yes no) && l.Uses==1 => (GEnoov (CMPshiftLL x y [c]) yes no)
(GE (CMPconst [0] l:(SUBshiftRL x y [c])) yes no) && l.Uses==1 => (GEnoov (CMPshiftRL x y [c]) yes no)
(GE (CMPconst [0] l:(SUBshiftRA x y [c])) yes no) && l.Uses==1 => (GEnoov (CMPshiftRA x y [c]) yes no)
(GE (CMPconst [0] l:(SUBshiftLLreg x y z)) yes no) && l.Uses==1 => (GEnoov (CMPshiftLLreg x y z) yes no)
(GE (CMPconst [0] l:(SUBshiftRLreg x y z)) yes no) && l.Uses==1 => (GEnoov (CMPshiftRLreg x y z) yes no)
(GE (CMPconst [0] l:(SUBshiftRAreg x y z)) yes no) && l.Uses==1 => (GEnoov (CMPshiftRAreg x y z) yes no)
(GT
(CMPconst [0] l:(ADD x y)) yes no) && l.Uses==1 => (GTnoov (CMN x y) yes no)
(GT (CMPconst [0] l:(ADDconst [c] x)) yes no) && l.Uses==1 => (GTnoov (CMNconst [c] x) yes no)
(GT (CMPconst [0] l:(ADDshiftLL x y [c])) yes no) && l.Uses==1 => (GTnoov (CMNshiftLL x y [c]) yes no)
(GT (CMPconst [0] l:(ADDshiftRL x y [c])) yes no) && l.Uses==1 => (GTnoov (CMNshiftRL x y [c]) yes no)
(GT (CMPconst [0] l:(ADDshiftRA x y [c])) yes no) && l.Uses==1 => (GTnoov (CMNshiftRA x y [c]) yes no)
(GT (CMPconst [0] l:(ADDshiftLLreg x y z)) yes no) && l.Uses==1 => (GTnoov (CMNshiftLLreg x y z) yes no)
(GT (CMPconst [0] l:(ADDshiftRLreg x y z)) yes no) && l.Uses==1 => (GTnoov (CMNshiftRLreg x y z) yes no)
(GT (CMPconst [0] l:(ADDshiftRAreg x y z)) yes no) && l.Uses==1 => (GTnoov (CMNshiftRAreg x y z) yes no)
(GE (CMPconst [0] l:(ADD x y)) yes no) && l.Uses==1 => (GEnoov (CMN x y) yes no)
(GE (CMPconst [0] l:(MULA x y a)) yes no) && l.Uses==1 => (GEnoov (CMN a (MUL <x.Type> x y)) yes no)
(GE (CMPconst [0]
l:(ADDconst [c] x)) yes no) && l.Uses==1 => (GEnoov (CMNconst [c] x) yes no)
(GE (CMPconst [0] l:(ADDshiftLL x y [c])) yes no) && l.Uses==1 => (GEnoov (CMNshiftLL x y [c]) yes no)
(GE (CMPconst [0] l:(ADDshiftRL x y [c])) yes no) && l.Uses==1 => (GEnoov (CMNshiftRL x y [c]) yes no)
(GE (CMPconst [0] l:(ADDshiftRA x y [c])) yes no) && l.Uses==1 => (GEnoov (CMNshiftRA x y [c]) yes no)
(GE (CMPconst [0] l:(ADDshiftLLreg x y z)) yes no) && l.Uses==1 => (GEnoov (CMNshiftLLreg x y z) yes no)
(GE (CMPconst [0] l:(ADDshiftRLreg x y z)) yes no) && l.Uses==1 => (GEnoov (CMNshiftRLreg x y z) yes no)
(GE (CMPconst [0] l:(ADDshiftRAreg x y z)) yes no) && l.Uses==1 => (GEnoov (CMNshiftRAreg x y z) yes no)
(GT (CMPconst [0] l:(MULA x y a)) yes no) && l.Uses==1 => (GTnoov (CMN a (MUL <x.Type> x y)) yes no)
(GT (CMPconst [0] l:(AND x y)) yes no) && l.Uses==1 => (GTnoov (TST x y) yes no)
(GT (CMPconst [0] l:(ANDconst [c] x)) yes no) && l.Uses==1 => (GTnoov (TSTconst [c] x) yes no)
(GT (CMPconst [0] l:(ANDshiftLL
x y [c])) yes no) && l.Uses==1 => (GTnoov (TSTshiftLL x y [c]) yes no)
(GT (CMPconst [0] l:(ANDshiftRL x y [c])) yes no) && l.Uses==1 => (GTnoov (TSTshiftRL x y [c]) yes no)
(GT (CMPconst [0] l:(ANDshiftRA x y [c])) yes no) && l.Uses==1 => (GTnoov (TSTshiftRA x y [c]) yes no)
(GT (CMPconst [0] l:(ANDshiftLLreg x y z)) yes no) && l.Uses==1 => (GTnoov (TSTshiftLLreg x y z) yes no)

(GT (CMPconst [0] l:(ANDshiftRLreg x y z)) yes no) && l.Uses==1 => (GTnoov (TSTshiftRLreg x y z) yes no)
(GT (CMPconst [0] l:(ANDshiftRAreg x y z)) yes no) && l.Uses==1 => (GTnoov (TSTshiftRAreg x y z) yes no)
(GE (CMPconst [0] l:(AND x y)) yes no) && l.Uses==1 => (GEnoov (TST x y) yes no)
(GE (CMPconst [0] l:(ANDconst [c] x)) yes no) && l.Uses==1 => (GEnoov (TSTconst [c] x) yes no)
(GE (CMPconst [0] l:(ANDshiftLL x y [c])) yes no) && l.Uses==1 => (GEnoov (TSTshiftLL x y [c]) yes no)
(GE (CMPconst [0] l:(ANDshiftRL x y [c])) yes no) && l.Uses==1 => (GEnoov (TSTshiftRL x y [c]) yes no)
(GE (CMPconst [0]
l:(ANDshiftRA x y [c])) yes no) && l.Uses==1 => (GEnoov (TSTshiftRA x y [c]) yes no)
(GE (CMPconst [0] l:(ANDshiftLLreg x y z)) yes no) && l.Uses==1 => (GEnoov (TSTshiftLLreg x y z) yes no)
(GE (CMPconst [0] l:(ANDshiftRLreg x y z)) yes no) && l.Uses==1 => (GEnoov (TSTshiftRLreg x y z) yes no)
(GE (CMPconst [0] l:(ANDshiftRAreg x y z)) yes no) && l.Uses==1 => (GEnoov (TSTshiftRAreg x y z) yes no)
(GT (CMPconst [0] l:(XOR x y)) yes no) && l.Uses==1 => (GTnoov (TEQ x y) yes no)
(GT (CMPconst [0] l:(XORconst [c] x)) yes no) && l.Uses==1 => (GTnoov (TEQconst [c] x) yes no)
(GT (CMPconst [0] l:(XORshiftLL x y [c])) yes no) && l.Uses==1 => (GTnoov (TEQshiftLL x y [c]) yes no)
(GT (CMPconst [0] l:(XORshiftRL x y [c])) yes no) && l.Uses==1 => (GTnoov (TEQshiftRL x y [c]) yes no)
(GT (CMPconst [0] l:(XORshiftRA x y [c])) yes no) && l.Uses==1 => (GTnoov (TEQshiftRA x y [c]) yes no)
(GT (CMPconst [0] l:(XORshiftLLreg x y z)) yes no) && l.Uses==1 => (GTnoov (TEQshiftLLreg x y z) yes no)
(GT (CMPconst
[0] l:(XORshiftRLreg x y z)) yes no) && l.Uses==1 => (GTnoov (TEQshiftRLreg x y z) yes no)
(GT (CMPconst [0] l:(XORshiftRAreg x y z)) yes no) && l.Uses==1 => (GTnoov (TEQshiftRAreg x y z) yes no)
(GE (CMPconst [0] l:(XOR x y)) yes no) && l.Uses==1 => (GEnoov (TEQ x y) yes no)
(GE (CMPconst [0] l:(XORconst [c] x)) yes no) && l.Uses==1 => (GEnoov (TEQconst [c] x) yes no)
(GE (CMPconst [0] l:(XORshiftLL x y [c])) yes no) && l.Uses==1 => (GEnoov (TEQshiftLL x y [c]) yes no)
(GE (CMPconst [0] l:(XORshiftRL x y [c])) yes no) && l.Uses==1 => (GEnoov (TEQshiftRL x y [c]) yes no)
(GE (CMPconst [0] l:(XORshiftRA x y [c])) yes no) && l.Uses==1 => (GEnoov (TEQshiftRA x y [c]) yes no)
(GE (CMPconst [0] l:(XORshiftLLreg x y z)) yes no) && l.Uses==1 => (GEnoov (TEQshiftLLreg x y z) yes no)
(GE (CMPconst [0] l:(XORshiftRLreg x y z)) yes no) && l.Uses==1 => (GEnoov (TEQshiftRLreg x y z) yes no)
(GE (CMPconst [0] l:(XORshiftRAreg x y z)) yes no) && l.Uses==1 => (GEnoov (TEQshiftRAreg x y z) yes no)

(MOVBUload
[off] {sym} (SB) _) && symIsRO(sym) => (MOVWconst [int32(read8(sym, int64(off)))])
(MOVHUload [off] {sym} (SB) _) && symIsRO(sym) => (MOVWconst [int32(read16(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVWload [off] {sym} (SB) _) && symIsRO(sym) => (MOVWconst [int32(read32(sym, int64(off),
config.ctxt.Arch.ByteOrder))])

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* /compile-zip/compile/internal/ssa/gen/ARM.rules
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// are free to use their own name for that type parameter. That is, the

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* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50755.go
* /compile-zip/compile/internal/types2/named_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50417.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51607.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51233.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50729.go
* /compile-zip/compile/internal/types/structuraltype.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51525.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50646.go
* /compile-zip/compile/internal/loong64/ggen.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51386.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50426.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51339.go
*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue49735.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50276.go
* /compile-zip/compile/internal/types2/main_test.go
* /compile-zip/compile/internal/loong64/ssa.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue52401.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50516.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue52698.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48312.go
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* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51593.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue25838.go
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*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51610.go
* /compile-zip/compile/internal/compare/compare.go
* /compile-zip/compile/internal/syntax/testdata/issue49205.go
* /compile-zip/compile/internal/syntax/testdata/issue52391.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51472.go
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* /compile-zip/compile/internal/test/intrinsics_test.go

* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51360.go
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* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51048.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43109.go
* /compile-zip/compile/internal/abt/avlint32.go
* /compile-zip/compile/internal/test/race.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51145.go
* /compile-zip/compile/internal/syntax/testdata/chans.go
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* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue52915.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50779.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51509.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51578.go
* /compile-zip/compile/internal/pkginit/initAsanGlobals.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50259.go
*
/compile-zip/compile/internal/types2/testdata/fixedbugs/issue40350.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50816.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48712.go
* /compile-zip/compile/internal/abt/avlint32_test.go
* /compile-zip/compile/internal/syntax/testdata/fallthrough.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51232.go
* /compile-zip/compile/internal/ssa/gen/LOONG64Ops.go
* /compile-zip/compile/internal/loong64/galign.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51437.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43056.go
* /compile-zip/compile/internal/types/structuraltype_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50965.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue42881.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue52529.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50918.go
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/compile-zip/compile/internal/types2/testdata/fixedbugs/issue51376.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue51257.go
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* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50450.go
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* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue50281.go
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```
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// Lowering arithmetic
(Add(Ptr|64|32|16|8) ...) => (ADD ...)
(Add64F ...) => (FADD ...)
(Add32F ...) => (FADDS ...)

(Sub(Ptr|64|32|16|8) ...) => (SUB ...)
(Sub32F ...) => (FSUBS ...)
(Sub64F ...) => (FSUB ...)

// Combine 64 bit integer multiply and adds
(ADD l:(MULLD x y) z) && buildcfg.GOPPC64 >= 9 && l.Uses == 1 && clobber(l) => (MADDLD x y z)

(Mod16 x y) => (Mod32 (SignExt16to32 x) (SignExt16to32 y))
(Mod16u x y) => (Mod32u (ZeroExt16to32 x) (ZeroExt16to32 y))
(Mod8 x y) => (Mod32 (SignExt8to32 x) (SignExt8to32 y))
(Mod8u x y) => (Mod32u (ZeroExt8to32 x) (ZeroExt8to32 y))
(Mod64 x y) && buildcfg.GOPPC64 >=9 => (MODSD x y)
(Mod64 x y) && buildcfg.GOPPC64 <=8 => (SUB x (MULLD y (DIVD x y)))
(Mod64u x y) && buildcfg.GOPPC64 >= 9 => (MODUD x y)
(Mod64u x y)
 && buildcfg.GOPPC64 <= 8 => (SUB x (MULLD y (DIVDU x y)))
(Mod32 x y) && buildcfg.GOPPC64 >= 9 => (MODSW x y)
(Mod32 x y) && buildcfg.GOPPC64 <= 8 => (SUB x (MULLW y (DIVW x y)))
(Mod32u x y) && buildcfg.GOPPC64 >= 9 => (MODUW x y)
(Mod32u x y) && buildcfg.GOPPC64 <= 8 => (SUB x (MULLW y (DIVWU x y)))

// (x + y) / 2 with x>=y => (x - y) / 2 + y
(Avg64u <t> x y) => (ADD (SRDconst <t> (SUB <t> x y) [1]) y)

(Mul64 ...) => (MULLD ...)
(Mul(32|16|8) ...) => (MULLW ...)
(Mul64uhilo ...) => (LoweredMuluhilo ...)

(Div64 [false] x y) => (DIVD x y)
(Div64u ...) => (DIVDU ...)
(Div32 [false] x y) => (DIVW x y)
(Div32u ...) => (DIVWU ...)
(Div16 [false]  x y) => (DIVW  (SignExt16to32 x) (SignExt16to32 y))
(Div16u x y) => (DIVWU (ZeroExt16to32 x) (ZeroExt16to32 y))
(Div8 x y) => (DIVW  (SignExt8to32 x) (SignExt8to32 y))
(Div8u x y) => (DIVWU (ZeroExt8to32 x) (ZeroExt8to32 y))

(Hmul(64|64u|32|32u) ...) => (MULH(D|DU|W|WU) ...)

(Mul32F ...) => (FMULS ...)
(Mul64F ...) => (FMUL ...)
```

```
(Div32F ...)
 => (FDIVS ...)
(Div64F ...) => (FDIV ...)

// Lowering float <=> int
(Cvt32to32F x) => (FCFIDS (MTVSRD (SignExt32to64 x)))
(Cvt32to64F x) => (FCFID (MTVSRD (SignExt32to64 x)))
(Cvt64to32F x) => (FCFIDS (MTVSRD x))
(Cvt64to64F x) => (FCFID (MTVSRD x))

(Cvt32Fto32 x) => (MFVSRD (FCTIWZ x))
(Cvt32Fto64 x) => (MFVSRD (FCTIDZ x))
(Cvt64Fto32 x) => (MFVSRD (FCTIWZ x))
(Cvt64Fto64 x) => (MFVSRD (FCTIDZ x))

(Cvt32Fto64F ...) => (Copy ...) // Note v will have the wrong type for patterns dependent on Float32/Float64
(Cvt64Fto32F ...) => (FRSP ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round(32|64)F ...) => (LoweredRound(32|64)F ...)

(Sqrt ...) => (FSQRT ...)
(Sqrt32 ...) => (FSQRTS ...)
(Floor ...) => (FFLOOR ...)
(Ceil ...) => (FCEIL ...)
(Trunc ...) => (FTRUNC ...)
(Round ...) => (FROUND ...)
(Copysign x y) => (FCPSGN y x)
(Abs ...) => (FABS ...)
(FMA ...) => (FMADD ...)

// Lowering extension
// Note: we always extend to 64 bits even though some ops don't need that many result bits.
(SignExt8to(16|32|64)
 ...) => (MOVBreg ...)
(SignExt16to(32|64) ...) => (MOVHreg ...)
(SignExt32to64 ...) => (MOVWreg ...)

(ZeroExt8to(16|32|64) ...) => (MOVBZreg ...)
(ZeroExt16to(32|64) ...) => (MOVHZreg ...)
(ZeroExt32to64 ...) => (MOVWZreg ...)

(Trunc(16|32|64)to8 <t> x) && isSigned(t) => (MOVBreg x)
(Trunc(16|32|64)to8  x) => (MOVBZreg x)
(Trunc(32|64)to16 <t> x) && isSigned(t) => (MOVHreg x)
(Trunc(32|64)to16 x) => (MOVHZreg x)
```

```
(Trunc64to32 <t> x) && isSigned(t) => (MOVWreg x)
(Trunc64to32 x) => (MOVWZreg x)

// Lowering constants
(Const(64|32|16|8) [val]) => (MOVDconst [int64(val)])
(Const(32|64)F ...) => (FMOV(S|D)const ...)
(ConstNil) => (MOVDconst [0])
(ConstBool [t]) => (MOVDconst [b2i(t)])

// Carrying addition.
(Select0 (Add64carry x y c)) =>          (Select0 <typ.UInt64> (ADDE x y (Select1 <typ.UInt64> (ADDCconst c [-1]))))
(Select1 (Add64carry x y c)) => (ADDZEzero (Select1 <typ.UInt64> (ADDE x y (Select1 <typ.UInt64> (ADDCconst c [-1])))))
// Fold initial carry bit if
 0.
(ADDE x y (Select1 <typ.UInt64> (ADDCconst (MOVDconst [0]) [-1]))) => (ADDC x y)
// Fold transfer of CA -> GPR -> CA. Note 2 uses when feeding into a chained Add64carry.
(Select1 (ADDCconst n:(ADDZEzero x) [-1])) && n.Uses <= 2 => x

// Borrowing subtraction.
(Select0 (Sub64borrow x y c)) =>          (Select0 <typ.UInt64> (SUBE x y (Select1 <typ.UInt64> (SUBCconst c [0]))))
(Select1 (Sub64borrow x y c)) => (NEG (SUBZEzero (Select1 <typ.UInt64> (SUBE x y (Select1 <typ.UInt64> (SUBCconst c [0]))))))
// Fold initial borrow bit if 0.
(SUBE x y (Select1 <typ.UInt64> (SUBCconst (MOVDconst [0]) [0]))) => (SUBC x y)
// Fold transfer of CA -> GPR -> CA. Note 2 uses when feeding into a chained Sub64borrow.
(Select1 (SUBCconst n:(NEG (SUBZEzero x)) [0])) && n.Uses <= 2 => x

// Constant folding
(FABS (FMOVDconst [x])) => (FMOVDconst [math.Abs(x)])
(FSQRT (FMOVDconst [x])) && x >= 0 => (FMOVDconst [math.Sqrt(x)])
(FFLOOR (FMOVDconst [x])) => (FMOVDconst [math.Floor(x)])
(FCEIL (FMOVDconst
 [x])) => (FMOVDconst [math.Ceil(x)])
(FTRUNC (FMOVDconst [x])) => (FMOVDconst [math.Trunc(x)])

// Rotates
(RotateLeft8 <t> x (MOVDconst [c])) => (Or8 (Lsh8x64 <t> x (MOVDconst [c&7])) (Rsh8Ux64 <t> x (MOVDconst [-c&7])))
(RotateLeft16 <t> x (MOVDconst [c])) => (Or16 (Lsh16x64 <t> x (MOVDconst [c&15])) (Rsh16Ux64 <t> x (MOVDconst [-c&15])))
(RotateLeft32 x (MOVDconst [c])) => (ROTLWconst [c&31] x)
(RotateLeft64 x (MOVDconst [c])) => (ROTLconst [c&63] x)

// Rotate generation with const shift
(ADD (SLDconst x [c]) (SRDconst x [d])) && d == 64-c => (ROTLconst [c] x)
```

```
( OR (SLDconst x [c]) (SRDconst x [d])) && d == 64-c => (ROTLconst [c] x)
(XOR (SLDconst x [c]) (SRDconst x [d])) && d == 64-c => (ROTLconst [c] x)

(ADD (SLWconst x [c]) (SRWconst x [d])) && d == 32-c => (ROTLWconst [c] x)
( OR (SLWconst x [c]) (SRWconst x [d])) && d == 32-c => (ROTLWconst [c] x)
(XOR (SLWconst x [c]) (SRWconst x [d])) && d == 32-c => (ROTLWconst [c] x)

// Rotate generation with non-const shift
// these match
 patterns from math/bits/RotateLeft[32|64], but there could be others
(ADD (SLD x (ANDconst [63] y)) (SRD x (SUB <typ.UInt> (MOVDconst [64]) (ANDconst <typ.UInt> [63] y))))
=> (ROTL x y)
(ADD (SLD x (ANDconst [63] y)) (SRD x (SUBFCconst <typ.UInt> [64] (ANDconst <typ.UInt> [63] y)))) =>
(ROTL x y)
( OR (SLD x (ANDconst [63] y)) (SRD x (SUB <typ.UInt> (MOVDconst [64]) (ANDconst <typ.UInt> [63] y))))
=> (ROTL x y)
( OR (SLD x (ANDconst [63] y)) (SRD x (SUBFCconst <typ.UInt> [64] (ANDconst <typ.UInt> [63] y)))) =>
(ROTL x y)
(XOR (SLD x (ANDconst [63] y)) (SRD x (SUB <typ.UInt> (MOVDconst [64]) (ANDconst <typ.UInt> [63] y))))
=> (ROTL x y)
(XOR (SLD x (ANDconst [63] y)) (SRD x (SUBFCconst <typ.UInt> [64] (ANDconst <typ.UInt> [63] y)))) =>
(ROTL x y)


(ADD (SLW x (ANDconst [31] y)) (SRW x (SUBFCconst <typ.UInt> [32] (ANDconst <typ.UInt> [31] y)))) =>
(ROTLW x y)
(ADD (SLW x (ANDconst [31] y)) (SRW x (SUB <typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y))))
=> (ROTLW x y)
( OR (SLW
 x (ANDconst [31] y)) (SRW x (SUBFCconst <typ.UInt> [32] (ANDconst <typ.UInt> [31] y)))) => (ROTLW x y)
( OR (SLW x (ANDconst [31] y)) (SRW x (SUB <typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y))))
=> (ROTLW x y)
(XOR (SLW x (ANDconst [31] y)) (SRW x (SUBFCconst <typ.UInt> [32] (ANDconst <typ.UInt> [31] y)))) =>
(ROTLW x y)
(XOR (SLW x (ANDconst [31] y)) (SRW x (SUB <typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y))))
=> (ROTLW x y)


// Lowering rotates
(RotateLeft32 x y) => (ROTLW x y)
(RotateLeft64 x y) => (ROTL x y)

// Constant rotate generation
(ROTLW  x (MOVDconst [c])) => (ROTLWconst  x [c&31])
(ROTL   x (MOVDconst [c])) => (ROTLconst   x [c&63])

// Combine rotate and mask operations
(ANDconst [m] (ROTLWconst [r] x)) && isPPC64WordRotateMask(m) => (RLWINM
```

```
[encodePPC64RotateMask(r,m,32)] x)
(AND (MOVDconst [m]) (ROTLWconst [r] x)) && isPPC64WordRotateMask(m) => (RLWINM
[encodePPC64RotateMask(r,m,32)] x)
(ANDconst [m] (ROTLW x r)) && isPPC64WordRotateMask(m) =>
 (RLWNM [encodePPC64RotateMask(0,m,32)] x r)
(AND (MOVDconst [m]) (ROTLW x r)) && isPPC64WordRotateMask(m) => (RLWNM
[encodePPC64RotateMask(0,m,32)] x r)

// Note, any rotated word bitmask is still a valid word bitmask.
(ROTLWconst [r] (AND (MOVDconst [m]) x)) && isPPC64WordRotateMask(m) => (RLWINM
[encodePPC64RotateMask(r,rotateLeft32(m,r),32)] x)
(ROTLWconst [r] (ANDconst [m] x)) && isPPC64WordRotateMask(m) => (RLWINM
[encodePPC64RotateMask(r,rotateLeft32(m,r),32)] x)

(ANDconst [m] (SRWconst x [s])) && mergePPC64RShiftMask(m,s,32) == 0 => (MOVDconst [0])
(ANDconst [m] (SRWconst x [s])) && mergePPC64AndSrwi(m,s) != 0 => (RLWINM
[mergePPC64AndSrwi(m,s)] x)
(AND (MOVDconst [m]) (SRWconst x [s])) && mergePPC64RShiftMask(m,s,32) == 0 => (MOVDconst [0])
(AND (MOVDconst [m]) (SRWconst x [s])) && mergePPC64AndSrwi(m,s) != 0 => (RLWINM
[mergePPC64AndSrwi(m,s)] x)

(SRWconst (ANDconst [m] x) [s]) && mergePPC64RShiftMask(m>>uint(s),s,32) == 0 => (MOVDconst [0])
(SRWconst (ANDconst [m] x) [s])
 && mergePPC64AndSrwi(m>>uint(s),s) != 0 => (RLWINM [mergePPC64AndSrwi(m>>uint(s),s)] x)
(SRWconst (AND (MOVDconst [m]) x) [s]) && mergePPC64RShiftMask(m>>uint(s),s,32) == 0 => (MOVDconst
[0])
(SRWconst (AND (MOVDconst [m]) x) [s]) && mergePPC64AndSrwi(m>>uint(s),s) != 0 => (RLWINM
[mergePPC64AndSrwi(m>>uint(s),s)] x)

// Merge shift right + shift left and clear left (e.g for a table lookup)
(CLRLSLDI [c] (SRWconst [s] x)) && mergePPC64ClrlsldiSrw(int64(c),s) != 0 => (RLWINM
[mergePPC64ClrlsldiSrw(int64(c),s)] x)
(SLDconst [l] (SRWconst [r] x)) && mergePPC64SldiSrw(l,r) != 0 => (RLWINM [mergePPC64SldiSrw(l,r)] x)
// The following reduction shows up frequently too. e.g b[(x>>14)&0xFF]
(CLRLSLDI [c] i:(RLWINM [s] x)) && mergePPC64ClrlsldiRlwinm(c,s) != 0 => (RLWINM
[mergePPC64ClrlsldiRlwinm(c,s)] x)

// large constant shifts
(Lsh64x64  _ (MOVDconst [c])) && uint64(c) >= 64 => (MOVDconst [0])
(Rsh64Ux64 _ (MOVDconst [c])) && uint64(c) >= 64 => (MOVDconst [0])
(Lsh32x64  _ (MOVDconst [c]))
 && uint64(c) >= 32 => (MOVDconst [0])
(Rsh32Ux64 _ (MOVDconst [c])) && uint64(c) >= 32 => (MOVDconst [0])
(Lsh16x64  _ (MOVDconst [c])) && uint64(c) >= 16 => (MOVDconst [0])
(Rsh16Ux64 _ (MOVDconst [c])) && uint64(c) >= 16 => (MOVDconst [0])
(Lsh8x64   _ (MOVDconst [c])) && uint64(c) >= 8  => (MOVDconst [0])
(Rsh8Ux64  _ (MOVDconst [c])) && uint64(c) >= 8  => (MOVDconst [0])
```

```
// large constant signed right shift, we leave the sign bit
(Rsh64x64 x (MOVDconst [c])) && uint64(c) >= 64 => (SRADconst x [63])
(Rsh32x64 x (MOVDconst [c])) && uint64(c) >= 32 => (SRAWconst x [63])
(Rsh16x64 x (MOVDconst [c])) && uint64(c) >= 16 => (SRAWconst (SignExt16to32 x) [63])
(Rsh8x64  x (MOVDconst [c])) && uint64(c) >= 8  => (SRAWconst (SignExt8to32  x) [63])

// constant shifts
(Lsh64x64  x (MOVDconst [c])) && uint64(c) < 64 => (SLDconst x [c])
(Rsh64x64  x (MOVDconst [c])) && uint64(c) < 64 => (SRADconst x [c])
(Rsh64Ux64 x (MOVDconst [c])) && uint64(c) < 64 => (SRDconst x [c])
(Lsh32x64  x (MOVDconst
 [c])) && uint64(c) < 32 => (SLWconst x [c])
(Rsh32x64  x (MOVDconst [c])) && uint64(c) < 32 => (SRAWconst x [c])
(Rsh32Ux64 x (MOVDconst [c])) && uint64(c) < 32 => (SRWconst x [c])
(Lsh16x64  x (MOVDconst [c])) && uint64(c) < 16 => (SLWconst x [c])
(Rsh16x64  x (MOVDconst [c])) && uint64(c) < 16 => (SRAWconst (SignExt16to32 x) [c])
(Rsh16Ux64 x (MOVDconst [c])) && uint64(c) < 16 => (SRWconst (ZeroExt16to32 x) [c])
(Lsh8x64   x (MOVDconst [c])) && uint64(c) < 8  => (SLWconst x [c])
(Rsh8x64   x (MOVDconst [c])) && uint64(c) < 8  => (SRAWconst (SignExt8to32  x) [c])
(Rsh8Ux64  x (MOVDconst [c])) && uint64(c) < 8  => (SRWconst (ZeroExt8to32  x) [c])

(Lsh64x32  x (MOVDconst [c])) && uint32(c) < 64 => (SLDconst x [c&63])
(Rsh64x32  x (MOVDconst [c])) && uint32(c) < 64 => (SRADconst x [c&63])
(Rsh64Ux32 x (MOVDconst [c])) && uint32(c) < 64 => (SRDconst x [c&63])
(Lsh32x32  x (MOVDconst [c])) && uint32(c) < 32 => (SLWconst x [c&31])
(Rsh32x32  x (MOVDconst [c])) && uint32(c) < 32 => (SRAWconst
 x [c&31])
(Rsh32Ux32 x (MOVDconst [c])) && uint32(c) < 32 => (SRWconst x [c&31])
(Lsh16x32  x (MOVDconst [c])) && uint32(c) < 16 => (SLWconst x [c&31])
(Rsh16x32  x (MOVDconst [c])) && uint32(c) < 16 => (SRAWconst (SignExt16to32 x) [c&15])
(Rsh16Ux32 x (MOVDconst [c])) && uint32(c) < 16 => (SRWconst (ZeroExt16to32 x) [c&15])
(Lsh8x32   x (MOVDconst [c])) && uint32(c) < 8  => (SLWconst x [c&7])
(Rsh8x32   x (MOVDconst [c])) && uint32(c) < 8  => (SRAWconst (SignExt8to32  x) [c&7])
(Rsh8Ux32  x (MOVDconst [c])) && uint32(c) < 8  => (SRWconst (ZeroExt8to32  x) [c&7])

// Lower bounded shifts first. No need to check shift value.
(Lsh64x(64|32|16|8)  x y) && shiftIsBounded(v) => (SLD x y)
(Lsh32x(64|32|16|8)  x y) && shiftIsBounded(v) => (SLW x y)
(Lsh16x(64|32|16|8)  x y) && shiftIsBounded(v) => (SLW x y)
(Lsh8x(64|32|16|8)   x y) && shiftIsBounded(v) => (SLW x y)
(Rsh64Ux(64|32|16|8) x y) && shiftIsBounded(v) => (SRD x y)
(Rsh32Ux(64|32|16|8) x y) && shiftIsBounded(v) => (SRW x y)
(Rsh16Ux(64|32|16|8)
 x y) && shiftIsBounded(v) => (SRW (MOVHZreg x) y)
(Rsh8Ux(64|32|16|8)  x y) && shiftIsBounded(v) => (SRW (MOVBZreg x) y)
(Rsh64x(64|32|16|8)  x y) && shiftIsBounded(v) => (SRAD x y)
(Rsh32x(64|32|16|8)  x y) && shiftIsBounded(v) => (SRAW x y)
(Rsh16x(64|32|16|8)  x y) && shiftIsBounded(v) => (SRAW (MOVHreg x) y)
```

```
(Rsh8x(64|32|16|8)   x y) && shiftIsBounded(v) => (SRAW (MOVBreg x) y)

// non-constant rotates
// These are subexpressions found in statements that can become rotates
// In these cases the shift count is known to be < 64 so the more complicated expressions
// with Mask & Carry is not needed
(Lsh64x64 x (AND y (MOVDconst [63]))) => (SLD x (ANDconst <typ.Int64> [63] y))
(Lsh64x64 x (ANDconst <typ.Int64> [63] y)) => (SLD x (ANDconst <typ.Int64> [63] y))
(Rsh64Ux64 x (AND y (MOVDconst [63]))) => (SRD x (ANDconst <typ.Int64> [63] y))
(Rsh64Ux64 x (ANDconst <typ.UInt> [63] y)) => (SRD x (ANDconst <typ.UInt> [63] y))
(Rsh64Ux64 x (SUB <typ.UInt> (MOVDconst [64]) (ANDconst
 <typ.UInt> [63] y))) => (SRD x (SUB <typ.UInt> (MOVDconst [64]) (ANDconst <typ.UInt> [63] y)))
(Rsh64Ux64 x (SUBFCconst <typ.UInt> [64] (ANDconst <typ.UInt> [63] y))) => (SRD x (SUBFCconst
<typ.UInt> [64]  (ANDconst <typ.UInt> [63] y)))
(Rsh64Ux64 x (SUB <typ.UInt> (MOVDconst [64]) (AND <typ.UInt> y (MOVDconst [63])))) => (SRD x (SUB
<typ.UInt> (MOVDconst [64]) (ANDconst <typ.UInt> [63] y)))
(Rsh64Ux64 x (SUBFCconst <typ.UInt> [64] (AND <typ.UInt> y (MOVDconst [63])))) => (SRD x (SUBFCconst
<typ.UInt> [64] (ANDconst <typ.UInt> [63] y)))
(Rsh64x64 x (AND y (MOVDconst [63]))) => (SRAD x (ANDconst <typ.Int64> [63] y))
(Rsh64x64 x (ANDconst <typ.UInt> [63] y)) => (SRAD x (ANDconst <typ.UInt> [63] y))
(Rsh64x64 x (SUB <typ.UInt> (MOVDconst [64]) (ANDconst <typ.UInt> [63] y))) => (SRAD x (SUB <typ.UInt>
(MOVDconst [64]) (ANDconst <typ.UInt> [63] y)))
(Rsh64x64 x (SUBFCconst <typ.UInt> [64] (ANDconst <typ.UInt> [63] y))) => (SRAD x (SUBFCconst
<typ.UInt> [64]  (ANDconst <typ.UInt> [63]
 y)))
(Rsh64x64 x (SUB <typ.UInt> (MOVDconst [64]) (AND <typ.UInt> y (MOVDconst [63])))) => (SRAD x (SUB
<typ.UInt> (MOVDconst [64]) (ANDconst <typ.UInt> [63] y)))
(Rsh64x64 x (SUBFCconst <typ.UInt> [64] (AND <typ.UInt> y (MOVDconst [63])))) => (SRAD x (SUBFCconst
<typ.UInt> [64] (ANDconst <typ.UInt> [63] y)))

(Lsh64x64 x y)  => (SLD  x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [64]))))
(Rsh64x64 x y) => (SRAD x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [64]))))
(Rsh64Ux64 x y) => (SRD x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [64]))))

(Lsh32x64 x (AND y (MOVDconst [31]))) => (SLW x (ANDconst <typ.Int32> [31] y))
(Lsh32x64 x (ANDconst <typ.Int32> [31] y)) => (SLW x (ANDconst <typ.Int32> [31] y))

(Rsh32Ux64 x (AND y (MOVDconst [31]))) => (SRW x (ANDconst <typ.Int32> [31] y))
(Rsh32Ux64 x (ANDconst <typ.UInt> [31] y)) => (SRW x (ANDconst <typ.UInt> [31] y))
(Rsh32Ux64 x (SUB <typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y))) => (SRW x (SUB <typ.UInt>
(MOVDconst
 [32]) (ANDconst <typ.UInt> [31] y)))
(Rsh32Ux64 x (SUBFCconst <typ.UInt> [32] (ANDconst <typ.UInt> [31] y))) => (SRW x (SUBFCconst
<typ.UInt> [32] (ANDconst <typ.UInt> [31] y)))
(Rsh32Ux64 x (SUB <typ.UInt> (MOVDconst [32]) (AND <typ.UInt> y (MOVDconst [31])))) => (SRW x (SUB
<typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y)))
(Rsh32Ux64 x (SUBFCconst <typ.UInt> [32] (AND <typ.UInt> y (MOVDconst [31])))) => (SRW x (SUBFCconst
<typ.UInt> [32] (ANDconst <typ.UInt> [31] y)))
```

(Rsh32x64 x (AND y (MOVDconst [31]))) => (SRAW x (ANDconst <typ.Int32> [31] y))
(Rsh32x64 x (ANDconst <typ.UInt> [31] y)) => (SRAW x (ANDconst <typ.UInt> [31] y))
(Rsh32x64 x (SUB <typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y))) => (SRAW x (SUB <typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y)))
(Rsh32x64 x (SUBFCconst <typ.UInt> [32] (ANDconst <typ.UInt> [31] y))) => (SRAW x (SUBFCconst <typ.UInt> [32] (ANDconst <typ.UInt> [31] y)))
(Rsh32x64 x (SUB <typ.UInt> (MOVDconst [32]) (AND <typ.UInt>
y (MOVDconst [31])))) => (SRAW x (SUB <typ.UInt> (MOVDconst [32]) (ANDconst <typ.UInt> [31] y)))
(Rsh32x64 x (SUBFCconst <typ.UInt> [32] (AND <typ.UInt> y (MOVDconst [31])))) => (SRAW x (SUBFCconst <typ.UInt> [32] (ANDconst <typ.UInt> [31] y)))

(Rsh32x64 x y) => (SRAW x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [32]))))
(Rsh32Ux64 x y) => (SRW x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [32]))))
(Lsh32x64 x y) => (SLW x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [32]))))

(Rsh16x64 x y) => (SRAW (SignExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [16]))))
(Rsh16Ux64 x y) => (SRW (ZeroExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [16]))))
(Lsh16x64 x y) => (SLW x   (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [16]))))

(Rsh8x64 x y) => (SRAW (SignExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [8]))))
(Rsh8Ux64 x y) => (SRW (ZeroExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [8]))))
(Lsh8x64
x y) => (SLW x   (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [8]))))

(Rsh64x32 x y) => (SRAD x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [64]))))
(Rsh64Ux32 x y) => (SRD x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [64]))))
(Lsh64x32 x y) => (SLD x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [64]))))
(Rsh32x32 x y) => (SRAW x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [32]))))
(Rsh32Ux32 x y) => (SRW x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [32]))))
(Lsh32x32 x y) => (SLW x (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [32]))))

(Rsh16x32 x y) => (SRAW (SignExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [16]))))
(Rsh16Ux32 x y) => (SRW (ZeroExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [16]))))
(Lsh16x32 x y) => (SLW x   (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [16]))))

(Rsh8x32 x y) => (SRAW (SignExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [8]))))
(Rsh8Ux32
x y) => (SRW (ZeroExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [8]))))
(Lsh8x32 x y) => (SLW x   (ISEL [0] y (MOVDconst [-1]) (CMPU y (MOVDconst [8]))))

(Rsh64x16 x y) => (SRAD x (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst [64]))))
(Rsh64Ux16 x y) => (SRD x (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst [64]))))
(Lsh64x16 x y) => (SLD x (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst [64]))))

(Rsh32x16 x y) => (SRAW x (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst [32]))))
(Rsh32Ux16 x y) => (SRW x (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst [32]))))

```
(Lsh32x16 x y)  => (SLW x  (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst [32]))))

(Rsh16x16 x y)  => (SRAW (SignExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y)
(MOVDconst [16]))))
(Rsh16Ux16 x y) => (SRW  (ZeroExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64
 y) (MOVDconst [16]))))
(Lsh16x16 x y)  => (SLW  x              (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst
[16]))))

(Rsh8x16 x y)  => (SRAW (SignExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y)
(MOVDconst [8]))))
(Rsh8Ux16 x y) => (SRW  (ZeroExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y)
(MOVDconst [8]))))
(Lsh8x16 x y)  => (SLW  x              (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt16to64 y) (MOVDconst
[8]))))


(Rsh64x8 x y)  => (SRAD x (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst [64]))))
(Rsh64Ux8 x y) => (SRD x  (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst [64]))))
(Lsh64x8 x y)  => (SLD x  (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst [64]))))

(Rsh32x8 x y)  => (SRAW x (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst [32]))))
(Rsh32Ux8 x y) => (SRW x  (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst [32]))))
(Lsh32x8 x y)  => (SLW
 x  (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst [32]))))

(Rsh16x8 x y)  => (SRAW (SignExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y)
(MOVDconst [16]))))
(Rsh16Ux8 x y) => (SRW  (ZeroExt16to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y)
(MOVDconst [16]))))
(Lsh16x8 x y)  => (SLW  x              (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst
[16]))))

(Rsh8x8 x y)  => (SRAW (SignExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst
[8]))))
(Rsh8Ux8 x y) => (SRW  (ZeroExt8to32 x) (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst
[8]))))
(Lsh8x8 x y)  => (SLW  x              (ISEL [0] y (MOVDconst [-1]) (CMPU (ZeroExt8to64 y) (MOVDconst [8]))))

// Cleaning up shift ops
(ISEL [0] (ANDconst [d] y) (MOVDconst [-1]) (CMPU (ANDconst [d] y) (MOVDconst [c]))) && c >= d =>
(ANDconst [d] y)
(ISEL [0] (ANDconst [d] y) (MOVDconst [-1]) (CMPUconst [c] (ANDconst [d] y))) && c >= d => (ANDconst [d]
 y)
(ORN x (MOVDconst [-1])) => x

(S(RAD|RD|LD) x (MOVDconst [c])) => (S(RAD|RD|LD)const [c&63 | (c>>6&1*63)] x)
(S(RAW|RW|LW) x (MOVDconst [c])) => (S(RAW|RW|LW)const [c&31 | (c>>5&1*31)] x)
```

```
(Addr {sym} base) => (MOVDaddr {sym} [0] base)
(LocalAddr {sym} base _) => (MOVDaddr {sym} base)
(OffPtr [off] ptr) => (ADD (MOVDconst <typ.Int64> [off]) ptr)

// TODO: optimize these cases?
(Ctz32NonZero ...) => (Ctz32 ...)
(Ctz64NonZero ...) => (Ctz64 ...)

(Ctz64 x) && buildcfg.GOPPC64<=8 => (POPCNTD (ANDN <typ.Int64> (ADDconst <typ.Int64> [-1] x) x))
(Ctz64 x) => (CNTTZD x)
(Ctz32 x) && buildcfg.GOPPC64<=8 => (POPCNTW (MOVWZreg (ANDN <typ.Int> (ADDconst <typ.Int> [-1]
x) x)))
(Ctz32 x) => (CNTTZW (MOVWZreg x))
(Ctz16 x) => (POPCNTW (MOVHZreg (ANDN <typ.Int16> (ADDconst <typ.Int16> [-1] x) x)))
(Ctz8 x)  => (POPCNTB (MOVBZreg (ANDN <typ.UInt8> (ADDconst <typ.UInt8> [-1] x) x)))

(BitLen64 x) => (SUBFCconst [64] (CNTLZD <typ.Int> x))
(BitLen32 x) => (SUBFCconst [32] (CNTLZW <typ.Int> x))

(PopCount64
 ...) => (POPCNTD ...)
(PopCount32 x) => (POPCNTW (MOVWZreg x))
(PopCount16 x) => (POPCNTW (MOVHZreg x))
(PopCount8 x) => (POPCNTB (MOVBZreg x))

(And(64|32|16|8) ...) => (AND ...)
(Or(64|32|16|8) ...) => (OR ...)
(Xor(64|32|16|8) ...) => (XOR ...)

(Neg(64|32|16|8) ...) => (NEG ...)
(Neg64F ...) => (FNEG ...)
(Neg32F ...) => (FNEG ...)

(Com(64|32|16|8) x) => (NOR x x)

// Lowering boolean ops
(AndB ...) => (AND ...)
(OrB ...) => (OR ...)
(Not x) => (XORconst [1] x)

// Merge logical operations
(AND x (NOR y y)) => (ANDN x y)
(OR x (NOR y y)) => (ORN x y)

// Lowering comparisons
(EqB x y)  => (ANDconst [1] (EQV x y))
// Sign extension dependence on operand sign sets up for sign/zero-extension elision later
```

```
(Eq8 x y) && isSigned(x.Type) && isSigned(y.Type) => (Equal (CMPW (SignExt8to32 x) (SignExt8to32 y)))
(Eq16 x y) && isSigned(x.Type) && isSigned(y.Type) => (Equal (CMPW (SignExt16to32 x) (SignExt16to32 y)))
(Eq8 x y) => (Equal (CMPW (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Eq16 x
 y) => (Equal (CMPW (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Eq32 x y) => (Equal (CMPW x y))
(Eq64 x y) => (Equal (CMP x y))
(Eq32F x y) => (Equal (FCMPU x y))
(Eq64F x y) => (Equal (FCMPU x y))
(EqPtr x y) => (Equal (CMP x y))

(NeqB ...) => (XOR ...)
// Like Eq8 and Eq16, prefer sign extension likely to enable later elision.
(Neq8 x y) && isSigned(x.Type) && isSigned(y.Type) => (NotEqual (CMPW (SignExt8to32 x) (SignExt8to32 y)))
(Neq16 x y) && isSigned(x.Type) && isSigned(y.Type) => (NotEqual (CMPW (SignExt16to32 x) (SignExt16to32
y)))
(Neq8 x y)  => (NotEqual (CMPW (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Neq16 x y) => (NotEqual (CMPW (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Neq32 x y) => (NotEqual (CMPW x y))
(Neq64 x y) => (NotEqual (CMP x y))
(Neq32F x y) => (NotEqual (FCMPU x y))
(Neq64F x y) => (NotEqual (FCMPU x y))
(NeqPtr x y) => (NotEqual (CMP x y))

(Less8 x y)  => (LessThan (CMPW (SignExt8to32 x) (SignExt8to32 y)))
(Less16 x y) => (LessThan (CMPW (SignExt16to32 x) (SignExt16to32
 y)))
(Less32 x y) => (LessThan (CMPW x y))
(Less64 x y) => (LessThan (CMP x y))
(Less32F x y) => (FLessThan (FCMPU x y))
(Less64F x y) => (FLessThan (FCMPU x y))

(Less8U x y)  => (LessThan (CMPWU (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Less16U x y) => (LessThan (CMPWU (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Less32U x y) => (LessThan (CMPWU x y))
(Less64U x y) => (LessThan (CMPU x y))

(Leq8 x y)  => (LessEqual (CMPW (SignExt8to32 x) (SignExt8to32 y)))
(Leq16 x y) => (LessEqual (CMPW (SignExt16to32 x) (SignExt16to32 y)))
(Leq32 x y) => (LessEqual (CMPW x y))
(Leq64 x y) => (LessEqual (CMP x y))
(Leq32F x y) => (FLessEqual (FCMPU x y))
(Leq64F x y) => (FLessEqual (FCMPU x y))

(Leq8U x y)  => (LessEqual (CMPWU (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Leq16U x y) => (LessEqual (CMPWU (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Leq32U x y) => (LessEqual (CMPWU x y))
(Leq64U x y) => (LessEqual (CMPU x y))
```

```
// Absorb pseudo-ops into blocks.
(If (Equal cc) yes no) => (EQ cc yes no)
(If (NotEqual cc) yes
 no) => (NE cc yes no)
(If (LessThan cc) yes no) => (LT cc yes no)
(If (LessEqual cc) yes no) => (LE cc yes no)
(If (GreaterThan cc) yes no) => (GT cc yes no)
(If (GreaterEqual cc) yes no) => (GE cc yes no)
(If (FLessThan cc) yes no) => (FLT cc yes no)
(If (FLessEqual cc) yes no) => (FLE cc yes no)
(If (FGreaterThan cc) yes no) => (FGT cc yes no)
(If (FGreaterEqual cc) yes no) => (FGE cc yes no)

(If cond yes no) => (NE (CMPWconst [0] (ANDconst <typ.UInt32> [1] cond)) yes no)

// Absorb boolean tests into block
(NE (CMPWconst [0] (ANDconst [1] (Equal cc))) yes no) => (EQ cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (NotEqual cc))) yes no) => (NE cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (LessThan cc))) yes no) => (LT cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (LessEqual cc))) yes no) => (LE cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (GreaterThan cc))) yes no) => (GT cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (GreaterEqual cc))) yes no) => (GE cc yes no)
(NE (CMPWconst [0] (ANDconst
 [1] (FLessThan cc))) yes no) => (FLT cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (FLessEqual cc))) yes no) => (FLE cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (FGreaterThan cc))) yes no) => (FGT cc yes no)
(NE (CMPWconst [0] (ANDconst [1] (FGreaterEqual cc))) yes no) => (FGE cc yes no)

// Elide compares of bit tests // TODO need to make both CC and result of ANDCC available.
(EQ (CMPconst [0] (ANDconst [c] x)) yes no) => (EQ (ANDCCconst [c] x) yes no)
(NE (CMPconst [0] (ANDconst [c] x)) yes no) => (NE (ANDCCconst [c] x) yes no)
(EQ (CMPWconst [0] (ANDconst [c] x)) yes no) => (EQ (ANDCCconst [c] x) yes no)
(NE (CMPWconst [0] (ANDconst [c] x)) yes no) => (NE (ANDCCconst [c] x) yes no)

// absorb flag constants into branches
(EQ (FlagEQ) yes no) => (First yes no)
(EQ (FlagLT) yes no) => (First no yes)
(EQ (FlagGT) yes no) => (First no yes)

(NE (FlagEQ) yes no) => (First no yes)
(NE (FlagLT) yes no) => (First yes no)
(NE (FlagGT) yes no) => (First yes no)

(LT (FlagEQ) yes no) => (First
 no yes)
(LT (FlagLT) yes no) => (First yes no)
(LT (FlagGT) yes no) => (First no yes)
```

```
(LE (FlagEQ) yes no) => (First yes no)
(LE (FlagLT) yes no) => (First yes no)
(LE (FlagGT) yes no) => (First no yes)

(GT (FlagEQ) yes no) => (First no yes)
(GT (FlagLT) yes no) => (First no yes)
(GT (FlagGT) yes no) => (First yes no)

(GE (FlagEQ) yes no) => (First yes no)
(GE (FlagLT) yes no) => (First no yes)
(GE (FlagGT) yes no) => (First yes no)

// absorb InvertFlags into branches
(LT (InvertFlags cmp) yes no) => (GT cmp yes no)
(GT (InvertFlags cmp) yes no) => (LT cmp yes no)
(LE (InvertFlags cmp) yes no) => (GE cmp yes no)
(GE (InvertFlags cmp) yes no) => (LE cmp yes no)
(EQ (InvertFlags cmp) yes no) => (EQ cmp yes no)
(NE (InvertFlags cmp) yes no) => (NE cmp yes no)

// constant comparisons
(CMPWconst (MOVDconst [x]) [y]) && int32(x)==int32(y) => (FlagEQ)
(CMPWconst (MOVDconst [x]) [y]) && int32(x)<int32(y)  => (FlagLT)
(CMPWconst (MOVDconst [x]) [y]) && int32(x)>int32(y)  => (FlagGT)

(CMPconst
 (MOVDconst [x]) [y]) && x==y => (FlagEQ)
(CMPconst (MOVDconst [x]) [y]) && x<y  => (FlagLT)
(CMPconst (MOVDconst [x]) [y]) && x>y  => (FlagGT)

(CMPWUconst (MOVDconst [x]) [y]) && int32(x)==int32(y)  => (FlagEQ)
(CMPWUconst (MOVDconst [x]) [y]) && uint32(x)<uint32(y) => (FlagLT)
(CMPWUconst (MOVDconst [x]) [y]) && uint32(x)>uint32(y) => (FlagGT)

(CMPUconst (MOVDconst [x]) [y]) && x==y  => (FlagEQ)
(CMPUconst (MOVDconst [x]) [y]) && uint64(x)<uint64(y) => (FlagLT)
(CMPUconst (MOVDconst [x]) [y]) && uint64(x)>uint64(y) => (FlagGT)

// other known comparisons
//(CMPconst (MOVBUreg _) [c]) && 0xff < c => (FlagLT)
//(CMPconst (MOVHUreg _) [c]) && 0xffff < c => (FlagLT)
//(CMPconst (ANDconst _ [m]) [n]) && 0 <= int32(m) && int32(m) < int32(n) => (FlagLT)
//(CMPconst (SRLconst _ [c]) [n]) && 0 <= n && 0 < c && c <= 32 && (1<<uint32(32-c)) <= uint32(n) =>
(FlagLT)

// absorb flag constants into boolean values
(Equal (FlagEQ)) => (MOVDconst [1])
```

(Equal (FlagLT)) => (MOVDconst [0])
(Equal
 (FlagGT)) => (MOVDconst [0])

(NotEqual (FlagEQ)) => (MOVDconst [0])
(NotEqual (FlagLT)) => (MOVDconst [1])
(NotEqual (FlagGT)) => (MOVDconst [1])

(LessThan (FlagEQ)) => (MOVDconst [0])
(LessThan (FlagLT)) => (MOVDconst [1])
(LessThan (FlagGT)) => (MOVDconst [0])

(LessEqual (FlagEQ)) => (MOVDconst [1])
(LessEqual (FlagLT)) => (MOVDconst [1])
(LessEqual (FlagGT)) => (MOVDconst [0])

(GreaterThan (FlagEQ)) => (MOVDconst [0])
(GreaterThan (FlagLT)) => (MOVDconst [0])
(GreaterThan (FlagGT)) => (MOVDconst [1])

(GreaterEqual (FlagEQ)) => (MOVDconst [1])
(GreaterEqual (FlagLT)) => (MOVDconst [0])
(GreaterEqual (FlagGT)) => (MOVDconst [1])

// absorb InvertFlags into boolean values
(Equal (InvertFlags x)) => (Equal x)
(NotEqual (InvertFlags x)) => (NotEqual x)
(LessThan (InvertFlags x)) => (GreaterThan x)
(GreaterThan (InvertFlags x)) => (LessThan x)
(LessEqual (InvertFlags x)) => (GreaterEqual x)
(GreaterEqual (InvertFlags x)) => (LessEqual x)

// Elide compares of bit tests // TODO need to
 make both CC and result of ANDCC available.
((EQ|NE|LT|LE|GT|GE) (CMPconst [0] (ANDconst [c] x)) yes no) => ((EQ|NE|LT|LE|GT|GE) (ANDCCconst [c] x) yes no)
((EQ|NE|LT|LE|GT|GE) (CMPWconst [0] (ANDconst [c] x)) yes no) => ((EQ|NE|LT|LE|GT|GE) (ANDCCconst [c] x) yes no)
((EQ|NE|LT|LE|GT|GE) (CMPconst [0] z:(AND x y)) yes no) && z.Uses == 1 => ((EQ|NE|LT|LE|GT|GE) (ANDCC x y) yes no)
((EQ|NE|LT|LE|GT|GE) (CMPconst [0] z:(OR x y)) yes no) && z.Uses == 1 => ((EQ|NE|LT|LE|GT|GE) (ORCC x y) yes no)
((EQ|NE|LT|LE|GT|GE) (CMPconst [0] z:(XOR x y)) yes no) && z.Uses == 1 => ((EQ|NE|LT|LE|GT|GE) (XORCC x y) yes no)

// Only lower after bool is lowered. It should always lower. This helps ensure the folding below happens reliably.
(CondSelect x y bool) && flagArg(bool) == nil => (ISEL [6] x y (ANDCCconst [1] bool))
// Fold any CR -> GPR -> CR transfers when applying the above rule.

```
(ISEL [6] x y (ANDCCconst [1] (ISELB [c] one cmp))) => (ISEL [c] x y cmp)

// Lowering loads
(Load <t> ptr mem) && (is64BitInt(t)
 || isPtr(t)) => (MOVDload ptr mem)
(Load <t> ptr mem) && is32BitInt(t) && isSigned(t) => (MOVWload ptr mem)
(Load <t> ptr mem) && is32BitInt(t) && !isSigned(t) => (MOVWZload ptr mem)
(Load <t> ptr mem) && is16BitInt(t) && isSigned(t) => (MOVHload ptr mem)
(Load <t> ptr mem) && is16BitInt(t) && !isSigned(t) => (MOVHZload ptr mem)
(Load <t> ptr mem) && t.IsBoolean() => (MOVBZload ptr mem)
(Load <t> ptr mem) && is8BitInt(t) && isSigned(t) => (MOVBreg (MOVBZload ptr mem)) // PPC has no signed-byte load.
(Load <t> ptr mem) && is8BitInt(t) && !isSigned(t) => (MOVBZload ptr mem)

(Load <t> ptr mem) && is32BitFloat(t) => (FMOVSload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (FMOVDload ptr mem)

(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (FMOVDstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && is32BitFloat(val.Type) => (FMOVDstore ptr val mem) // glitch from (Cvt32Fto64F x) => x -- type is wrong
(Store {t} ptr val mem) && t.Size() == 4
 && is32BitFloat(val.Type) => (FMOVSstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && !is64BitFloat(val.Type) => (MOVDstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && is32BitInt(val.Type) => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVHstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)

// Using Zero instead of LoweredZero allows the
// target address to be folded where possible.
(Zero [0] _ mem) => mem
(Zero [1] destptr mem) => (MOVBstorezero destptr mem)
(Zero [2] destptr mem) =>
 (MOVHstorezero destptr mem)
(Zero [3] destptr mem) =>
 (MOVBstorezero [2] destptr
  (MOVHstorezero destptr mem))
(Zero [4] destptr mem) =>
 (MOVWstorezero destptr mem)
(Zero [5] destptr mem) =>
 (MOVBstorezero [4] destptr
       (MOVWstorezero destptr mem))
(Zero [6] destptr mem) =>
 (MOVHstorezero [4] destptr
  (MOVWstorezero destptr mem))
(Zero [7] destptr mem) =>
 (MOVBstorezero [6] destptr
  (MOVHstorezero [4] destptr
   (MOVWstorezero
```

```
 destptr mem)))

(Zero [8] {t} destptr mem) => (MOVDstorezero destptr mem)
(Zero [12] {t} destptr mem) =>
      (MOVWstorezero [8] destptr
            (MOVDstorezero [0] destptr mem))
(Zero [16] {t} destptr mem) =>
     (MOVDstorezero [8] destptr
            (MOVDstorezero [0] destptr mem))
(Zero [24] {t} destptr mem) =>
     (MOVDstorezero [16] destptr
           (MOVDstorezero [8] destptr
                 (MOVDstorezero [0] destptr mem)))
(Zero [32] {t} destptr mem) =>
     (MOVDstorezero [24] destptr
           (MOVDstorezero [16] destptr
                 (MOVDstorezero [8] destptr
                       (MOVDstorezero [0] destptr mem))))

// Handle cases not handled above
// Lowered Short cases do not generate loops, and as a result don't clobber
// the address registers or flags.
(Zero [s] ptr mem) && buildcfg.GOPPC64 <= 8 && s < 64 => (LoweredZeroShort [s] ptr mem)
(Zero [s] ptr mem) && buildcfg.GOPPC64 <= 8 => (LoweredZero
 [s] ptr mem)
(Zero [s] ptr mem) && s < 128 && buildcfg.GOPPC64 >= 9 => (LoweredQuadZeroShort [s] ptr mem)
(Zero [s] ptr mem) && buildcfg.GOPPC64 >= 9 => (LoweredQuadZero [s] ptr mem)

// moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBZload src mem) mem)
(Move [2] dst src mem) =>
      (MOVHstore dst (MOVHZload src mem) mem)
(Move [4] dst src mem) =>
 (MOVWstore dst (MOVWZload src mem) mem)
// MOVD for load and store must have offsets that are multiple of 4
(Move [8] {t} dst src mem) =>
 (MOVDstore dst (MOVDload src mem) mem)
(Move [3] dst src mem) =>
      (MOVBstore [2] dst (MOVBZload [2] src mem)
            (MOVHstore dst (MOVHload src mem) mem))
(Move [5] dst src mem) =>
      (MOVBstore [4] dst (MOVBZload [4] src mem)
            (MOVWstore dst (MOVWZload src mem) mem))
(Move [6] dst src mem) =>
      (MOVHstore [4] dst (MOVHZload [4] src mem)
            (MOVWstore dst (MOVWZload src mem) mem))
(Move [7] dst src mem)
```

```
 =>
     (MOVBstore [6] dst (MOVBZload [6] src mem)
         (MOVHstore [4] dst (MOVHZload [4] src mem)
             (MOVWstore dst (MOVWZload src mem) mem)))

// Large move uses a loop. Since the address is computed and the
// offset is zero, any alignment can be used.
(Move [s] dst src mem) && s > 8 && buildcfg.GOPPC64 <= 8 && logLargeCopy(v, s) =>
     (LoweredMove [s] dst src mem)
(Move [s] dst src mem) && s > 8 && s <= 64 && buildcfg.GOPPC64 >= 9 =>
     (LoweredQuadMoveShort [s] dst src mem)
(Move [s] dst src mem) && s > 8 && buildcfg.GOPPC64 >= 9 && logLargeCopy(v, s) =>
     (LoweredQuadMove [s] dst src mem)

// Calls
// Lowering calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall ...) => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// Miscellaneous
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)
(IsNonNil ptr)
 => (NotEqual (CMPconst [0] ptr))
(IsInBounds idx len) => (LessThan (CMPU idx len))
(IsSliceInBounds idx len) => (LessEqual (CMPU idx len))
(NilCheck ...) => (LoweredNilCheck ...)

// Write barrier.
(WB ...) => (LoweredWB ...)

// Publication barrier as intrinsic
(PubBarrier ...) => (LoweredPubBarrier ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

// Optimizations
// Note that PPC "logical" immediates come in 0:15 and 16:31 unsigned immediate forms,
// so ORconst, XORconst easily expand into a pair.

// Include very-large constants in the const-const case.
(AND (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c&d])
(OR (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c|d])
```

```
(XOR (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c^d])
(ORN (MOVDconst [c]) (MOVDconst
 [d])) => (MOVDconst [c|^d])
(ANDN (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c&^d])
(NOR (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [^(c|d)])

// Discover consts
(AND x (MOVDconst [c])) && isU16Bit(c) => (ANDconst [c] x)
(XOR x (MOVDconst [c])) && isU32Bit(c) => (XORconst [c] x)
(OR x (MOVDconst [c])) && isU32Bit(c) => (ORconst [c] x)

// Simplify consts
(ANDconst [c] (ANDconst [d] x)) => (ANDconst [c&d] x)
(ORconst [c] (ORconst [d] x)) => (ORconst [c|d] x)
(XORconst [c] (XORconst [d] x)) => (XORconst [c^d] x)
(ANDconst [-1] x) => x
(ANDconst [0] _) => (MOVDconst [0])
(XORconst [0] x) => x
(ORconst [-1] _) => (MOVDconst [-1])
(ORconst [0] x) => x

// zero-extend of small and => small and
(MOVBZreg y:(ANDconst [c] _)) && uint64(c) <= 0xFF => y
(MOVHZreg y:(ANDconst [c] _)) && uint64(c) <= 0xFFFF => y
(MOVWZreg y:(ANDconst [c] _)) && uint64(c) <= 0xFFFFFFFF => y
(MOVWZreg y:(AND (MOVDconst [c]) _)) && uint64(c) <= 0xFFFFFFFF => y

// sign extend of small-positive and =>
 small-positive-and
(MOVBreg y:(ANDconst [c] _)) && uint64(c) <= 0x7F => y
(MOVHreg y:(ANDconst [c] _)) && uint64(c) <= 0x7FFF => y
(MOVWreg y:(ANDconst [c] _)) && uint64(c) <= 0xFFFF => y // 0xFFFF is largest immediate constant, when
regarded as 32-bit is > 0
(MOVWreg y:(AND (MOVDconst [c]) _)) && uint64(c) <= 0x7FFFFFFF => y

// small and of zero-extend => either zero-extend or small and
(ANDconst [c] y:(MOVBZreg _)) && c&0xFF == 0xFF => y
(ANDconst [0xFF] (MOVBreg x)) => (MOVBZreg x)
(ANDconst [c] y:(MOVHZreg _))  && c&0xFFFF == 0xFFFF => y
(ANDconst [0xFFFF] (MOVHreg x)) => (MOVHZreg x)

(AND (MOVDconst [c]) y:(MOVWZreg _))  && c&0xFFFFFFFF == 0xFFFFFFFF => y
(AND (MOVDconst [0xFFFFFFFF]) y:(MOVWreg x)) => (MOVWZreg x)
// normal case
(ANDconst [c] (MOVBZreg x)) => (ANDconst [c&0xFF] x)
(ANDconst [c] (MOVHZreg x)) => (ANDconst [c&0xFFFF] x)
(ANDconst [c] (MOVWZreg x)) => (ANDconst [c&0xFFFFFFFF] x)
```

```
// Eliminate unnecessary sign/zero extend following right shift
(MOV(B|H|W)Zreg (SRWconst
 [c] (MOVBZreg x))) => (SRWconst [c] (MOVBZreg x))
(MOV(H|W)Zreg (SRWconst [c] (MOVHZreg x))) => (SRWconst [c] (MOVHZreg x))
(MOVWZreg (SRWconst [c] (MOVWZreg x))) => (SRWconst [c] (MOVWZreg x))
(MOV(B|H|W)reg (SRAWconst [c] (MOVBreg x))) => (SRAWconst [c] (MOVBreg x))
(MOV(H|W)reg (SRAWconst [c] (MOVHreg x))) => (SRAWconst [c] (MOVHreg x))
(MOVWreg (SRAWconst [c] (MOVWreg x))) => (SRAWconst [c] (MOVWreg x))

(MOVWZreg (SRWconst [c] x)) && sizeof(x.Type) <= 32 => (SRWconst [c] x)
(MOVHZreg (SRWconst [c] x)) && sizeof(x.Type) <= 16 => (SRWconst [c] x)
(MOVBZreg (SRWconst [c] x)) && sizeof(x.Type) == 8 => (SRWconst [c] x)
(MOVWreg (SRAWconst [c] x)) && sizeof(x.Type) <= 32 => (SRAWconst [c] x)
(MOVHreg (SRAWconst [c] x)) && sizeof(x.Type) <= 16 => (SRAWconst [c] x)
(MOVBreg (SRAWconst [c] x)) && sizeof(x.Type) == 8 => (SRAWconst [c] x)

// initial right shift will handle sign/zero extend
(MOVBZreg (SRDconst [c] x)) && c>=56 => (SRDconst [c] x)
(MOVBreg (SRDconst [c] x)) && c>56 => (SRDconst
 [c] x)
(MOVBreg (SRDconst [c] x)) && c==56 => (SRADconst [c] x)
(MOVBreg (SRADconst [c] x)) && c>=56 => (SRADconst [c] x)
(MOVBZreg (SRWconst [c] x)) && c>=24 => (SRWconst [c] x)
(MOVBreg (SRWconst [c] x)) && c>24 => (SRWconst [c] x)
(MOVBreg (SRWconst [c] x)) && c==24 => (SRAWconst [c] x)
(MOVBreg (SRAWconst [c] x)) && c>=24 => (SRAWconst [c] x)

(MOVHZreg (SRDconst [c] x)) && c>=48 => (SRDconst [c] x)
(MOVHreg (SRDconst [c] x)) && c>48 => (SRDconst [c] x)
(MOVHreg (SRDconst [c] x)) && c==48 => (SRADconst [c] x)
(MOVHreg (SRADconst [c] x)) && c>=48 => (SRADconst [c] x)
(MOVHZreg (SRWconst [c] x)) && c>=16 => (SRWconst [c] x)
(MOVHreg (SRWconst [c] x)) && c>16 => (SRWconst [c] x)
(MOVHreg (SRAWconst [c] x)) && c>=16 => (SRAWconst [c] x)
(MOVHreg (SRWconst [c] x)) && c==16 => (SRAWconst [c] x)

(MOVWZreg (SRDconst [c] x)) && c>=32 => (SRDconst [c] x)
(MOVWreg (SRDconst [c] x)) && c>32 => (SRDconst [c] x)
(MOVWreg (SRADconst [c] x)) && c>=32 => (SRADconst [c] x)
(MOVWreg (SRDconst
 [c] x)) && c==32 => (SRADconst [c] x)

// Various redundant zero/sign extension combinations.
(MOVBZreg y:(MOVBZreg _)) => y  // repeat
(MOVBreg y:(MOVBreg _)) => y // repeat
(MOVBreg (MOVBZreg x)) => (MOVBreg x)
(MOVBZreg (MOVBreg x)) => (MOVBZreg x)
```

```
// H - there are more combinations than these

(MOVHZreg y:(MOVHZreg _)) => y // repeat
(MOVHZreg y:(MOVBZreg _)) => y // wide of narrow
(MOVHZreg y:(MOVHBRload _ _)) => y

(MOVHreg y:(MOVHreg _)) => y // repeat
(MOVHreg y:(MOVBreg _)) => y // wide of narrow

(MOVHreg y:(MOVHZreg x)) => (MOVHreg x)
(MOVHZreg y:(MOVHreg x)) => (MOVHZreg x)

// W - there are more combinations than these

(MOVWZreg y:(MOVWZreg _)) => y // repeat
(MOVWZreg y:(MOVHZreg _)) => y // wide of narrow
(MOVWZreg y:(MOVBZreg _)) => y // wide of narrow
(MOVWZreg y:(MOVHBRload _ _)) => y
(MOVWZreg y:(MOVWBRload _ _)) => y

(MOVWreg y:(MOVWreg _)) => y // repeat
(MOVWreg y:(MOVHreg _)) => y // wide of narrow
(MOVWreg y:(MOVBreg _)) => y // wide of narrow

(MOVWreg y:(MOVWZreg
 x)) => (MOVWreg x)
(MOVWZreg y:(MOVWreg x)) => (MOVWZreg x)

// Truncate then logical then truncate: omit first, lesser or equal truncate
(MOVWZreg ((OR|XOR|AND) <t> x (MOVWZreg y))) => (MOVWZreg ((OR|XOR|AND) <t> x y))
(MOVHZreg ((OR|XOR|AND) <t> x (MOVWZreg y))) => (MOVHZreg ((OR|XOR|AND) <t> x y))
(MOVHZreg ((OR|XOR|AND) <t> x (MOVHZreg y))) => (MOVHZreg ((OR|XOR|AND) <t> x y))
(MOVBZreg ((OR|XOR|AND) <t> x (MOVWZreg y))) => (MOVBZreg ((OR|XOR|AND) <t> x y))
(MOVBZreg ((OR|XOR|AND) <t> x (MOVHZreg y))) => (MOVBZreg ((OR|XOR|AND) <t> x y))
(MOVBZreg ((OR|XOR|AND) <t> x (MOVBZreg y))) => (MOVBZreg ((OR|XOR|AND) <t> x y))

(MOV(B|H|W)Zreg z:(ANDconst [c] (MOVBZload ptr x))) => z
(MOVBZreg z:(AND y (MOVBZload ptr x))) => z
(MOV(H|W)Zreg z:(ANDconst [c] (MOVHZload ptr x))) => z
(MOVHZreg z:(AND y (MOVHZload ptr x))) => z
(MOVWZreg z:(ANDconst [c] (MOVWZload ptr x))) => z
(MOVWZreg z:(AND y (MOVWZload ptr x))) => z

// Arithmetic constant ops

(ADD x (MOVDconst [c])) && is32Bit(c)
 => (ADDconst [c] x)
(ADDconst [c] (ADDconst [d] x)) && is32Bit(c+d) => (ADDconst [c+d] x)
```

```
(ADDconst [0] x) => x
(SUB x (MOVDconst [c])) && is32Bit(-c) => (ADDconst [-c] x)

(ADDconst [c] (MOVDaddr [d] {sym} x)) && is32Bit(c+int64(d)) => (MOVDaddr [int32(c+int64(d))] {sym} x)
(ADDconst [c] x:(SP)) && is32Bit(c) => (MOVDaddr [int32(c)] x) // so it is rematerializeable

(MULL(W|D) x (MOVDconst [c])) && is16Bit(c) => (MULL(W|D)const [int32(c)] x)

// Subtract from (with carry, but ignored) constant.
// Note, these clobber the carry bit.
(SUB (MOVDconst [c]) x) && is32Bit(c) => (SUBFCconst [c] x)
(SUBFCconst [c] (NEG x)) => (ADDconst [c] x)
(SUBFCconst [c] (SUBFCconst [d] x)) && is32Bit(c-d) => (ADDconst [c-d] x)
(SUBFCconst [0] x) => (NEG x)
(ADDconst [c] (SUBFCconst [d] x)) && is32Bit(c+d) => (SUBFCconst [c+d] x)
(NEG (ADDconst [c] x)) && is32Bit(-c) => (SUBFCconst [-c] x)
(NEG (SUBFCconst [c] x)) && is32Bit(-c) => (ADDconst [-c] x)
(NEG (SUB x y)) => (SUB y x)
(NEG (NEG x)) => x

// Use
 register moves instead of stores and loads to move int<=>float values
// Common with math Float64bits, Float64frombits
(MOVDload [off] {sym} ptr (FMOVDstore [off] {sym} ptr x _)) => (MFVSRD x)
(FMOVDload [off] {sym} ptr (MOVDstore [off] {sym} ptr x _)) => (MTVSRD x)

(FMOVDstore [off] {sym} ptr (MTVSRD x) mem) => (MOVDstore [off] {sym} ptr x mem)
(MOVDstore [off] {sym} ptr (MFVSRD x) mem) => (FMOVDstore [off] {sym} ptr x mem)

(MTVSRD (MOVDconst [c])) && !math.IsNaN(math.Float64frombits(uint64(c))) => (FMOVDconst
[math.Float64frombits(uint64(c))])
(MFVSRD (FMOVDconst [c])) => (MOVDconst [int64(math.Float64bits(c))])

(MTVSRD x:(MOVDload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (FMOVDload [off]
{sym} ptr mem)
(MFVSRD x:(FMOVDload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVDload [off]
{sym} ptr mem)

// Fold offsets for stores.
(MOVDstore [off1] {sym} (ADDconst [off2] x) val mem) && is16Bit(int64(off1)+off2) => (MOVDstore
[off1+int32(off2)]
 {sym} x val mem)
(MOVWstore [off1] {sym} (ADDconst [off2] x) val mem) && is16Bit(int64(off1)+off2) => (MOVWstore
[off1+int32(off2)] {sym} x val mem)
(MOVHstore [off1] {sym} (ADDconst [off2] x) val mem) && is16Bit(int64(off1)+off2) => (MOVHstore
[off1+int32(off2)] {sym} x val mem)
(MOVBstore [off1] {sym} (ADDconst [off2] x) val mem) && is16Bit(int64(off1)+off2) => (MOVBstore
[off1+int32(off2)] {sym} x val mem)
```

```
(FMOVSstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is16Bit(int64(off1)+off2) => (FMOVSstore [off1+int32(off2)] {sym} ptr val mem)
(FMOVDstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is16Bit(int64(off1)+off2) => (FMOVDstore [off1+int32(off2)] {sym} ptr val mem)

// Fold address into load/store.
// The assembler needs to generate several instructions and use
// temp register for accessing global, and each time it will reload
// the temp register. So don't fold address of global, unless there
// is only one use.
(MOVBstore [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr)
 val mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVBstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVHstore [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVHstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVWstore [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVWstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVDstore [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVDstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)

(FMOVSstore [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses ==
 1) =>
     (FMOVSstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(FMOVDstore [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (FMOVDstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)

(MOVBZload [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVBZload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHload [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVHload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHZload [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVHZload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWload [off1] {sym1} p:(MOVDaddr [off2] {sym2}
 ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
     (MOVWload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWZload [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
```

```
    (MOVWZload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVDload [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
    (MOVDload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(FMOVSload [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
    (FMOVSload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(FMOVDload [off1] {sym1} p:(MOVDaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)
 && is16Bit(int64(off1+off2)) && (ptr.Op != OpSB || p.Uses == 1) =>
    (FMOVDload [off1+off2]
 {mergeSym(sym1,sym2)} ptr mem)

// Fold offsets for loads.
(FMOVSload [off1] {sym} (ADDconst [off2] ptr) mem) && is16Bit(int64(off1)+off2) => (FMOVSload
[off1+int32(off2)] {sym} ptr mem)
(FMOVDload [off1] {sym} (ADDconst [off2] ptr) mem) && is16Bit(int64(off1)+off2) => (FMOVDload
[off1+int32(off2)] {sym} ptr mem)

(MOVDload [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) => (MOVDload
[off1+int32(off2)] {sym} x mem)
(MOVWload [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) => (MOVWload
[off1+int32(off2)] {sym} x mem)
(MOVWZload [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) => (MOVWZload
[off1+int32(off2)] {sym} x mem)
(MOVHload [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) => (MOVHload
[off1+int32(off2)] {sym} x mem)
(MOVHZload [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) => (MOVHZload
[off1+int32(off2)] {sym} x mem)
(MOVBZload [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2)
 => (MOVBZload [off1+int32(off2)] {sym} x mem)

// Determine load + addressing that can be done as a register indexed load
(MOV(D|W|WZ|H|HZ|BZ)load [0] {sym} p:(ADD ptr idx) mem) && sym == nil && p.Uses == 1 =>
(MOV(D|W|WZ|H|HZ|BZ)loadidx ptr idx mem)

// Determine if there is benefit to using a non-indexed load, since that saves the load
// of the index register. With MOVDload and MOVWload, there is no benefit if the offset
// value is not a multiple of 4, since that results in an extra instruction in the base
// register address computation.
(MOV(D|W)loadidx ptr (MOVDconst [c]) mem) && is16Bit(c) && c%4 == 0 => (MOV(D|W)load [int32(c)] ptr
mem)
(MOV(WZ|H|HZ|BZ)loadidx ptr (MOVDconst [c]) mem) && is16Bit(c) => (MOV(WZ|H|HZ|BZ)load [int32(c)]
ptr mem)
(MOV(D|W)loadidx (MOVDconst [c]) ptr mem) && is16Bit(c) && c%4 == 0 => (MOV(D|W)load [int32(c)] ptr
mem)
(MOV(WZ|H|HZ|BZ)loadidx (MOVDconst [c]) ptr mem) && is16Bit(c) => (MOV(WZ|H|HZ|BZ)load [int32(c)]
ptr mem)
```

```
// Store of zero
 => storezero
(MOVDstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVDstorezero [off] {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVWstorezero [off] {sym} ptr mem)
(MOVHstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVHstorezero [off] {sym} ptr mem)
(MOVBstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVBstorezero [off] {sym} ptr mem)

// Fold offsets for storezero
(MOVDstorezero [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) =>
  (MOVDstorezero [off1+int32(off2)] {sym} x mem)
(MOVWstorezero [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) =>
  (MOVWstorezero [off1+int32(off2)] {sym} x mem)
(MOVHstorezero [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) =>
  (MOVHstorezero [off1+int32(off2)] {sym} x mem)
(MOVBstorezero [off1] {sym} (ADDconst [off2] x) mem) && is16Bit(int64(off1)+off2) =>
  (MOVBstorezero [off1+int32(off2)] {sym} x mem)

// Stores with addressing that can be done as indexed stores
(MOV(D|W|H|B)store
 [0] {sym} p:(ADD ptr idx) val mem) && sym == nil && p.Uses == 1 => (MOV(D|W|H|B)storeidx ptr idx val
mem)

// Stores with constant index values can be done without indexed instructions
// No need to lower the idx cases if c%4 is not 0
(MOVDstoreidx ptr (MOVDconst [c]) val mem) && is16Bit(c) && c%4 == 0 => (MOVDstore [int32(c)] ptr val
mem)
(MOV(W|H|B)storeidx ptr (MOVDconst [c]) val mem) && is16Bit(c) => (MOV(W|H|B)store [int32(c)] ptr val
mem)
(MOVDstoreidx (MOVDconst [c]) ptr val mem) && is16Bit(c) && c%4 == 0 => (MOVDstore [int32(c)] ptr val
mem)
(MOV(W|H|B)storeidx (MOVDconst [c]) ptr val mem) && is16Bit(c) => (MOV(W|H|B)store [int32(c)] ptr val
mem)

// Fold symbols into storezero
(MOVDstorezero [off1] {sym1} p:(MOVDaddr [off2] {sym2} x) mem) && canMergeSym(sym1,sym2)
 && (x.Op != OpSB || p.Uses == 1) =>
  (MOVDstorezero [off1+off2] {mergeSym(sym1,sym2)} x mem)
(MOVWstorezero [off1] {sym1} p:(MOVDaddr [off2] {sym2} x) mem) && canMergeSym(sym1,sym2)
 && (x.Op !=
 OpSB || p.Uses == 1) =>
  (MOVWstorezero [off1+off2] {mergeSym(sym1,sym2)} x mem)
(MOVHstorezero [off1] {sym1} p:(MOVDaddr [off2] {sym2} x) mem) && canMergeSym(sym1,sym2)
 && (x.Op != OpSB || p.Uses == 1) =>
  (MOVHstorezero [off1+off2] {mergeSym(sym1,sym2)} x mem)
(MOVBstorezero [off1] {sym1} p:(MOVDaddr [off2] {sym2} x) mem) && canMergeSym(sym1,sym2)
 && (x.Op != OpSB || p.Uses == 1) =>
  (MOVBstorezero [off1+off2] {mergeSym(sym1,sym2)} x mem)
```

```
// atomic intrinsics
(AtomicLoad(8|32|64|Ptr)  ptr mem) => (LoweredAtomicLoad(8|32|64|Ptr) [1] ptr mem)
(AtomicLoadAcq(32|64)     ptr mem) => (LoweredAtomicLoad(32|64) [0] ptr mem)

(AtomicStore(8|32|64)    ptr val mem) => (LoweredAtomicStore(8|32|64) [1] ptr val mem)
(AtomicStoreRel(32|64)   ptr val mem) => (LoweredAtomicStore(32|64) [0] ptr val mem)
//(AtomicStorePtrNoWB ptr val mem) => (STLR  ptr val mem)

(AtomicExchange(32|64) ...) => (LoweredAtomicExchange(32|64) ...)

(AtomicAdd(32|64) ...) => (LoweredAtomicAdd(32|64) ...)

(AtomicCompareAndSwap(32|64)
 ptr old new_ mem) => (LoweredAtomicCas(32|64) [1] ptr old new_ mem)
(AtomicCompareAndSwapRel32   ptr old new_ mem) => (LoweredAtomicCas32 [0] ptr old new_ mem)

(AtomicAnd8  ...) => (LoweredAtomicAnd8  ...)
(AtomicAnd32 ...) => (LoweredAtomicAnd32 ...)
(AtomicOr8   ...) => (LoweredAtomicOr8   ...)
(AtomicOr32  ...) => (LoweredAtomicOr32  ...)

(Slicemask <t> x) => (SRADconst (NEG <t> x) [63])

// Note that MOV??reg returns a 64-bit int, x is not necessarily that wide
// This may interact with other patterns in the future. (Compare with arm64)
(MOV(B|H|W)Zreg x:(MOVBZload _ _)) => x
(MOV(B|H|W)Zreg x:(MOVBZloadidx _ _ _)) => x
(MOV(H|W)Zreg x:(MOVHZload _ _)) => x
(MOV(H|W)Zreg x:(MOVHZloadidx _ _ _)) => x
(MOV(H|W)reg x:(MOVHload _ _)) => x
(MOV(H|W)reg x:(MOVHloadidx _ _ _)) => x
(MOVWZreg x:(MOVWZload _ _)) => x
(MOVWZreg x:(MOVWZloadidx _ _ _)) => x
(MOVWreg x:(MOVWload _ _)) => x
(MOVWreg x:(MOVWloadidx _ _ _)) => x
(MOVBZreg x:(Select0 (LoweredAtomicLoad8 _
 _))) => x
(MOVWZreg x:(Select0 (LoweredAtomicLoad32 _ _))) => x

// don't extend if argument is already extended
(MOVBreg x:(Arg <t>)) && is8BitInt(t) && isSigned(t) => x
(MOVBZreg x:(Arg <t>)) && is8BitInt(t) && !isSigned(t) => x
(MOVHreg x:(Arg <t>)) && (is8BitInt(t) || is16BitInt(t)) && isSigned(t) => x
(MOVHZreg x:(Arg <t>)) && (is8BitInt(t) || is16BitInt(t)) && !isSigned(t) => x
(MOVWreg x:(Arg <t>)) && (is8BitInt(t) || is16BitInt(t) || is32BitInt(t)) && isSigned(t) => x
(MOVWZreg x:(Arg <t>)) && (is8BitInt(t) || is16BitInt(t) || is32BitInt(t)) && !isSigned(t) => x

(MOVBZreg (MOVDconst [c]))  => (MOVDconst [int64(uint8(c))])
```

```
(MOVBreg (MOVDconst [c]))  => (MOVDconst [int64(int8(c))])
(MOVHZreg (MOVDconst [c]))  => (MOVDconst [int64(uint16(c))])
(MOVHreg (MOVDconst [c]))  => (MOVDconst [int64(int16(c))])
(MOVWreg (MOVDconst [c])) => (MOVDconst [int64(int32(c))])
(MOVWZreg (MOVDconst [c])) => (MOVDconst [int64(uint32(c))])

// Implement clrsldi and clrslwi extended mnemonics as described
 in
// ISA 3.0 section C.8. AuxInt field contains values needed for
// the instructions, packed together since there is only one available.
(SLDconst [c] z:(MOVBZreg x)) && c < 8 && z.Uses == 1 => (CLRLSLDI [newPPC64ShiftAuxInt(c,56,63,64)]
x)
(SLDconst [c] z:(MOVHZreg x)) && c < 16 && z.Uses == 1 => (CLRLSLDI [newPPC64ShiftAuxInt(c,48,63,64)]
x)
(SLDconst [c] z:(MOVWZreg x)) && c < 32 && z.Uses == 1 => (CLRLSLDI [newPPC64ShiftAuxInt(c,32,63,64)]
x)

(SLDconst [c] z:(ANDconst [d] x)) && z.Uses == 1 && isPPC64ValidShiftMask(d) && c <= (64-
getPPC64ShiftMaskLength(d)) => (CLRLSLDI [newPPC64ShiftAuxInt(c,64-getPPC64ShiftMaskLength(d),63,64)]
x)
(SLDconst [c] z:(AND (MOVDconst [d]) x)) && z.Uses == 1 && isPPC64ValidShiftMask(d) && c<=(64-
getPPC64ShiftMaskLength(d)) => (CLRLSLDI [newPPC64ShiftAuxInt(c,64-getPPC64ShiftMaskLength(d),63,64)]
x)
(SLWconst [c] z:(MOVBZreg x)) && z.Uses == 1 && c < 8 => (CLRLSLWI [newPPC64ShiftAuxInt(c,24,31,32)]
x)
(SLWconst [c] z:(MOVHZreg x)) && z.Uses ==
 1 && c < 16 => (CLRLSLWI [newPPC64ShiftAuxInt(c,16,31,32)] x)
(SLWconst [c] z:(ANDconst [d] x)) && z.Uses == 1 && isPPC64ValidShiftMask(d) && c<=(32-
getPPC64ShiftMaskLength(d)) => (CLRLSLWI [newPPC64ShiftAuxInt(c,32-
getPPC64ShiftMaskLength(d),31,32)] x)
(SLWconst [c] z:(AND (MOVDconst [d]) x)) && z.Uses == 1 && isPPC64ValidShiftMask(d) && c<=(32-
getPPC64ShiftMaskLength(d)) => (CLRLSLWI [newPPC64ShiftAuxInt(c,32-
getPPC64ShiftMaskLength(d),31,32)] x)
// special case for power9
(SL(W|D)const [c] z:(MOVWreg x)) && c < 32 && buildcfg.GOPPC64 >= 9 => (EXTSWSLconst [c] x)

// Lose widening ops fed to stores
(MOVBstore [off] {sym} ptr (MOV(B|BZ|H|HZ|W|WZ)reg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOV(H|HZ|W|WZ)reg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOV(W|WZ)reg x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (SRWconst (MOV(H|HZ)reg x) [c]) mem) && c <= 8 => (MOVBstore [off] {sym} ptr
(SRWconst <typ.UInt32>
 x [c]) mem)
(MOVBstore [off] {sym} ptr (SRWconst (MOV(W|WZ)reg x) [c]) mem) && c <= 24 => (MOVBstore [off] {sym}
ptr (SRWconst <typ.UInt32> x [c]) mem)
(MOVBstoreidx ptr idx (MOV(B|BZ|H|HZ|W|WZ)reg x) mem) => (MOVBstoreidx ptr idx x mem)
(MOVHstoreidx ptr idx (MOV(H|HZ|W|WZ)reg x) mem) => (MOVHstoreidx ptr idx x mem)
(MOVWstoreidx ptr idx (MOV(W|WZ)reg x) mem) => (MOVWstoreidx ptr idx x mem)
```

```
(MOVBstoreidx ptr idx (SRWconst (MOV(H|HZ)reg x) [c]) mem) && c <= 8 => (MOVBstoreidx ptr idx
(SRWconst <typ.UInt32> x [c]) mem)
(MOVBstoreidx ptr idx (SRWconst (MOV(W|WZ)reg x) [c]) mem) && c <= 24 => (MOVBstoreidx ptr idx
(SRWconst <typ.UInt32> x [c]) mem)
(MOVHBRstore {sym} ptr (MOV(H|HZ|W|WZ)reg x) mem) => (MOVHBRstore {sym} ptr x mem)
(MOVWBRstore {sym} ptr (MOV(W|WZ)reg x) mem) => (MOVWBRstore {sym} ptr x mem)

// Lose W-widening ops fed to compare-W
(CMPW x (MOVWreg y)) => (CMPW x y)
(CMPW (MOVWreg x) y) => (CMPW x y)
(CMPWU x (MOVWZreg y)) => (CMPWU x y)
(CMPWU (MOVWZreg x) y) => (CMPWU
 x y)

(CMP x (MOVDconst [c])) && is16Bit(c) => (CMPconst x [c])
(CMP (MOVDconst [c]) y) && is16Bit(c) => (InvertFlags (CMPconst y [c]))
(CMPW x (MOVDconst [c])) && is16Bit(c) => (CMPWconst x [int32(c)])
(CMPW (MOVDconst [c]) y) && is16Bit(c) => (InvertFlags (CMPWconst y [int32(c)]))

(CMPU x (MOVDconst [c])) && isU16Bit(c) => (CMPUconst x [c])
(CMPU (MOVDconst [c]) y) && isU16Bit(c) => (InvertFlags (CMPUconst y [c]))
(CMPWU x (MOVDconst [c])) && isU16Bit(c) => (CMPWUconst x [int32(c)])
(CMPWU (MOVDconst [c]) y) && isU16Bit(c) => (InvertFlags (CMPWUconst y [int32(c)]))

// Canonicalize the order of arguments to comparisons - helps with CSE.
((CMP|CMPW|CMPU|CMPWU) x y) && canonLessThan(x,y) => (InvertFlags ((CMP|CMPW|CMPU|CMPWU) y
x))

// ISEL auxInt values 0=LT 1=GT 2=EQ   arg2 ? arg0 : arg1
// ISEL auxInt values 4=GE 5=LE 6=NE   !arg2 ? arg1 : arg0
// ISELB special case where arg0, arg1 values are 0, 1

(Equal cmp) => (ISELB [2] (MOVDconst [1]) cmp)
(NotEqual cmp) => (ISELB [6] (MOVDconst
 [1]) cmp)
(LessThan cmp) => (ISELB [0] (MOVDconst [1]) cmp)
(FLessThan cmp) => (ISELB [0] (MOVDconst [1]) cmp)
(FLessEqual cmp) => (ISEL [2] (MOVDconst [1]) (ISELB [0] (MOVDconst [1]) cmp) cmp)
(GreaterEqual cmp) => (ISELB [4] (MOVDconst [1]) cmp)
(GreaterThan cmp) => (ISELB [1] (MOVDconst [1]) cmp)
(FGreaterThan cmp) => (ISELB [1] (MOVDconst [1]) cmp)
(FGreaterEqual cmp) => (ISEL [2] (MOVDconst [1]) (ISELB [1] (MOVDconst [1]) cmp) cmp)
(LessEqual cmp) => (ISELB [5] (MOVDconst [1]) cmp)

(ISELB [0] _ (FlagLT)) => (MOVDconst [1])
(ISELB [0] _ (Flag(GT|EQ))) => (MOVDconst [0])
(ISELB [1] _ (FlagGT)) => (MOVDconst [1])
(ISELB [1] _ (Flag(LT|EQ))) => (MOVDconst [0])
```

```
(ISELB [2] _ (FlagEQ)) => (MOVDconst [1])
(ISELB [2] _ (Flag(LT|GT))) => (MOVDconst [0])
(ISELB [4] _ (FlagLT)) => (MOVDconst [0])
(ISELB [4] _ (Flag(GT|EQ))) => (MOVDconst [1])
(ISELB [5] _ (FlagGT)) => (MOVDconst [0])
(ISELB [5] _ (Flag(LT|EQ))) => (MOVDconst [1])
(ISELB [6] _ (FlagEQ)) => (MOVDconst [0])
(ISELB [6]
 _ (Flag(LT|GT))) => (MOVDconst [1])

(ISEL [2] x _ (FlagEQ)) => x
(ISEL [2] _ y (Flag(LT|GT))) => y

(ISEL [6] _ y (FlagEQ)) => y
(ISEL [6] x _ (Flag(LT|GT))) => x

(ISEL [0] _ y (Flag(EQ|GT))) => y
(ISEL [0] x _ (FlagLT)) => x

(ISEL [5] _ x (Flag(EQ|LT))) => x
(ISEL [5] y _ (FlagGT)) => y

(ISEL [1] _ y (Flag(EQ|LT))) => y
(ISEL [1] x _ (FlagGT)) => x

(ISEL [4] x _ (Flag(EQ|GT))) => x
(ISEL [4] _ y (FlagLT)) => y

(ISELB [n] (MOVDconst [1]) (InvertFlags bool)) && n%4 == 0 => (ISELB [n+1] (MOVDconst [1]) bool)
(ISELB [n] (MOVDconst [1]) (InvertFlags bool)) && n%4 == 1 => (ISELB [n-1] (MOVDconst [1]) bool)
(ISELB [n] (MOVDconst [1]) (InvertFlags bool)) && n%4 == 2 => (ISELB [n] (MOVDconst [1]) bool)
(ISEL [n] x y (InvertFlags bool)) && n%4 == 0 => (ISEL [n+1] x y bool)
(ISEL [n] x y (InvertFlags bool)) && n%4 == 1 => (ISEL [n-1] x y bool)
(ISEL [n] x y (InvertFlags bool)) && n%4 == 2 => (ISEL [n] x y bool)
(XORconst [1] (ISELB [6] (MOVDconst [1]) cmp)) => (ISELB [2] (MOVDconst [1]) cmp)
(XORconst
 [1] (ISELB [5] (MOVDconst [1]) cmp)) => (ISELB [1] (MOVDconst [1]) cmp)
(XORconst [1] (ISELB [4] (MOVDconst [1]) cmp)) => (ISELB [0] (MOVDconst [1]) cmp)

// A particular pattern seen in cgo code:
(AND (MOVDconst [c]) x:(MOVBZload _ _)) => (ANDconst [c&0xFF] x)

// floating point negative abs
(FNEG (FABS x)) => (FNABS x)
(FNEG (FNABS x)) => (FABS x)

// floating-point fused multiply-add/sub
(FADD (FMUL x y) z) => (FMADD x y z)
```

```
(FSUB (FMUL x y) z) => (FMSUB x y z)
(FADDS (FMULS x y) z) => (FMADDS x y z)
(FSUBS (FMULS x y) z) => (FMSUBS x y z)


// The following statements are found in encoding/binary functions UintXX (load) and PutUintXX (store)
// and convert the statements in these functions from multiple single byte loads or stores to
// the single largest possible load or store.
// Some are marked big or little endian based on the order in which the bytes are loaded or stored,
// not on the ordering of the machine. These are intended for little endian machines.
// To implement
 for big endian machines, most rules would have to be duplicated but the
// resulting rule would be reversed, i. e., MOVHZload on little endian would be MOVHBRload on big endian
// and vice versa.
// b[0] | b[1]<<8 => load 16-bit Little endian
(OR <t> x0:(MOVBZload [i0] {s} p mem)
 o1:(SL(W|D)const x1:(MOVBZload [i1] {s} p mem) [8]))
 && !config.BigEndian
 && i1 == i0+1
 && x0.Uses ==1 && x1.Uses == 1
 && o1.Uses == 1
 && mergePoint(b, x0, x1) != nil
 && clobber(x0, x1, o1)
  => @mergePoint(b,x0,x1) (MOVHZload <t> {s} [i0] p mem)

// b[0]<<8 | b[1] => load 16-bit Big endian on Little endian arch.
// Use byte-reverse indexed load for 2 bytes.
(OR <t> x0:(MOVBZload [i1] {s} p mem)
 o1:(SL(W|D)const x1:(MOVBZload [i0] {s} p mem) [8]))
 && !config.BigEndian
 && i1 == i0+1
 && x0.Uses ==1 && x1.Uses == 1
 && o1.Uses == 1
 && mergePoint(b, x0, x1) != nil
 && clobber(x0, x1, o1)
   => @mergePoint(b,x0,x1) (MOVHBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem)

// b[0]<<n+8 | b[1]<<n
 => load 16-bit Big endian (where n%8== 0)
// Use byte-reverse indexed load for 2 bytes,
// then shift left to the correct position. Used to match subrules
// from longer rules.
(OR <t> s0:(SL(W|D)const x0:(MOVBZload [i1] {s} p mem) [n1])
 s1:(SL(W|D)const x1:(MOVBZload [i0] {s} p mem) [n2]))
 && !config.BigEndian
 && i1 == i0+1
 && n1%8 == 0
 && n2 == n1+8
```

```
 && x0.Uses == 1 && x1.Uses == 1
 && s0.Uses == 1 && s1.Uses == 1
 && mergePoint(b, x0, x1) != nil
 && clobber(x0, x1, s0, s1)
   => @mergePoint(b,x0,x1) (SLDconst <t> (MOVHBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem) [n1])

// b[0] | b[1]<<8 | b[2]<<16 | b[3]<<24 => load 32-bit Little endian
// Use byte-reverse indexed load for 4 bytes.
(OR <t> s1:(SL(W|D)const x2:(MOVBZload [i3] {s} p mem) [24])
 o0:(OR <t> s0:(SL(W|D)const x1:(MOVBZload [i2] {s} p mem) [16])
 x0:(MOVHZload [i0] {s} p mem)))
 && !config.BigEndian
 && i2 == i0+2
 && i3 == i0+3
 && x0.Uses ==1 && x1.Uses == 1 && x2.Uses == 1
 && o0.Uses == 1
 && s0.Uses == 1 &&
 s1.Uses == 1
 && mergePoint(b, x0, x1, x2) != nil
 && clobber(x0, x1, x2, s0, s1, o0)
  => @mergePoint(b,x0,x1,x2) (MOVWZload <t> {s} [i0] p mem)

// b[0]<<24 | b[1]<<16 | b[2]<<8 | b[3] => load 32-bit Big endian order on Little endian arch
// Use byte-reverse indexed load for 4 bytes with computed address.
// Could be used to match subrules of a longer rule.
(OR <t> s1:(SL(W|D)const x2:(MOVBZload [i0] {s} p mem) [24])
 o0:(OR <t> s0:(SL(W|D)const x1:(MOVBZload [i1] {s} p mem) [16])
 x0:(MOVHBRload <t> (MOVDaddr <typ.Uintptr> [i2] {s} p) mem)))
 && !config.BigEndian
 && i1 == i0+1
 && i2 == i0+2
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && o0.Uses == 1
 && s0.Uses == 1 && s1.Uses == 1
 && mergePoint(b, x0, x1, x2) != nil
 && clobber(x0, x1, x2, s0, s1, o0)
   => @mergePoint(b,x0,x1,x2) (MOVWBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem)

// b[3] | b[2]<<8 | b[1]<<16 | b[0]<<24 => load 32-bit Big endian order on Little endian arch
// Use byte-reverse indexed load for 4 bytes
 with computed address.
// Could be used to match subrules of a longer rule.
(OR <t> x0:(MOVBZload [i3] {s} p mem)
 o0:(OR <t> s0:(SL(W|D)const x1:(MOVBZload [i2] {s} p mem) [8])
 s1:(SL(W|D)const x2:(MOVHBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem) [16])))
 && !config.BigEndian
 && i2 == i0+2
 && i3 == i0+3
```

```
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && o0.Uses == 1
 && s0.Uses == 1 && s1.Uses == 1
 && mergePoint(b, x0, x1, x2) != nil
 && clobber(x0, x1, x2, s0, s1, o0)
   => @mergePoint(b,x0,x1,x2) (MOVWBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem)

// b[0]<<56 | b[1]<<48 | b[2]<<40 | b[3]<<32 => load 32-bit Big endian order on Little endian arch
// Use byte-reverse indexed load to for 4 bytes with computed address.
// Used to match longer rules.
(OR <t> s2:(SLDconst x2:(MOVBZload [i3] {s} p mem) [32])
 o0:(OR <t> s1:(SLDconst x1:(MOVBZload [i2] {s} p mem) [40])
 s0:(SLDconst x0:(MOVHBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem) [48])))
 && !config.BigEndian
 &&
 i2 == i0+2
 && i3 == i0+3
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && o0.Uses == 1
 && s0.Uses == 1 && s1.Uses == 1 && s2.Uses == 1
 && mergePoint(b, x0, x1, x2) != nil
 && clobber(x0, x1, x2, s0, s1, s2, o0)
   => @mergePoint(b,x0,x1,x2) (SLDconst <t> (MOVWBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem)
[32])

// b[3]<<32 | b[2]<<40 | b[1]<<48 | b[0]<<56 => load 32-bit Big endian order on Little endian arch
// Use byte-reverse indexed load for 4 bytes with constant address.
// Used to match longer rules.
(OR <t> s2:(SLDconst x2:(MOVBZload [i0] {s} p mem) [56])
      o0:(OR <t> s1:(SLDconst x1:(MOVBZload [i1] {s} p mem) [48])
      s0:(SLDconst x0:(MOVHBRload <t> (MOVDaddr <typ.Uintptr> [i2] {s} p) mem) [32])))
      && !config.BigEndian
      && i1 == i0+1
      && i2 == i0+2
      && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
      && o0.Uses == 1
      && s0.Uses == 1 && s1.Uses == 1 && s2.Uses == 1
      && mergePoint(b, x0, x1, x2) != nil

      && clobber(x0, x1, x2, s0, s1, s2, o0)
        => @mergePoint(b,x0,x1,x2) (SLDconst <t> (MOVWBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p)
mem) [32])

// b[0] | b[1]<<8 | b[2]<<16 | b[3]<<24 | b[4] <<32 | b[5]<<40 | b[6]<<48 | b[7]<<56 => load 64-bit Little endian
// Rules with commutative ops and many operands will result in extremely large functions in rewritePPC64,
// so matching shorter previously defined subrules is important.
// Offset must be multiple of 4 for MOVD
(OR <t> s6:(SLDconst x7:(MOVBZload [i7] {s} p mem) [56])
```

```
 o5:(OR <t> s5:(SLDconst x6:(MOVBZload [i6] {s} p mem) [48])
 o4:(OR <t> s4:(SLDconst x5:(MOVBZload [i5] {s} p mem) [40])
 o3:(OR <t> s3:(SLDconst x4:(MOVBZload [i4] {s} p mem) [32])
 x0:(MOVWZload {s} [i0] p mem)))))
 && !config.BigEndian
 && i4 == i0+4
 && i5 == i0+5
 && i6 == i0+6
 && i7 == i0+7
 && x0.Uses == 1 && x4.Uses == 1 && x5.Uses == 1 && x6.Uses ==1 && x7.Uses == 1
 && o3.Uses == 1 && o4.Uses == 1 && o5.Uses == 1
 && s3.Uses == 1 && s4.Uses
 == 1 && s5.Uses == 1 && s6.Uses == 1
 && mergePoint(b, x0, x4, x5, x6, x7) != nil
 && clobber(x0, x4, x5, x6, x7, s3, s4, s5, s6, o3, o4, o5)
   => @mergePoint(b,x0,x4,x5,x6,x7) (MOVDload <t> {s} [i0] p mem)

// b[7] | b[6]<<8 | b[5]<<16 | b[4]<<24 | b[3]<<32 | b[2]<<40 | b[1]<<48 | b[0]<<56 load 64-bit Big endian ordered
bytes on Little endian arch
// Use byte-reverse indexed load of 8 bytes.
// Rules with commutative ops and many operands can result in extremely large functions in rewritePPC64,
// so matching shorter previously defined subrules is important.
(OR <t> s0:(SLDconst x0:(MOVBZload [i0] {s} p mem) [56])
 o0:(OR <t> s1:(SLDconst x1:(MOVBZload [i1] {s} p mem) [48])
 o1:(OR <t> s2:(SLDconst x2:(MOVBZload [i2] {s} p mem) [40])
 o2:(OR <t> s3:(SLDconst x3:(MOVBZload [i3] {s} p mem) [32])
 x4:(MOVWBRload <t> (MOVDaddr <typ.Uintptr> [i4] p) mem)))))
 && !config.BigEndian
 && i1 == i0+1
 && i2 == i0+2
 && i3 == i0+3
 && i4 == i0+4
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 &&
 x3.Uses == 1 && x4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && s0.Uses == 1 && s1.Uses == 1 && s2.Uses == 1 && s3.Uses == 1
 && mergePoint(b, x0, x1, x2, x3, x4) != nil
 && clobber(x0, x1, x2, x3, x4, o0, o1, o2, s0, s1, s2, s3)
   => @mergePoint(b,x0,x1,x2,x3,x4) (MOVDBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem)

// b[0]<<56 | b[1]<<48 | b[2]<<40 | b[3]<<32 | b[4]<<24 | b[5]<<16 | b[6]<<8 | b[7] => load 64-bit Big endian
ordered bytes on Little endian arch
// Use byte-reverse indexed load of 8 bytes.
// Rules with commutative ops and many operands can result in extremely large functions in rewritePPC64,
// so matching shorter previously defined subrules is important.
(OR <t> x7:(MOVBZload [i7] {s} p mem)
 o5:(OR <t> s6:(SLDconst x6:(MOVBZload [i6] {s} p mem) [8])
 o4:(OR <t> s5:(SLDconst x5:(MOVBZload [i5] {s} p mem) [16])
```

```
 o3:(OR <t> s4:(SLDconst x4:(MOVBZload [i4] {s} p mem) [24])
 s0:(SL(W|D)const x3:(MOVWBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem)
 [32])))))
 && !config.BigEndian
 && i4 == i0+4
 && i5 == i0+5
 && i6 == i0+6
 && i7 == i0+7
 && x3.Uses == 1 && x4.Uses == 1 && x5.Uses == 1 && x6.Uses == 1 && x7.Uses == 1
 && o3.Uses == 1 && o4.Uses == 1 && o5.Uses == 1
 && s0.Uses == 1 && s4.Uses == 1 && s5.Uses == 1 && s6.Uses == 1
 && mergePoint(b, x3, x4, x5, x6, x7) != nil
 && clobber(x3, x4, x5, x6, x7, o3, o4, o5, s0, s4, s5, s6)
 => @mergePoint(b,x3,x4,x5,x6,x7) (MOVDBRload <t> (MOVDaddr <typ.Uintptr> [i0] {s} p) mem)

// 2 byte store Little endian as in:
//     b[0] = byte(v >> 16)
//     b[1] = byte(v >> 24)
// Added for use in matching longer rules.
(MOVBstore [i1] {s} p (SR(W|D)const w [24])
      x0:(MOVBstore [i0] {s} p (SR(W|D)const w [16]) mem))
      && !config.BigEndian
      && x0.Uses == 1
      && i1 == i0+1
      && clobber(x0)
        => (MOVHstore [i0] {s} p (SRWconst <typ.UInt16> w [16]) mem)

// 2 byte store Little endian as in:
//     b[0] = byte(v)
//     b[1] = byte(v >> 8)
(MOVBstore [i1]
 {s} p (SR(W|D)const w [8])
 x0:(MOVBstore [i0] {s} p w mem))
 && !config.BigEndian
 && x0.Uses == 1
 && i1 == i0+1
 && clobber(x0)
   => (MOVHstore [i0] {s} p w mem)

// 4 byte store Little endian as in:
//    b[0:1] = uint16(v)
//    b[2:3] = uint16(v >> 16)
(MOVHstore [i1] {s} p (SR(W|D)const w [16])
 x0:(MOVHstore [i0] {s} p w mem))
 && !config.BigEndian
 && x0.Uses == 1
 && i1 == i0+2
 && clobber(x0)
```

```
  => (MOVWstore [i0] {s} p w mem)

// 4 byte store Big endian as in:
//     b[0] = byte(v >> 24)
//     b[1] = byte(v >> 16)
//     b[2] = byte(v >> 8)
//     b[3] = byte(v)
// Use byte-reverse indexed 4 byte store.
(MOVBstore [i3] {s} p w
 x0:(MOVBstore [i2] {s} p (SRWconst w [8])
 x1:(MOVBstore [i1] {s} p (SRWconst w [16])
 x2:(MOVBstore [i0] {s} p (SRWconst w [24]) mem))))
 && !config.BigEndian
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && i1 == i0+1 && i2 == i0+2 && i3 == i0+3
 && clobber(x0, x1, x2)
  => (MOVWBRstore (MOVDaddr <typ.Uintptr> [i0] {s} p) w mem)

// The
 2 byte store appears after the 4 byte store so that the
// match for the 2 byte store is not done first.
// If the 4 byte store is based on the 2 byte store then there are
// variations on the MOVDaddr subrule that would require additional
// rules to be written.

// 2 byte store Big endian as in:
//      b[0] = byte(v >> 8)
//      b[1] = byte(v)
(MOVBstore [i1] {s} p w x0:(MOVBstore [i0] {s} p (SRWconst w [8]) mem))
 && !config.BigEndian
 && x0.Uses == 1
 && i1 == i0+1
 && clobber(x0)
  => (MOVHBRstore (MOVDaddr <typ.Uintptr> [i0] {s} p) w mem)

// 8 byte store Little endian as in:
// b[0] = byte(v)
// b[1] = byte(v >> 8)
// b[2] = byte(v >> 16)
// b[3] = byte(v >> 24)
// b[4] = byte(v >> 32)
// b[5] = byte(v >> 40)
// b[6] = byte(v >> 48)
// b[7] = byte(v >> 56)
// Built on previously defined rules
// Offset must be multiple of 4 for MOVDstore
(MOVBstore [i7] {s} p (SRDconst w [56])
 x0:(MOVBstore [i6] {s} p (SRDconst w [48])
```

```
 x1:(MOVBstore [i5] {s} p (SRDconst w [40])
 x2:(MOVBstore
 [i4] {s} p (SRDconst w [32])
 x3:(MOVWstore [i0] {s} p w mem)))))
 && !config.BigEndian
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && i4 == i0+4 && i5 == i0+5 && i6 == i0+6 && i7 == i0+7
 && clobber(x0, x1, x2, x3)
   => (MOVDstore [i0] {s} p w mem)

// 8 byte store Big endian as in:
//      b[0] = byte(v >> 56)
//      b[1] = byte(v >> 48)
//      b[2] = byte(v >> 40)
//      b[3] = byte(v >> 32)
//      b[4] = byte(v >> 24)
//      b[5] = byte(v >> 16)
//      b[6] = byte(v >> 8)
//      b[7] = byte(v)
// Use byte-reverse indexed 8 byte store.
(MOVBstore [i7] {s} p w
      x0:(MOVBstore [i6] {s} p (SRDconst w [8])
      x1:(MOVBstore [i5] {s} p (SRDconst w [16])
      x2:(MOVBstore [i4] {s} p (SRDconst w [24])
      x3:(MOVBstore [i3] {s} p (SRDconst w [32])
      x4:(MOVBstore [i2] {s} p (SRDconst w [40])
      x5:(MOVBstore [i1] {s} p (SRDconst w [48])
      x6:(MOVBstore [i0] {s} p (SRDconst w [56]) mem))))))))
      && !config.BigEndian
       && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1 && x4.Uses == 1 && x5.Uses == 1
&& x6.Uses == 1
      && i1 == i0+1 && i2 == i0+2 && i3 == i0+3 && i4 == i0+4 && i5 == i0+5 && i6 == i0+6 && i7 == i0+7
      && clobber(x0, x1, x2, x3, x4, x5, x6)
        => (MOVDBRstore (MOVDaddr <typ.Uintptr> [i0] {s} p) w mem)

// Arch-specific inlining for small or disjoint runtime.memmove
(SelectN [0] call:(CALLstatic {sym} s1:(MOVDstore _ (MOVDconst [sz]) s2:(MOVDstore  _ src s3:(MOVDstore
{t} _ dst mem)))))
      && sz >= 0
      && isSameCall(sym, "runtime.memmove")
      && s1.Uses == 1 && s2.Uses == 1 && s3.Uses == 1
      && isInlinableMemmove(dst, src, sz, config)
      && clobber(s1, s2, s3, call)
      => (Move [sz] dst src mem)

// Match post-lowering calls, register version.
(SelectN [0] call:(CALLstatic {sym} dst src (MOVDconst [sz]) mem))
      && sz >= 0
```

```
      && isSameCall(sym, "runtime.memmove")
      && call.Uses == 1
      && isInlinableMemmove(dst,
 src, sz, config)
      && clobber(call)
      => (Move [sz] dst src mem)

// Prefetch instructions (TH specified using aux field)
// For DCBT Ra,Rb,TH, A value of TH indicates:
//     0, hint this cache line will be used soon. (PrefetchCache)
//     16, hint this cache line will not be used for long. (PrefetchCacheStreamed)
// See ISA 3.0 Book II 4.3.2 for more detail. https://openpower.foundation/specifications/isa/
(PrefetchCache ptr mem)          => (DCBT ptr mem [0])
(PrefetchCacheStreamed ptr mem)  => (DCBT ptr mem [16])
```

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/PPC64.rules
No license file was found, but licenses were detected in source scan.


```
// Copyright 2016 The Go Authors. All rights reserved.
// Use of this source code is governed by a BSD-style
// license that can be found in the LICENSE file.
```


```
// Lowering arithmetic
(Add(Ptr|32|16|8) ...) => (ADDL ...)
(Add(32|64)F ...) => (ADDS(S|D) ...)
(Add32carry ...) => (ADDLcarry ...)
(Add32withcarry ...) => (ADCL ...)

(Sub(Ptr|32|16|8) ...) => (SUBL ...)
(Sub(32|64)F ...) => (SUBS(S|D) ...)
(Sub32carry ...) => (SUBLcarry ...)
(Sub32withcarry ...) => (SBBL ...)

(Mul(32|16|8) ...) => (MULL ...)
(Mul(32|64)F ...) => (MULS(S|D) ...)
(Mul32uhilo ...) => (MULLQU ...)

(Select0 (Mul32uover x y)) => (Select0 <typ.UInt32> (MULLU x y))
(Select1 (Mul32uover x y)) => (SETO (Select1 <types.TypeFlags> (MULLU x y)))

(Avg32u ...) => (AVGLU ...)

(Div(32|64)F ...) => (DIVS(S|D) ...)
(Div(32|32u|16|16u) ...) => (DIV(L|LU|W|WU) ...)
(Div8   x y) => (DIVW  (SignExt8to16 x) (SignExt8to16 y))
(Div8u  x y) => (DIVWU (ZeroExt8to16
```

```
 x) (ZeroExt8to16 y))

(Hmul(32|32u) ...) => (HMUL(L|LU) ...)

(Mod(32|32u|16|16u) ...) => (MOD(L|LU|W|WU) ...)
(Mod8   x y) => (MODW  (SignExt8to16 x) (SignExt8to16 y))
(Mod8u  x y) => (MODWU (ZeroExt8to16 x) (ZeroExt8to16 y))

(And(32|16|8) ...) => (ANDL ...)
(Or(32|16|8) ...) => (ORL ...)
(Xor(32|16|8) ...) => (XORL ...)

(Neg(32|16|8) ...) => (NEGL ...)
(Neg32F x) => (PXOR x (MOVSSconst <typ.Float32> [float32(math.Copysign(0, -1))]))
(Neg64F x) => (PXOR x (MOVSDconst <typ.Float64> [math.Copysign(0, -1)]))

(Com(32|16|8) ...) => (NOTL ...)

// Lowering boolean ops
(AndB ...) => (ANDL ...)
(OrB ...) => (ORL ...)
(Not x) => (XORLconst [1] x)

// Lowering pointer arithmetic
(OffPtr [off] ptr) => (ADDLconst [int32(off)] ptr)

(Bswap32 ...) => (BSWAPL ...)

(Sqrt ...) => (SQRTSD ...)
(Sqrt32 ...) => (SQRTSS ...)

(Ctz16 x) => (BSFL (ORLconst <typ.UInt32> [0x10000] x))
(Ctz16NonZero ...) => (BSFL ...)

// Lowering extension
(SignExt8to16  ...) => (MOVBLSX ...)
(SignExt8to32  ...) => (MOVBLSX
 ...)
(SignExt16to32 ...) => (MOVWLSX ...)

(ZeroExt8to16  ...) => (MOVBLZX ...)
(ZeroExt8to32  ...) => (MOVBLZX ...)
(ZeroExt16to32 ...) => (MOVWLZX ...)

(Signmask x) => (SARLconst x [31])
(Zeromask <t> x) => (XORLconst [-1] (SBBLcarrymask <t> (CMPLconst x [1])))
(Slicemask <t> x) => (SARLconst (NEGL <t> x) [31])
```

```
// Lowering truncation
// Because we ignore high parts of registers, truncates are just copies.
(Trunc16to8  ...) => (Copy ...)
(Trunc32to8  ...) => (Copy ...)
(Trunc32to16 ...) => (Copy ...)

// Lowering float-int conversions
(Cvt32to32F ...) => (CVTSL2SS ...)
(Cvt32to64F ...) => (CVTSL2SD ...)

(Cvt32Fto32 ...) => (CVTTSS2SL ...)
(Cvt64Fto32 ...) => (CVTTSD2SL ...)

(Cvt32Fto64F ...) => (CVTSS2SD ...)
(Cvt64Fto32F ...) => (CVTSD2SS ...)

(Round32F ...) => (Copy ...)
(Round64F ...) => (Copy ...)

(CvtBoolToUint8 ...) => (Copy ...)

// Lowering shifts
// Unsigned shifts need to return 0 if shift amount is >= width of shifted value.
//   result = (arg << shift) & (shift
 >= argbits ? 0 : 0xffffffffffffffff)
(Lsh32x(32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHLL <t> x y) (SBBLcarrymask <t>
(CMP(L|W|B)const y [32])))
(Lsh16x(32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHLL <t> x y) (SBBLcarrymask <t>
(CMP(L|W|B)const y [32])))
(Lsh8x(32|16|8)  <t> x y) && !shiftIsBounded(v) => (ANDL (SHLL <t> x y) (SBBLcarrymask <t>
(CMP(L|W|B)const y [32])))

(Lsh32x(32|16|8) <t> x y) && shiftIsBounded(v) => (SHLL <t> x y)
(Lsh16x(32|16|8) <t> x y) && shiftIsBounded(v) => (SHLL <t> x y)
(Lsh8x(32|16|8)  <t> x y) && shiftIsBounded(v) => (SHLL <t> x y)

(Rsh32Ux(32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHRL <t> x y) (SBBLcarrymask <t>
(CMP(L|W|B)const y [32])))
(Rsh16Ux(32|16|8) <t> x y) && !shiftIsBounded(v) => (ANDL (SHRW <t> x y) (SBBLcarrymask <t>
(CMP(L|W|B)const y [16])))
(Rsh8Ux(32|16|8)  <t> x y) && !shiftIsBounded(v) => (ANDL (SHRB <t> x y) (SBBLcarrymask <t>
(CMP(L|W|B)const y [8])))

(Rsh32Ux(32|16|8) <t> x y) && shiftIsBounded(v) => (SHRL
 <t> x y)
(Rsh16Ux(32|16|8) <t> x y) && shiftIsBounded(v) => (SHRW <t> x y)
(Rsh8Ux(32|16|8)  <t> x y) && shiftIsBounded(v) => (SHRB <t> x y)
```

```
// Signed right shift needs to return 0/-1 if shift amount is >= width of shifted value.
// We implement this by setting the shift value to -1 (all ones) if the shift value is >= width.

(Rsh32x(32|16|8) <t> x y) && !shiftIsBounded(v) => (SARL <t> x (ORL <y.Type> y (NOTL <y.Type>
(SBBLcarrymask <y.Type> (CMP(L|W|B)const y [32]))))
(Rsh16x(32|16|8) <t> x y) && !shiftIsBounded(v) => (SARW <t> x (ORL <y.Type> y (NOTL <y.Type>
(SBBLcarrymask <y.Type> (CMP(L|W|B)const y [16]))))
(Rsh8x(32|16|8) <t> x y)  && !shiftIsBounded(v) => (SARB <t> x (ORL <y.Type> y (NOTL <y.Type>
(SBBLcarrymask <y.Type> (CMP(L|W|B)const y [8]))))

(Rsh32x(32|16|8) <t> x y) && shiftIsBounded(v) => (SARL x y)
(Rsh16x(32|16|8) <t> x y) && shiftIsBounded(v) => (SARW x y)
(Rsh8x(32|16|8) <t> x y)  && shiftIsBounded(v) => (SARB x y)

// constant shifts
// generic opt rewrites all
 constant shifts to shift by Const64
(Lsh32x64 x (Const64 [c])) && uint64(c) < 32 => (SHLLconst x [int32(c)])
(Rsh32x64 x (Const64 [c])) && uint64(c) < 32 => (SARLconst x [int32(c)])
(Rsh32Ux64 x (Const64 [c])) && uint64(c) < 32 => (SHRLconst x [int32(c)])
(Lsh16x64 x (Const64 [c])) && uint64(c) < 16 => (SHLLconst x [int32(c)])
(Rsh16x64 x (Const64 [c])) && uint64(c) < 16 => (SARWconst x [int16(c)])
(Rsh16Ux64 x (Const64 [c])) && uint64(c) < 16 => (SHRWconst x [int16(c)])
(Lsh8x64 x (Const64 [c])) && uint64(c) < 8 => (SHLLconst x [int32(c)])
(Rsh8x64 x (Const64 [c])) && uint64(c) < 8 => (SARBconst x [int8(c)])
(Rsh8Ux64 x (Const64 [c])) && uint64(c) < 8 => (SHRBconst x [int8(c)])

// large constant shifts
(Lsh32x64 _ (Const64 [c])) && uint64(c) >= 32 => (Const32 [0])
(Rsh32Ux64 _ (Const64 [c])) && uint64(c) >= 32 => (Const32 [0])
(Lsh16x64 _ (Const64 [c])) && uint64(c) >= 16 => (Const16 [0])
(Rsh16Ux64 _ (Const64 [c])) && uint64(c) >= 16 => (Const16 [0])
(Lsh8x64 _ (Const64 [c])) &&
 uint64(c) >= 8 => (Const8 [0])
(Rsh8Ux64 _ (Const64 [c])) && uint64(c) >= 8 => (Const8 [0])

// large constant signed right shift, we leave the sign bit
(Rsh32x64 x (Const64 [c])) && uint64(c) >= 32 => (SARLconst x [31])
(Rsh16x64 x (Const64 [c])) && uint64(c) >= 16 => (SARWconst x [15])
(Rsh8x64 x (Const64 [c])) && uint64(c) >= 8 => (SARBconst x [7])

// constant rotates
(RotateLeft32 x (MOVLconst [c])) => (ROLLconst [c&31] x)
(RotateLeft16 x (MOVLconst [c])) => (ROLWconst [int16(c&15)] x)
(RotateLeft8 x (MOVLconst [c]))  => (ROLBconst [int8(c&7)] x)

// Lowering comparisons
(Less32  x y) => (SETL (CMPL x y))
```

```
(Less16  x y) => (SETL (CMPW x y))
(Less8   x y) => (SETL (CMPB x y))
(Less32U x y) => (SETB (CMPL x y))
(Less16U x y) => (SETB (CMPW x y))
(Less8U  x y) => (SETB (CMPB x y))
// Use SETGF with reversed operands to dodge NaN case
(Less64F x y) => (SETGF (UCOMISD y x))
(Less32F x y) => (SETGF (UCOMISS y x))

(Leq32  x y) => (SETLE (CMPL x y))
(Leq16  x y) => (SETLE (CMPW x y))
(Leq8
  x y) => (SETLE (CMPB x y))
(Leq32U x y) => (SETBE (CMPL x y))
(Leq16U x y) => (SETBE (CMPW x y))
(Leq8U  x y) => (SETBE (CMPB x y))
// Use SETGEF with reversed operands to dodge NaN case
(Leq64F x y) => (SETGEF (UCOMISD y x))
(Leq32F x y) => (SETGEF (UCOMISS y x))

(Eq32  x y) => (SETEQ (CMPL x y))
(Eq16  x y) => (SETEQ (CMPW x y))
(Eq8   x y) => (SETEQ (CMPB x y))
(EqB   x y) => (SETEQ (CMPB x y))
(EqPtr x y) => (SETEQ (CMPL x y))
(Eq64F x y) => (SETEQF (UCOMISD x y))
(Eq32F x y) => (SETEQF (UCOMISS x y))

(Neq32  x y) => (SETNE (CMPL x y))
(Neq16  x y) => (SETNE (CMPW x y))
(Neq8   x y) => (SETNE (CMPB x y))
(NeqB   x y) => (SETNE (CMPB x y))
(NeqPtr x y) => (SETNE (CMPL x y))
(Neq64F x y) => (SETNEF (UCOMISD x y))
(Neq32F x y) => (SETNEF (UCOMISS x y))

// Lowering loads
(Load <t> ptr mem) && (is32BitInt(t) || isPtr(t)) => (MOVLload ptr mem)
(Load <t> ptr mem) && is16BitInt(t) => (MOVWload ptr mem)
(Load <t> ptr mem) && (t.IsBoolean() || is8BitInt(t)) => (MOVBload ptr mem)
(Load
 <t> ptr mem) && is32BitFloat(t) => (MOVSSload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (MOVSDload ptr mem)

// Lowering stores
// These more-specific FP versions of Store pattern should come first.
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (MOVSDstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && is32BitFloat(val.Type) => (MOVSSstore ptr val mem)
```

```
(Store {t} ptr val mem) && t.Size() == 4 => (MOVLstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)

// Lowering moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBload src mem) mem)
(Move [2] dst src mem) => (MOVWstore dst (MOVWload src mem) mem)
(Move [4] dst src mem) => (MOVLstore dst (MOVLload src mem) mem)
(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBload [2] src mem)
  (MOVWstore dst (MOVWload src mem) mem))
(Move [5] dst src mem) =>
 (MOVBstore [4] dst
 (MOVBload [4] src mem)
  (MOVLstore dst (MOVLload src mem) mem))
(Move [6] dst src mem) =>
 (MOVWstore [4] dst (MOVWload [4] src mem)
  (MOVLstore dst (MOVLload src mem) mem))
(Move [7] dst src mem) =>
 (MOVLstore [3] dst (MOVLload [3] src mem)
  (MOVLstore dst (MOVLload src mem) mem))
(Move [8] dst src mem) =>
 (MOVLstore [4] dst (MOVLload [4] src mem)
  (MOVLstore dst (MOVLload src mem) mem))

// Adjust moves to be a multiple of 4 bytes.
(Move [s] dst src mem)
 && s > 8 && s%4 != 0 =>
 (Move [s-s%4]
  (ADDLconst <dst.Type> dst [int32(s%4)])
  (ADDLconst <src.Type> src [int32(s%4)])
  (MOVLstore dst (MOVLload src mem) mem))

// Medium copying uses a duff device.
(Move [s] dst src mem)
 && s > 8 && s <= 4*128 && s%4 == 0
 && !config.noDuffDevice && logLargeCopy(v, s) =>
 (DUFFCOPY [10*(128-s/4)] dst src mem)
// 10 and 128 are magic constants.  10 is the number of bytes to encode:
// MOVL (SI), CX
// ADDL $4, SI
// MOVL CX, (DI)
// ADDL $4, DI
// and 128 is the number of such blocks. See
 src/runtime/duff_386.s:duffcopy.
```

```
// Large copying uses REP MOVSL.
(Move [s] dst src mem) && (s > 4*128 || config.noDuffDevice) && s%4 == 0 && logLargeCopy(v, s) =>
 (REPMOVSL dst src (MOVLconst [int32(s/4)]) mem)

// Lowering Zero instructions
(Zero [0] _ mem) => mem
(Zero [1] destptr mem) => (MOVBstoreconst [0] destptr mem)
(Zero [2] destptr mem) => (MOVWstoreconst [0] destptr mem)
(Zero [4] destptr mem) => (MOVLstoreconst [0] destptr mem)

(Zero [3] destptr mem) =>
 (MOVBstoreconst [makeValAndOff(0,2)] destptr
  (MOVWstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [5] destptr mem) =>
 (MOVBstoreconst [makeValAndOff(0,4)] destptr
  (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [6] destptr mem) =>
 (MOVWstoreconst [makeValAndOff(0,4)] destptr
  (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [7] destptr mem) =>
 (MOVLstoreconst [makeValAndOff(0,3)] destptr
  (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))

// Strip off any fractional word zeroing.
(Zero [s]
 destptr mem) && s%4 != 0 && s > 4 =>
 (Zero [s-s%4] (ADDLconst destptr [int32(s%4)])
  (MOVLstoreconst [0] destptr mem))

// Zero small numbers of words directly.
(Zero [8] destptr mem) =>
 (MOVLstoreconst [makeValAndOff(0,4)] destptr
  (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))
(Zero [12] destptr mem) =>
 (MOVLstoreconst [makeValAndOff(0,8)] destptr
  (MOVLstoreconst [makeValAndOff(0,4)] destptr
   (MOVLstoreconst [makeValAndOff(0,0)] destptr mem)))
(Zero [16] destptr mem) =>
 (MOVLstoreconst [makeValAndOff(0,12)] destptr
  (MOVLstoreconst [makeValAndOff(0,8)] destptr
   (MOVLstoreconst [makeValAndOff(0,4)] destptr
    (MOVLstoreconst [makeValAndOff(0,0)] destptr mem))))

// Medium zeroing uses a duff device.
(Zero [s] destptr mem)
 && s > 16 && s <= 4*128 && s%4 == 0
 && !config.noDuffDevice =>
 (DUFFZERO [1*(128-s/4)] destptr (MOVLconst [0]) mem)
```

```
// 1 and 128 are magic constants.  1 is the number of bytes to encode STOSL.
// 128 is the number of STOSL instructions in duffzero.
//
 See src/runtime/duff_386.s:duffzero.

// Large zeroing uses REP STOSQ.
(Zero [s] destptr mem)
 && (s > 4*128 || (config.noDuffDevice && s > 16))
 && s%4 == 0 =>
 (REPSTOSL destptr (MOVLconst [int32(s/4)]) (MOVLconst [0]) mem)


// Lowering constants
(Const8   [c]) => (MOVLconst [int32(c)])
(Const16  [c]) => (MOVLconst [int32(c)])
(Const32  ...) => (MOVLconst ...)
(Const(32|64)F ...) => (MOVS(S|D)const ...)
(ConstNil) => (MOVLconst [0])
(ConstBool [c]) => (MOVLconst [b2i32(c)])

// Lowering calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall ...) => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// Miscellaneous
(IsNonNil p) => (SETNE (TESTL p p))
(IsInBounds idx len) => (SETB (CMPL idx len))
(IsSliceInBounds idx len) => (SETBE (CMPL idx len))
(NilCheck ...) => (LoweredNilCheck ...)
(GetG ...) => (LoweredGetG ...)
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)
(GetCallerSP ...) => (LoweredGetCallerSP
 ...)
(Addr {sym} base) => (LEAL {sym} base)
(LocalAddr {sym} base _) => (LEAL {sym} base)

// block rewrites
(If (SETL  cmp) yes no) => (LT  cmp yes no)
(If (SETLE cmp) yes no) => (LE  cmp yes no)
(If (SETG  cmp) yes no) => (GT  cmp yes no)
(If (SETGE cmp) yes no) => (GE  cmp yes no)
(If (SETEQ cmp) yes no) => (EQ  cmp yes no)
(If (SETNE cmp) yes no) => (NE  cmp yes no)
(If (SETB  cmp) yes no) => (ULT cmp yes no)
(If (SETBE cmp) yes no) => (ULE cmp yes no)
```

```
(If (SETA  cmp) yes no) => (UGT cmp yes no)
(If (SETAE cmp) yes no) => (UGE cmp yes no)
(If (SETO  cmp) yes no) => (OS cmp yes no)

// Special case for floating point - LF/LEF not generated
(If (SETGF  cmp) yes no) => (UGT  cmp yes no)
(If (SETGEF cmp) yes no) => (UGE  cmp yes no)
(If (SETEQF cmp) yes no) => (EQF  cmp yes no)
(If (SETNEF cmp) yes no) => (NEF  cmp yes no)

(If cond yes no) => (NE (TESTB cond cond) yes no)

// Write barrier.
(WB ...) => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind)
 == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 0 => (LoweredPanicExtendA [kind] hi lo y mem)
(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 1 => (LoweredPanicExtendB [kind] hi lo y mem)
(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 2 => (LoweredPanicExtendC [kind] hi lo y mem)

// **************************
// Above: lowering rules
// Below: optimizations
// **************************
// TODO: Should the optimizations be a separate pass?

// Fold boolean tests into blocks
(NE (TESTB (SETL  cmp) (SETL  cmp)) yes no) => (LT  cmp yes no)
(NE (TESTB (SETLE cmp) (SETLE cmp)) yes no) => (LE  cmp yes no)
(NE (TESTB (SETG  cmp) (SETG  cmp)) yes no) => (GT  cmp yes no)
(NE (TESTB (SETGE cmp) (SETGE cmp)) yes no) => (GE  cmp yes no)
(NE (TESTB
 (SETEQ cmp) (SETEQ cmp)) yes no) => (EQ  cmp yes no)
(NE (TESTB (SETNE cmp) (SETNE cmp)) yes no) => (NE  cmp yes no)
(NE (TESTB (SETB  cmp) (SETB  cmp)) yes no) => (ULT cmp yes no)
(NE (TESTB (SETBE cmp) (SETBE cmp)) yes no) => (ULE cmp yes no)
(NE (TESTB (SETA  cmp) (SETA  cmp)) yes no) => (UGT cmp yes no)
(NE (TESTB (SETAE cmp) (SETAE cmp)) yes no) => (UGE cmp yes no)
(NE (TESTB (SETO cmp) (SETO cmp)) yes no) => (OS cmp yes no)

// Special case for floating point - LF/LEF not generated
(NE (TESTB (SETGF  cmp) (SETGF  cmp)) yes no) => (UGT  cmp yes no)
(NE (TESTB (SETGEF cmp) (SETGEF cmp)) yes no) => (UGE  cmp yes no)
(NE (TESTB (SETEQF cmp) (SETEQF cmp)) yes no) => (EQF  cmp yes no)
```

```
(NE (TESTB (SETNEF cmp) (SETNEF cmp)) yes no) => (NEF  cmp yes no)

// fold constants into instructions
(ADDL x (MOVLconst [c])) => (ADDLconst [c] x)
(ADDLcarry x (MOVLconst [c])) => (ADDLconstcarry [c] x)
(ADCL x (MOVLconst [c]) f) => (ADCLconst [c] x f)

(SUBL x (MOVLconst [c])) => (SUBLconst x [c])
(SUBL
 (MOVLconst [c]) x) => (NEGL (SUBLconst <v.Type> x [c]))
(SUBLcarry x (MOVLconst [c])) => (SUBLconstcarry [c] x)
(SBBL x (MOVLconst [c]) f) => (SBBLconst [c] x f)

(MULL x (MOVLconst [c])) => (MULLconst [c] x)
(ANDL x (MOVLconst [c])) => (ANDLconst [c] x)

(ANDLconst [c] (ANDLconst [d] x)) => (ANDLconst [c & d] x)
(XORLconst [c] (XORLconst [d] x)) => (XORLconst [c ^ d] x)
(MULLconst [c] (MULLconst [d] x)) => (MULLconst [c * d] x)

(ORL x (MOVLconst [c])) => (ORLconst [c] x)
(XORL x (MOVLconst [c])) => (XORLconst [c] x)

(SHLL x (MOVLconst [c])) => (SHLLconst [c&31] x)
(SHRL x (MOVLconst [c])) => (SHRLconst [c&31] x)
(SHRW x (MOVLconst [c])) && c&31 < 16 => (SHRWconst [int16(c&31)] x)
(SHRW _ (MOVLconst [c])) && c&31 >= 16 => (MOVLconst [0])
(SHRB x (MOVLconst [c])) && c&31 < 8 => (SHRBconst [int8(c&31)] x)
(SHRB _ (MOVLconst [c])) && c&31 >= 8 => (MOVLconst [0])

(SARL x (MOVLconst [c])) => (SARLconst [c&31] x)
(SARW x (MOVLconst [c])) => (SARWconst [int16(min(int64(c&31),15))] x)
(SARB
 x (MOVLconst [c])) => (SARBconst [int8(min(int64(c&31),7))] x)

(SARL x (ANDLconst [31] y)) => (SARL x y)
(SHLL x (ANDLconst [31] y)) => (SHLL x y)
(SHRL x (ANDLconst [31] y)) => (SHRL x y)

// Rotate instructions

(ADDL (SHLLconst [c] x) (SHRLconst [d] x)) && d == 32-c => (ROLLconst [c] x)
( ORL (SHLLconst [c] x) (SHRLconst [d] x)) && d == 32-c => (ROLLconst [c] x)
(XORL (SHLLconst [c] x) (SHRLconst [d] x)) && d == 32-c => (ROLLconst [c] x)

(ADDL <t> (SHLLconst x [c]) (SHRWconst x [d])) && c < 16 && d == int16(16-c) && t.Size() == 2
 => (ROLWconst x [int16(c)])
( ORL <t> (SHLLconst x [c]) (SHRWconst x [d])) && c < 16 && d == int16(16-c) && t.Size() == 2
```

```
 => (ROLWconst x [int16(c)])
(XORL <t> (SHLLconst x [c]) (SHRWconst x [d])) && c < 16 && d == int16(16-c) && t.Size() == 2
 => (ROLWconst x [int16(c)])

(ADDL <t> (SHLLconst x [c]) (SHRBconst x [d])) && c < 8 && d == int8(8-c) && t.Size() == 1
 => (ROLBconst x [int8(c)])
( ORL <t> (SHLLconst x [c]) (SHRBconst x [d])) && c <
 8 && d == int8(8-c) && t.Size() == 1
 => (ROLBconst x [int8(c)])
(XORL <t> (SHLLconst x [c]) (SHRBconst x [d])) && c < 8 && d == int8(8-c) && t.Size() == 1
 => (ROLBconst x [int8(c)])

(ROLLconst [c] (ROLLconst [d] x)) => (ROLLconst [(c+d)&31] x)
(ROLWconst [c] (ROLWconst [d] x)) => (ROLWconst [(c+d)&15] x)
(ROLBconst [c] (ROLBconst [d] x)) => (ROLBconst [(c+d)& 7] x)


// Constant shift simplifications

(SHLLconst x [0]) => x
(SHRLconst x [0]) => x
(SARLconst x [0]) => x

(SHRWconst x [0]) => x
(SARWconst x [0]) => x

(SHRBconst x [0]) => x
(SARBconst x [0]) => x

(ROLLconst [0] x) => x
(ROLWconst [0] x) => x
(ROLBconst [0] x) => x

// Note: the word and byte shifts keep the low 5 bits (not the low 4 or 3 bits)
// because the x86 instructions are defined to use all 5 bits of the shift even
// for the small shifts. I don't think we'll ever generate a weird shift (e.g.
// (SHRW x (MOVLconst [24])), but just in case.

(CMPL x (MOVLconst [c])) => (CMPLconst x [c])
(CMPL (MOVLconst [c])
 x) => (InvertFlags (CMPLconst x [c]))
(CMPW x (MOVLconst [c])) => (CMPWconst x [int16(c)])
(CMPW (MOVLconst [c]) x) => (InvertFlags (CMPWconst x [int16(c)]))
(CMPB x (MOVLconst [c])) => (CMPBconst x [int8(c)])
(CMPB (MOVLconst [c]) x) => (InvertFlags (CMPBconst x [int8(c)]))

// Canonicalize the order of arguments to comparisons - helps with CSE.
(CMP(L|W|B) x y) && canonLessThan(x,y) => (InvertFlags (CMP(L|W|B) y x))
```

```
// strength reduction
// Assumes that the following costs from https://gmplib.org/~tege/x86-timing.pdf:
//    1 - addl, shll, leal, negl, subl
//    3 - imull
// This limits the rewrites to two instructions.
// Note that negl always operates in-place,
// which can require a register-register move
// to preserve the original value,
// so it must be used with care.
(MULLconst [-9] x) => (NEGL (LEAL8 <v.Type> x x))
(MULLconst [-5] x) => (NEGL (LEAL4 <v.Type> x x))
(MULLconst [-3] x) => (NEGL (LEAL2 <v.Type> x x))
(MULLconst [-1] x) => (NEGL x)
(MULLconst [0] _) => (MOVLconst
 [0])
(MULLconst [1] x) => x
(MULLconst [3] x) => (LEAL2 x x)
(MULLconst [5] x) => (LEAL4 x x)
(MULLconst [7] x) => (LEAL2 x (LEAL2 <v.Type> x x))
(MULLconst [9] x) => (LEAL8 x x)
(MULLconst [11] x) => (LEAL2 x (LEAL4 <v.Type> x x))
(MULLconst [13] x) => (LEAL4 x (LEAL2 <v.Type> x x))
(MULLconst [19] x) => (LEAL2 x (LEAL8 <v.Type> x x))
(MULLconst [21] x) => (LEAL4 x (LEAL4 <v.Type> x x))
(MULLconst [25] x) => (LEAL8 x (LEAL2 <v.Type> x x))
(MULLconst [27] x) => (LEAL8 (LEAL2 <v.Type> x x) (LEAL2 <v.Type> x x))
(MULLconst [37] x) => (LEAL4 x (LEAL8 <v.Type> x x))
(MULLconst [41] x) => (LEAL8 x (LEAL4 <v.Type> x x))
(MULLconst [45] x) => (LEAL8 (LEAL4 <v.Type> x x) (LEAL4 <v.Type> x x))
(MULLconst [73] x) => (LEAL8 x (LEAL8 <v.Type> x x))
(MULLconst [81] x) => (LEAL8 (LEAL8 <v.Type> x x) (LEAL8 <v.Type> x x))

(MULLconst [c] x) && isPowerOfTwo32(c+1) && c >= 15 => (SUBL (SHLLconst <v.Type> [int32(log32(c+1))]
x) x)
(MULLconst [c] x) && isPowerOfTwo32(c-1) && c >= 17 => (LEAL1 (SHLLconst
 <v.Type> [int32(log32(c-1))] x) x)
(MULLconst [c] x) && isPowerOfTwo32(c-2) && c >= 34 => (LEAL2 (SHLLconst <v.Type> [int32(log32(c-2))]
x) x)
(MULLconst [c] x) && isPowerOfTwo32(c-4) && c >= 68 => (LEAL4 (SHLLconst <v.Type> [int32(log32(c-4))]
x) x)
(MULLconst [c] x) && isPowerOfTwo32(c-8) && c >= 136 => (LEAL8 (SHLLconst <v.Type> [int32(log32(c-8))]
x) x)
(MULLconst [c] x) && c%3 == 0 && isPowerOfTwo32(c/3) => (SHLLconst [int32(log32(c/3))] (LEAL2
<v.Type> x x))
(MULLconst [c] x) && c%5 == 0 && isPowerOfTwo32(c/5) => (SHLLconst [int32(log32(c/5))] (LEAL4
<v.Type> x x))
(MULLconst [c] x) && c%9 == 0 && isPowerOfTwo32(c/9) => (SHLLconst [int32(log32(c/9))] (LEAL8
```

<v.Type> x x))

// combine add/shift into LEAL
(ADDL x (SHLLconst [3] y)) => (LEAL8 x y)
(ADDL x (SHLLconst [2] y)) => (LEAL4 x y)
(ADDL x (SHLLconst [1] y)) => (LEAL2 x y)
(ADDL x (ADDL y y)) => (LEAL2 x y)
(ADDL x (ADDL x y)) => (LEAL2 y x)

// combine ADDL/ADDLconst into LEAL1
(ADDLconst [c] (ADDL x y)) => (LEAL1 [c] x y)
(ADDL
 (ADDLconst [c] x) y) => (LEAL1 [c] x y)

// fold ADDL into LEAL
(ADDLconst [c] (LEAL [d] {s} x)) && is32Bit(int64(c)+int64(d)) => (LEAL [c+d] {s} x)
(LEAL [c] {s} (ADDLconst [d] x)) && is32Bit(int64(c)+int64(d)) => (LEAL [c+d] {s} x)
(ADDLconst [c] x:(SP)) => (LEAL [c] x) // so it is rematerializeable
(LEAL [c] {s} (ADDL x y)) && x.Op != OpSB && y.Op != OpSB => (LEAL1 [c] {s} x y)
(ADDL x (LEAL [c] {s} y)) && x.Op != OpSB && y.Op != OpSB => (LEAL1 [c] {s} x y)

// fold ADDLconst into LEALx
(ADDLconst [c] (LEAL1 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEAL1 [c+d] {s} x y)
(ADDLconst [c] (LEAL2 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEAL2 [c+d] {s} x y)
(ADDLconst [c] (LEAL4 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEAL4 [c+d] {s} x y)
(ADDLconst [c] (LEAL8 [d] {s} x y)) && is32Bit(int64(c)+int64(d)) => (LEAL8 [c+d] {s} x y)
(LEAL1 [c] {s} (ADDLconst [d] x) y) && is32Bit(int64(c)+int64(d)) && x.Op != OpSB => (LEAL1 [c+d] {s} x y)
(LEAL2 [c] {s} (ADDLconst
 [d] x) y) && is32Bit(int64(c)+int64(d)) && x.Op != OpSB => (LEAL2 [c+d] {s} x y)
(LEAL2 [c] {s} x (ADDLconst [d] y)) && is32Bit(int64(c)+2*int64(d)) && y.Op != OpSB => (LEAL2 [c+2*d] {s} x y)
(LEAL4 [c] {s} (ADDLconst [d] x) y) && is32Bit(int64(c)+int64(d)) && x.Op != OpSB => (LEAL4 [c+d] {s} x y)
(LEAL4 [c] {s} x (ADDLconst [d] y)) && is32Bit(int64(c)+4*int64(d)) && y.Op != OpSB => (LEAL4 [c+4*d] {s} x y)
(LEAL8 [c] {s} (ADDLconst [d] x) y) && is32Bit(int64(c)+int64(d)) && x.Op != OpSB => (LEAL8 [c+d] {s} x y)
(LEAL8 [c] {s} x (ADDLconst [d] y)) && is32Bit(int64(c)+8*int64(d)) && y.Op != OpSB => (LEAL8 [c+8*d] {s} x y)

// fold shifts into LEALx
(LEAL1 [c] {s} x (SHLLconst [1] y)) => (LEAL2 [c] {s} x y)
(LEAL1 [c] {s} x (SHLLconst [2] y)) => (LEAL4 [c] {s} x y)
(LEAL1 [c] {s} x (SHLLconst [3] y)) => (LEAL8 [c] {s} x y)
(LEAL2 [c] {s} x (SHLLconst [1] y)) => (LEAL4 [c] {s} x y)
(LEAL2 [c] {s} x (SHLLconst [2] y)) => (LEAL8 [c] {s} x y)
(LEAL4 [c] {s} x (SHLLconst [1] y)) => (LEAL8

```
 [c] {s} x y)

// reverse ordering of compare instruction
(SETL (InvertFlags x)) => (SETG x)
(SETG (InvertFlags x)) => (SETL x)
(SETB (InvertFlags x)) => (SETA x)
(SETA (InvertFlags x)) => (SETB x)
(SETLE (InvertFlags x)) => (SETGE x)
(SETGE (InvertFlags x)) => (SETLE x)
(SETBE (InvertFlags x)) => (SETAE x)
(SETAE (InvertFlags x)) => (SETBE x)
(SETEQ (InvertFlags x)) => (SETEQ x)
(SETNE (InvertFlags x)) => (SETNE x)

// sign extended loads
// Note: The combined instruction must end up in the same block
// as the original load. If not, we end up making a value with
// memory type live in two different blocks, which can lead to
// multiple memory values alive simultaneously.
// Make sure we don't combine these ops if the load has another use.
// This prevents a single load from being split into multiple loads
// which then might return different values.  See test/atomicload.go.
(MOVBLSX x:(MOVBload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBLSXload
<v.Type> [off]
 {sym} ptr mem)
(MOVBLZX x:(MOVBload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBload
<v.Type> [off] {sym} ptr mem)
(MOVWLSX x:(MOVWload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVWLSXload <v.Type> [off] {sym} ptr mem)
(MOVWLZX x:(MOVWload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVWload
<v.Type> [off] {sym} ptr mem)

// replace load from same location as preceding store with zero/sign extension (or copy in case of full width)
(MOVBload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVBLZX x)
(MOVWload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVWLZX x)
(MOVLload [off] {sym} ptr (MOVLstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x
(MOVBLSXload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr,
 ptr2) => (MOVBLSX x)
(MOVWLSXload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVWLSX x)

// Fold extensions and ANDs together.
(MOVBLZX (ANDLconst [c] x)) => (ANDLconst [c & 0xff] x)
(MOVWLZX (ANDLconst [c] x)) => (ANDLconst [c & 0xffff] x)
```

```
(MOVBLSX (ANDLconst [c] x)) && c & 0x80 == 0 => (ANDLconst [c & 0x7f] x)
(MOVWLSX (ANDLconst [c] x)) && c & 0x8000 == 0 => (ANDLconst [c & 0x7fff] x)

// Don't extend before storing
(MOVWstore [off] {sym} ptr (MOVWL(S|Z)X x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBL(S|Z)X x) mem) => (MOVBstore [off] {sym} ptr x mem)

// fold constants into memory operations
// Note that this is not always a good idea because if not all the uses of
// the ADDLconst get eliminated, we still have to compute the ADDLconst and we now
// have potentially two live values (ptr and (ADDLconst [off] ptr)) instead of one.
// Nevertheless, let's do it!
(MOV(L|W|B|SS|SD)load  [off1]
 {sym} (ADDLconst [off2] ptr) mem) && is32Bit(int64(off1)+int64(off2)) =>
   (MOV(L|W|B|SS|SD)load  [off1+off2] {sym} ptr mem)
(MOV(L|W|B|SS|SD)store  [off1] {sym} (ADDLconst [off2] ptr) val mem) && is32Bit(int64(off1)+int64(off2)) =>
   (MOV(L|W|B|SS|SD)store  [off1+off2] {sym} ptr val mem)

((ADD|SUB|MUL|AND|OR|XOR)Lload [off1] {sym} val (ADDLconst [off2] base) mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|MUL|AND|OR|XOR)Lload [off1+off2] {sym} val base mem)
((ADD|SUB|MUL|DIV)SSload [off1] {sym} val (ADDLconst [off2] base) mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|MUL|DIV)SSload [off1+off2] {sym} val base mem)
((ADD|SUB|MUL|DIV)SDload [off1] {sym} val (ADDLconst [off2] base) mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|MUL|DIV)SDload [off1+off2] {sym} val base mem)
((ADD|SUB|AND|OR|XOR)Lmodify [off1] {sym} (ADDLconst [off2] base) val mem) &&
is32Bit(int64(off1)+int64(off2)) =>
 ((ADD|SUB|AND|OR|XOR)Lmodify [off1+off2] {sym} base val mem)
((ADD|AND|OR|XOR)Lconstmodify
 [valoff1] {sym} (ADDLconst [off2] base) mem) && valoff1.canAdd32(off2) =>
 ((ADD|AND|OR|XOR)Lconstmodify [valoff1.addOffset32(off2)] {sym} base mem)

// Fold constants into stores.
(MOVLstore [off] {sym} ptr (MOVLconst [c]) mem) =>
 (MOVLstoreconst [makeValAndOff(c,off)] {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOVLconst [c]) mem) =>
 (MOVWstoreconst [makeValAndOff(c,off)] {sym} ptr mem)
(MOVBstore [off] {sym} ptr (MOVLconst [c]) mem) =>
 (MOVBstoreconst [makeValAndOff(c,off)] {sym} ptr mem)

// Fold address offsets into constant stores.
(MOV(L|W|B)storeconst [sc] {s} (ADDLconst [off] ptr) mem) && sc.canAdd32(off) =>
 (MOV(L|W|B)storeconst [sc.addOffset32(off)] {s} ptr mem)

// We need to fold LEAL into the MOVx ops so that the live variable analysis knows
// what variables are being read/written by the ops.
```

```
// Note: we turn off this merging for operations on globals when building
// position-independent code (when Flag_shared is set).
// PIC needs a spare register
 to load the PC into.  Having the LEAL be
// a separate instruction gives us that register.  Having the LEAL be
// a separate instruction also allows it to be CSEd (which is good because
// it compiles to a thunk call).
(MOV(L|W|B|SS|SD|BLSX|WLSX)load  [off1] {sym1} (LEAL [off2] {sym2} base) mem) &&
is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2)
 && (base.Op != OpSB || !config.ctxt.Flag_shared) =>
     (MOV(L|W|B|SS|SD|BLSX|WLSX)load  [off1+off2] {mergeSym(sym1,sym2)} base mem)

(MOV(L|W|B|SS|SD)store  [off1] {sym1} (LEAL [off2] {sym2} base) val mem) &&
is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2)
 && (base.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOV(L|W|B|SS|SD)store  [off1+off2] {mergeSym(sym1,sym2)} base val mem)

(MOV(L|W|B)storeconst [sc] {sym1} (LEAL [off] {sym2} ptr) mem) && canMergeSym(sym1, sym2) &&
sc.canAdd32(off)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOV(L|W|B)storeconst [sc.addOffset32(off)] {mergeSym(sym1, sym2)}
 ptr mem)

((ADD|SUB|MUL|AND|OR|XOR)Lload [off1] {sym1} val (LEAL [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) && (base.Op != OpSB ||
!config.ctxt.Flag_shared) =>
 ((ADD|SUB|MUL|AND|OR|XOR)Lload [off1+off2] {mergeSym(sym1,sym2)} val base mem)
((ADD|SUB|MUL|DIV)SSload [off1] {sym1} val (LEAL [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) && (base.Op != OpSB ||
!config.ctxt.Flag_shared) =>
 ((ADD|SUB|MUL|DIV)SSload [off1+off2] {mergeSym(sym1,sym2)} val base mem)
((ADD|SUB|MUL|DIV)SDload [off1] {sym1} val (LEAL [off2] {sym2} base) mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) && (base.Op != OpSB ||
!config.ctxt.Flag_shared) =>
 ((ADD|SUB|MUL|DIV)SDload [off1+off2] {mergeSym(sym1,sym2)} val base mem)
((ADD|SUB|AND|OR|XOR)Lmodify [off1] {sym1} (LEAL [off2] {sym2} base) val mem)
 && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) && (base.Op != OpSB ||
!config.ctxt.Flag_shared)
 =>
 ((ADD|SUB|AND|OR|XOR)Lmodify [off1+off2] {mergeSym(sym1,sym2)} base val mem)
((ADD|AND|OR|XOR)Lconstmodify [valoff1] {sym1} (LEAL [off2] {sym2} base) mem)
 && valoff1.canAdd32(off2) && canMergeSym(sym1, sym2) && (base.Op != OpSB || !config.ctxt.Flag_shared) =>
 ((ADD|AND|OR|XOR)Lconstmodify [valoff1.addOffset32(off2)] {mergeSym(sym1,sym2)} base mem)

// Merge load/store to op
((ADD|AND|OR|XOR|SUB|MUL)L x l:(MOVLload [off] {sym} ptr mem)) && canMergeLoadClobber(v, l, x) &&
clobber(l) => ((ADD|AND|OR|XOR|SUB|MUL)Lload x [off] {sym} ptr mem)
((ADD|SUB|MUL|DIV)SD x l:(MOVSDload [off] {sym} ptr mem)) && canMergeLoadClobber(v, l, x) &&
```

```
clobber(l) => ((ADD|SUB|MUL|DIV)SDload x [off] {sym} ptr mem)
((ADD|SUB|MUL|DIV)SS x l:(MOVSSload [off] {sym} ptr mem)) && canMergeLoadClobber(v, l, x) &&
clobber(l) => ((ADD|SUB|MUL|DIV)SSload x [off] {sym} ptr mem)
(MOVLstore {sym} [off] ptr y:((ADD|AND|OR|XOR)Lload x [off] {sym} ptr mem) mem) && y.Uses==1 &&
clobber(y) => ((ADD|AND|OR|XOR)Lmodify [off]
 {sym} ptr x mem)
(MOVLstore {sym} [off] ptr y:((ADD|SUB|AND|OR|XOR)L l:(MOVLload [off] {sym} ptr mem) x) mem) &&
y.Uses==1 && l.Uses==1 && clobber(y, l) =>
 ((ADD|SUB|AND|OR|XOR)Lmodify [off] {sym} ptr x mem)
(MOVLstore {sym} [off] ptr y:((ADD|AND|OR|XOR)Lconst [c] l:(MOVLload [off] {sym} ptr mem)) mem)
 && y.Uses==1 && l.Uses==1 && clobber(y, l) =>
 ((ADD|AND|OR|XOR)Lconstmodify [makeValAndOff(c,off)] {sym} ptr mem)

// fold LEALs together
(LEAL [off1] {sym1} (LEAL [off2] {sym2} x)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
    (LEAL [off1+off2] {mergeSym(sym1,sym2)} x)

// LEAL into LEAL1
(LEAL1 [off1] {sym1} (LEAL [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) && x.Op != OpSB =>
     (LEAL1 [off1+off2] {mergeSym(sym1,sym2)} x y)

// LEAL1 into LEAL
(LEAL [off1] {sym1} (LEAL1 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
     (LEAL1 [off1+off2] {mergeSym(sym1,sym2)} x y)

//
 LEAL into LEAL[248]
(LEAL2 [off1] {sym1} (LEAL [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) && x.Op != OpSB =>
     (LEAL2 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAL4 [off1] {sym1} (LEAL [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) && x.Op != OpSB =>
     (LEAL4 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAL8 [off1] {sym1} (LEAL [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) && x.Op != OpSB =>
     (LEAL8 [off1+off2] {mergeSym(sym1,sym2)} x y)

// LEAL[248] into LEAL
(LEAL [off1] {sym1} (LEAL2 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
    (LEAL2 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAL [off1] {sym1} (LEAL4 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1,
sym2) =>
    (LEAL4 [off1+off2] {mergeSym(sym1,sym2)} x y)
(LEAL [off1] {sym1} (LEAL8 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2))
```

```
 && canMergeSym(sym1, sym2) =>
    (LEAL8 [off1+off2] {mergeSym(sym1,sym2)} x y)

// LEAL[1248] into LEAL[1248]. Only some such merges are possible.
(LEAL1 [off1] {sym1} x (LEAL1 [off2] {sym2} y y)) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
    (LEAL2 [off1+off2] {mergeSym(sym1, sym2)} x y)
(LEAL1 [off1] {sym1} x (LEAL1 [off2] {sym2} x y)) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
    (LEAL2 [off1+off2] {mergeSym(sym1, sym2)} y x)
(LEAL2 [off1] {sym} x (LEAL1 [off2] {nil} y y)) && is32Bit(int64(off1)+2*int64(off2)) =>
    (LEAL4 [off1+2*off2] {sym} x y)
(LEAL4 [off1] {sym} x (LEAL1 [off2] {nil} y y)) && is32Bit(int64(off1)+4*int64(off2)) =>
    (LEAL8 [off1+4*off2] {sym} x y)

// Absorb InvertFlags into branches.
(LT (InvertFlags cmp) yes no) => (GT cmp yes no)
(GT (InvertFlags cmp) yes no) => (LT cmp yes no)
(LE (InvertFlags cmp) yes no) => (GE cmp yes no)
(GE (InvertFlags cmp) yes no) => (LE cmp yes no)
(ULT (InvertFlags cmp)
 yes no) => (UGT cmp yes no)
(UGT (InvertFlags cmp) yes no) => (ULT cmp yes no)
(ULE (InvertFlags cmp) yes no) => (UGE cmp yes no)
(UGE (InvertFlags cmp) yes no) => (ULE cmp yes no)
(EQ (InvertFlags cmp) yes no) => (EQ cmp yes no)
(NE (InvertFlags cmp) yes no) => (NE cmp yes no)

// Constant comparisons.
(CMPLconst (MOVLconst [x]) [y]) && x==y                    => (FlagEQ)
(CMPLconst (MOVLconst [x]) [y]) && x<y && uint32(x)<uint32(y) => (FlagLT_ULT)
(CMPLconst (MOVLconst [x]) [y]) && x<y && uint32(x)>uint32(y) => (FlagLT_UGT)
(CMPLconst (MOVLconst [x]) [y]) && x>y && uint32(x)<uint32(y) => (FlagGT_ULT)
(CMPLconst (MOVLconst [x]) [y]) && x>y && uint32(x)>uint32(y) => (FlagGT_UGT)

(CMPWconst (MOVLconst [x]) [y]) && int16(x)==y                    => (FlagEQ)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)<y && uint16(x)<uint16(y) => (FlagLT_ULT)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)<y && uint16(x)>uint16(y) => (FlagLT_UGT)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)>y && uint16(x)<uint16(y)
 => (FlagGT_ULT)
(CMPWconst (MOVLconst [x]) [y]) && int16(x)>y && uint16(x)>uint16(y) => (FlagGT_UGT)

(CMPBconst (MOVLconst [x]) [y]) && int8(x)==y                    => (FlagEQ)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)<y && uint8(x)<uint8(y) => (FlagLT_ULT)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)<y && uint8(x)>uint8(y) => (FlagLT_UGT)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)>y && uint8(x)<uint8(y) => (FlagGT_ULT)
(CMPBconst (MOVLconst [x]) [y]) && int8(x)>y && uint8(x)>uint8(y) => (FlagGT_UGT)
```

```
// Other known comparisons.
(CMPLconst (SHRLconst _ [c]) [n]) && 0 <= n && 0 < c && c <= 32 && (1<<uint64(32-c)) <= uint64(n) =>
(FlagLT_ULT)
(CMPLconst (ANDLconst _ [m]) [n]) && 0 <= m && m < n => (FlagLT_ULT)
(CMPWconst (ANDLconst _ [m]) [n]) && 0 <= int16(m) && int16(m) < n => (FlagLT_ULT)
(CMPBconst (ANDLconst _ [m]) [n]) && 0 <= int8(m) && int8(m) < n => (FlagLT_ULT)
// TODO: DIVxU also.

// Absorb flag constants into SBB ops.
(SBBLcarrymask (FlagEQ)) => (MOVLconst
 [0])
(SBBLcarrymask (FlagLT_ULT)) => (MOVLconst [-1])
(SBBLcarrymask (FlagLT_UGT)) => (MOVLconst [0])
(SBBLcarrymask (FlagGT_ULT)) => (MOVLconst [-1])
(SBBLcarrymask (FlagGT_UGT)) => (MOVLconst [0])

// Absorb flag constants into branches.
(EQ (FlagEQ) yes no) => (First yes no)
(EQ (FlagLT_ULT) yes no) => (First no yes)
(EQ (FlagLT_UGT) yes no) => (First no yes)
(EQ (FlagGT_ULT) yes no) => (First no yes)
(EQ (FlagGT_UGT) yes no) => (First no yes)

(NE (FlagEQ) yes no) => (First no yes)
(NE (FlagLT_ULT) yes no) => (First yes no)
(NE (FlagLT_UGT) yes no) => (First yes no)
(NE (FlagGT_ULT) yes no) => (First yes no)
(NE (FlagGT_UGT) yes no) => (First yes no)

(LT (FlagEQ) yes no) => (First no yes)
(LT (FlagLT_ULT) yes no) => (First yes no)
(LT (FlagLT_UGT) yes no) => (First yes no)
(LT (FlagGT_ULT) yes no) => (First no yes)
(LT (FlagGT_UGT) yes no) => (First no yes)

(LE (FlagEQ) yes no) => (First yes no)
(LE (FlagLT_ULT) yes no) => (First yes no)
(LE (FlagLT_UGT) yes no) => (First yes no)
(LE
 (FlagGT_ULT) yes no) => (First no yes)
(LE (FlagGT_UGT) yes no) => (First no yes)

(GT (FlagEQ) yes no) => (First no yes)
(GT (FlagLT_ULT) yes no) => (First no yes)
(GT (FlagLT_UGT) yes no) => (First no yes)
(GT (FlagGT_ULT) yes no) => (First yes no)
(GT (FlagGT_UGT) yes no) => (First yes no)
```

```
(GE (FlagEQ) yes no) => (First yes no)
(GE (FlagLT_ULT) yes no) => (First no yes)
(GE (FlagLT_UGT) yes no) => (First no yes)
(GE (FlagGT_ULT) yes no) => (First yes no)
(GE (FlagGT_UGT) yes no) => (First yes no)

(ULT (FlagEQ) yes no) => (First no yes)
(ULT (FlagLT_ULT) yes no) => (First yes no)
(ULT (FlagLT_UGT) yes no) => (First no yes)
(ULT (FlagGT_ULT) yes no) => (First yes no)
(ULT (FlagGT_UGT) yes no) => (First no yes)

(ULE (FlagEQ) yes no) => (First yes no)
(ULE (FlagLT_ULT) yes no) => (First yes no)
(ULE (FlagLT_UGT) yes no) => (First no yes)
(ULE (FlagGT_ULT) yes no) => (First yes no)
(ULE (FlagGT_UGT) yes no) => (First no yes)

(UGT (FlagEQ) yes no) => (First no yes)
(UGT (FlagLT_ULT)
 yes no) => (First no yes)
(UGT (FlagLT_UGT) yes no) => (First yes no)
(UGT (FlagGT_ULT) yes no) => (First no yes)
(UGT (FlagGT_UGT) yes no) => (First yes no)

(UGE (FlagEQ) yes no) => (First yes no)
(UGE (FlagLT_ULT) yes no) => (First no yes)
(UGE (FlagLT_UGT) yes no) => (First yes no)
(UGE (FlagGT_ULT) yes no) => (First no yes)
(UGE (FlagGT_UGT) yes no) => (First yes no)

// Absorb flag constants into SETxx ops.
(SETEQ (FlagEQ)) => (MOVLconst [1])
(SETEQ (FlagLT_ULT)) => (MOVLconst [0])
(SETEQ (FlagLT_UGT)) => (MOVLconst [0])
(SETEQ (FlagGT_ULT)) => (MOVLconst [0])
(SETEQ (FlagGT_UGT)) => (MOVLconst [0])

(SETNE (FlagEQ)) => (MOVLconst [0])
(SETNE (FlagLT_ULT)) => (MOVLconst [1])
(SETNE (FlagLT_UGT)) => (MOVLconst [1])
(SETNE (FlagGT_ULT)) => (MOVLconst [1])
(SETNE (FlagGT_UGT)) => (MOVLconst [1])

(SETL (FlagEQ)) => (MOVLconst [0])
(SETL (FlagLT_ULT)) => (MOVLconst [1])
(SETL (FlagLT_UGT)) => (MOVLconst [1])
(SETL (FlagGT_ULT)) => (MOVLconst [0])
```

```
(SETL (FlagGT_UGT)) => (MOVLconst
 [0])

(SETLE (FlagEQ)) => (MOVLconst [1])
(SETLE (FlagLT_ULT)) => (MOVLconst [1])
(SETLE (FlagLT_UGT)) => (MOVLconst [1])
(SETLE (FlagGT_ULT)) => (MOVLconst [0])
(SETLE (FlagGT_UGT)) => (MOVLconst [0])

(SETG (FlagEQ)) => (MOVLconst [0])
(SETG (FlagLT_ULT)) => (MOVLconst [0])
(SETG (FlagLT_UGT)) => (MOVLconst [0])
(SETG (FlagGT_ULT)) => (MOVLconst [1])
(SETG (FlagGT_UGT)) => (MOVLconst [1])

(SETGE (FlagEQ)) => (MOVLconst [1])
(SETGE (FlagLT_ULT)) => (MOVLconst [0])
(SETGE (FlagLT_UGT)) => (MOVLconst [0])
(SETGE (FlagGT_ULT)) => (MOVLconst [1])
(SETGE (FlagGT_UGT)) => (MOVLconst [1])

(SETB (FlagEQ)) => (MOVLconst [0])
(SETB (FlagLT_ULT)) => (MOVLconst [1])
(SETB (FlagLT_UGT)) => (MOVLconst [0])
(SETB (FlagGT_ULT)) => (MOVLconst [1])
(SETB (FlagGT_UGT)) => (MOVLconst [0])

(SETBE (FlagEQ)) => (MOVLconst [1])
(SETBE (FlagLT_ULT)) => (MOVLconst [1])
(SETBE (FlagLT_UGT)) => (MOVLconst [0])
(SETBE (FlagGT_ULT)) => (MOVLconst [1])
(SETBE (FlagGT_UGT)) => (MOVLconst [0])

(SETA (FlagEQ)) =>
 (MOVLconst [0])
(SETA (FlagLT_ULT)) => (MOVLconst [0])
(SETA (FlagLT_UGT)) => (MOVLconst [1])
(SETA (FlagGT_ULT)) => (MOVLconst [0])
(SETA (FlagGT_UGT)) => (MOVLconst [1])

(SETAE (FlagEQ)) => (MOVLconst [1])
(SETAE (FlagLT_ULT)) => (MOVLconst [0])
(SETAE (FlagLT_UGT)) => (MOVLconst [1])
(SETAE (FlagGT_ULT)) => (MOVLconst [0])
(SETAE (FlagGT_UGT)) => (MOVLconst [1])

// Remove redundant *const ops
(ADDLconst [c] x) && c==0  => x
```

```
(SUBLconst [c] x) && c==0  => x
(ANDLconst [c] _) && c==0  => (MOVLconst [0])
(ANDLconst [c] x) && c==-1 => x
(ORLconst [c] x)  && c==0  => x
(ORLconst [c] _)  && c==-1 => (MOVLconst [-1])
(XORLconst [c] x) && c==0  => x
// TODO: since we got rid of the W/B versions, we might miss
// things like (ANDLconst [0x100] x) which were formerly
// (ANDBconst [0] x).  Probably doesn't happen very often.
// If we cared, we might do:
//  (ANDLconst <t> [c] x) && t.Size()==1 && int8(x)==0 => (MOVLconst [0])

// Convert constant subtracts to constant adds
(SUBLconst [c] x)
 => (ADDLconst [-c] x)

// generic constant folding
// TODO: more of this
(ADDLconst [c] (MOVLconst [d])) => (MOVLconst [c+d])
(ADDLconst [c] (ADDLconst [d] x)) => (ADDLconst [c+d] x)
(SARLconst [c] (MOVLconst [d])) => (MOVLconst [d>>uint64(c)])
(SARWconst [c] (MOVLconst [d])) => (MOVLconst [d>>uint64(c)])
(SARBconst [c] (MOVLconst [d])) => (MOVLconst [d>>uint64(c)])
(NEGL (MOVLconst [c])) => (MOVLconst [-c])
(MULLconst [c] (MOVLconst [d])) => (MOVLconst [c*d])
(ANDLconst [c] (MOVLconst [d])) => (MOVLconst [c&d])
(ORLconst [c] (MOVLconst [d])) => (MOVLconst [c|d])
(XORLconst [c] (MOVLconst [d])) => (MOVLconst [c^d])
(NOTL (MOVLconst [c])) => (MOVLconst [^c])

// generic simplifications
// TODO: more of this
(ADDL x (NEGL y)) => (SUBL x y)
(SUBL x x) => (MOVLconst [0])
(ANDL x x) => x
(ORL x x) => x
(XORL x x) => (MOVLconst [0])

// checking AND against 0.
(CMP(L|W|B)const l:(ANDL x y) [0]) && l.Uses==1 => (TEST(L|W|B) x y)
(CMPLconst l:(ANDLconst [c] x) [0]) && l.Uses==1 => (TESTLconst
 [c] x)
(CMPWconst l:(ANDLconst [c] x) [0]) && l.Uses==1 => (TESTWconst [int16(c)] x)
(CMPBconst l:(ANDLconst [c] x) [0]) && l.Uses==1 => (TESTBconst [int8(c)] x)

// TEST %reg,%reg is shorter than CMP
(CMP(L|W|B)const x [0]) => (TEST(L|W|B) x x)
```

```
// Convert LEAL1 back to ADDL if we can
(LEAL1 [0] {nil} x y) => (ADDL x y)

// Combining byte loads into larger (unaligned) loads.
// There are many ways these combinations could occur.  This is
// designed to match the way encoding/binary.LittleEndian does it.
(ORL                x0:(MOVBload [i0] {s} p mem)
  s0:(SHLLconst [8] x1:(MOVBload [i1] {s} p mem)))
 && i1 == i0+1
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, s0)
 => @mergePoint(b,x0,x1) (MOVWload [i0] {s} p mem)

(ORL                x0:(MOVBload [i] {s} p0 mem)
  s0:(SHLLconst [8] x1:(MOVBload [i] {s} p1 mem)))
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && mergePoint(b,x0,x1)
 != nil
 && clobber(x0, x1, s0)
 => @mergePoint(b,x0,x1) (MOVWload [i] {s} p0 mem)

(ORL o0:(ORL
                x0:(MOVWload [i0] {s} p mem)
  s0:(SHLLconst [16] x1:(MOVBload [i2] {s} p mem)))
  s1:(SHLLconst [24] x2:(MOVBload [i3] {s} p mem)))
 && i2 == i0+2
 && i3 == i0+3
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && o0.Uses == 1
 && mergePoint(b,x0,x1,x2) != nil
 && clobber(x0, x1, x2, s0, s1, o0)
 => @mergePoint(b,x0,x1,x2) (MOVLload [i0] {s} p mem)

(ORL o0:(ORL
                x0:(MOVWload [i] {s} p0 mem)
  s0:(SHLLconst [16] x1:(MOVBload [i] {s} p1 mem)))
  s1:(SHLLconst [24] x2:(MOVBload [i] {s} p2 mem)))
 && x0.Uses == 1
```

```
 && x1.Uses == 1
 && x2.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && o0.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && sequentialAddresses(p1, p2, 1)
 && mergePoint(b,x0,x1,x2) != nil
 && clobber(x0, x1, x2, s0, s1, o0)
 => @mergePoint(b,x0,x1,x2) (MOVLload
 [i] {s} p0 mem)

// Combine constant stores into larger (unaligned) stores.
(MOVBstoreconst [c] {s} p x:(MOVBstoreconst [a] {s} p mem))
 && x.Uses == 1
 && a.Off() + 1 == c.Off()
 && clobber(x)
 => (MOVWstoreconst [makeValAndOff(a.Val()&0xff | c.Val()<<8, a.Off())] {s} p mem)
(MOVBstoreconst [a] {s} p x:(MOVBstoreconst [c] {s} p mem))
 && x.Uses == 1
 && a.Off() + 1 == c.Off()
 && clobber(x)
 => (MOVWstoreconst [makeValAndOff(a.Val()&0xff | c.Val()<<8, a.Off())] {s} p mem)

(MOVBstoreconst [c] {s} p1 x:(MOVBstoreconst [a] {s} p0 mem))
 && x.Uses == 1
 && a.Off() == c.Off()
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
 => (MOVWstoreconst [makeValAndOff(a.Val()&0xff | c.Val()<<8, a.Off())] {s} p0 mem)
(MOVBstoreconst [a] {s} p0 x:(MOVBstoreconst [c] {s} p1 mem))
 && x.Uses == 1
 && a.Off() == c.Off()
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
 => (MOVWstoreconst [makeValAndOff(a.Val()&0xff | c.Val()<<8, a.Off())] {s} p0 mem)

(MOVWstoreconst [c] {s} p x:(MOVWstoreconst
 [a] {s} p mem))
 && x.Uses == 1
 && a.Off() + 2 == c.Off()
 && clobber(x)
 => (MOVLstoreconst [makeValAndOff(a.Val()&0xffff | c.Val()<<16, a.Off())] {s} p mem)
(MOVWstoreconst [a] {s} p x:(MOVWstoreconst [c] {s} p mem))
 && x.Uses == 1
 && ValAndOff(a).Off() + 2 == ValAndOff(c).Off()
 && clobber(x)
 => (MOVLstoreconst [makeValAndOff(a.Val()&0xffff | c.Val()<<16, a.Off())] {s} p mem)
```

```
(MOVWstoreconst [c] {s} p1 x:(MOVWstoreconst [a] {s} p0 mem))
 && x.Uses == 1
 && a.Off() == c.Off()
 && sequentialAddresses(p0, p1, 2)
 && clobber(x)
 => (MOVLstoreconst [makeValAndOff(a.Val()&0xffff | c.Val()<<16, a.Off())] {s} p0 mem)
(MOVWstoreconst [a] {s} p0 x:(MOVWstoreconst [c] {s} p1 mem))
 && x.Uses == 1
 && a.Off() == c.Off()
 && sequentialAddresses(p0, p1, 2)
 && clobber(x)
 => (MOVLstoreconst [makeValAndOff(a.Val()&0xffff | c.Val()<<16, a.Off())] {s} p0 mem)

// Combine stores into larger (unaligned) stores.
(MOVBstore [i] {s} p (SHR(W|L)const [8] w) x:(MOVBstore
 [i-1] {s} p w mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i-1] {s} p w mem)
(MOVBstore [i] {s} p w x:(MOVBstore {s} [i+1] p (SHR(W|L)const [8] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i] {s} p w mem)
(MOVBstore [i] {s} p (SHRLconst [j] w) x:(MOVBstore [i-1] {s} p w0:(SHRLconst [j-8] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i-1] {s} p w0 mem)

(MOVBstore [i] {s} p1 (SHR(W|L)const [8] w) x:(MOVBstore [i] {s} p0 w mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
 => (MOVWstore [i] {s} p0 w mem)
(MOVBstore [i] {s} p0 w x:(MOVBstore {s} [i] p1 (SHR(W|L)const [8] w) mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
 => (MOVWstore [i] {s} p0 w mem)
(MOVBstore [i] {s} p1 (SHRLconst [j] w) x:(MOVBstore [i] {s} p0 w0:(SHRLconst [j-8] w) mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 1)
 && clobber(x)
 => (MOVWstore [i] {s} p0 w0 mem)

(MOVWstore [i] {s} p (SHRLconst [16] w) x:(MOVWstore
 [i-2] {s} p w mem))
 && x.Uses == 1
```

```
 && clobber(x)
 => (MOVLstore [i-2] {s} p w mem)
(MOVWstore [i] {s} p (SHRLconst [j] w) x:(MOVWstore [i-2] {s} p w0:(SHRLconst [j-16] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVLstore [i-2] {s} p w0 mem)

(MOVWstore [i] {s} p1 (SHRLconst [16] w) x:(MOVWstore [i] {s} p0 w mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && clobber(x)
 => (MOVLstore [i] {s} p0 w mem)
(MOVWstore [i] {s} p1 (SHRLconst [j] w) x:(MOVWstore [i] {s} p0 w0:(SHRLconst [j-16] w) mem))
 && x.Uses == 1
 && sequentialAddresses(p0, p1, 2)
 && clobber(x)
 => (MOVLstore [i] {s} p0 w0 mem)

// For PIC, break floating-point constant loading into two instructions so we have
// a register to use for holding the address of the constant pool entry.
(MOVSSconst [c]) && config.ctxt.Flag_shared => (MOVSSconst2 (MOVSSconst1 [c]))
(MOVSDconst [c]) && config.ctxt.Flag_shared => (MOVSDconst2 (MOVSDconst1 [c]))

(CMP(L|W|B) l:(MOV(L|W|B)load {sym} [off] ptr mem) x)
 && canMergeLoad(v, l) && clobber(l) => (CMP(L|W|B)load {sym} [off] ptr x mem)
(CMP(L|W|B) x l:(MOV(L|W|B)load {sym} [off] ptr mem)) && canMergeLoad(v, l) && clobber(l) => (InvertFlags
(CMP(L|W|B)load {sym} [off] ptr x mem))

(CMP(L|W|B)const l:(MOV(L|W|B)load {sym} [off] ptr mem) [c])
 && l.Uses == 1
 && clobber(l) =>
 @l.Block (CMP(L|W|B)constload {sym} [makeValAndOff(int32(c),off)] ptr mem)

(CMPLload {sym} [off] ptr (MOVLconst [c]) mem) => (CMPLconstload {sym} [makeValAndOff(c,off)] ptr mem)
(CMPWload {sym} [off] ptr (MOVLconst [c]) mem) => (CMPWconstload {sym}
[makeValAndOff(int32(int16(c)),off)] ptr mem)
(CMPBload {sym} [off] ptr (MOVLconst [c]) mem) => (CMPBconstload {sym}
[makeValAndOff(int32(int8(c)),off)] ptr mem)

(MOVBload [off] {sym} (SB) _) && symIsRO(sym) => (MOVLconst [int32(read8(sym, int64(off)))])
(MOVWload [off] {sym} (SB) _) && symIsRO(sym) => (MOVLconst [int32(read16(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVLload [off] {sym} (SB) _) && symIsRO(sym) =>
 (MOVLconst [int32(read32(sym, int64(off), config.ctxt.Arch.ByteOrder))])
```

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/386.rules

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```
// Copyright 2016 The Go Authors. All rights reserved.
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(Add(Ptr|32|16|8) ...) => (ADD ...)
(Add(32|64)F ...) => (ADD(F|D) ...)

(Select0 (Add32carry <t> x y)) => (ADD <t.FieldType(0)> x y)
(Select1 (Add32carry <t> x y)) => (SGTU <typ.Bool> x (ADD <t.FieldType(0)> x y))
(Add32withcarry <t> x y c) => (ADD c (ADD <t> x y))

(Sub(Ptr|32|16|8) ...) => (SUB ...)
(Sub(32|64)F ...) => (SUB(F|D) ...)

(Select0 (Sub32carry <t> x y)) => (SUB <t.FieldType(0)> x y)
(Select1 (Sub32carry <t> x y)) => (SGTU <typ.Bool> (SUB <t.FieldType(0)> x y) x)
(Sub32withcarry <t> x y c) => (SUB (SUB <t> x y) c)

(Mul(32|16|8) ...) => (MUL ...)
(Mul(32|64)F ...) => (MUL(F|D) ...)

(Hmul(32|32u) x y) => (Select0 (MUL(T|TU) x y))
(Mul32uhilo ...) => (MULTU ...)

(Div32 x y) => (Select1 (DIV x y))
(Div32u x y) => (Select1 (DIVU x y))
(Div16 x y)
 => (Select1 (DIV (SignExt16to32 x) (SignExt16to32 y)))
(Div16u x y) => (Select1 (DIVU (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Div8 x y) => (Select1 (DIV (SignExt8to32 x) (SignExt8to32 y)))
(Div8u x y) => (Select1 (DIVU (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Div(32|64)F ...) => (DIV(F|D) ...)

(Mod32 x y) => (Select0 (DIV x y))
(Mod32u x y) => (Select0 (DIVU x y))
(Mod16 x y) => (Select0 (DIV (SignExt16to32 x) (SignExt16to32 y)))
(Mod16u x y) => (Select0 (DIVU (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Mod8 x y) => (Select0 (DIV (SignExt8to32 x) (SignExt8to32 y)))
(Mod8u x y) => (Select0 (DIVU (ZeroExt8to32 x) (ZeroExt8to32 y)))

// (x + y) / 2 with x>=y  becomes  (x - y) / 2 + y
(Avg32u <t> x y) => (ADD (SRLconst <t> (SUB <t> x y) [1]) y)

(And(32|16|8) ...) => (AND ...)
(Or(32|16|8) ...) => (OR ...)
(Xor(32|16|8) ...) => (XOR ...)
```

```
// constant shifts
// generic opt rewrites all constant shifts to shift by Const64
(Lsh32x64  x (Const64 [c])) && uint32(c) < 32 => (SLLconst x [int32(c)])
(Rsh32x64
  x (Const64 [c])) && uint32(c) < 32 => (SRAconst x [int32(c)])
(Rsh32Ux64 x (Const64 [c])) && uint32(c) < 32 => (SRLconst x [int32(c)])
(Lsh16x64  x (Const64 [c])) && uint32(c) < 16 => (SLLconst x [int32(c)])
(Rsh16x64  x (Const64 [c])) && uint32(c) < 16 => (SRAconst (SLLconst <typ.UInt32> x [16]) [int32(c+16)])
(Rsh16Ux64 x (Const64 [c])) && uint32(c) < 16 => (SRLconst (SLLconst <typ.UInt32> x [16]) [int32(c+16)])
(Lsh8x64   x (Const64 [c])) && uint32(c) < 8  => (SLLconst x [int32(c)])
(Rsh8x64   x (Const64 [c])) && uint32(c) < 8  => (SRAconst (SLLconst <typ.UInt32> x [24]) [int32(c+24)])
(Rsh8Ux64  x (Const64 [c])) && uint32(c) < 8  => (SRLconst (SLLconst <typ.UInt32> x [24]) [int32(c+24)])

// large constant shifts
(Lsh32x64 _ (Const64 [c]))  && uint32(c) >= 32 => (MOVWconst [0])
(Rsh32Ux64 _ (Const64 [c])) && uint32(c) >= 32 => (MOVWconst [0])
(Lsh16x64 _ (Const64 [c]))  && uint32(c) >= 16 => (MOVWconst [0])
(Rsh16Ux64 _ (Const64 [c])) && uint32(c) >= 16 => (MOVWconst [0])
(Lsh8x64
 _ (Const64 [c]))   && uint32(c) >= 8  => (MOVWconst [0])
(Rsh8Ux64 _ (Const64 [c]))  && uint32(c) >= 8  => (MOVWconst [0])

// large constant signed right shift, we leave the sign bit
(Rsh32x64 x (Const64 [c])) && uint32(c) >= 32 => (SRAconst x [31])
(Rsh16x64 x (Const64 [c])) && uint32(c) >= 16 => (SRAconst (SLLconst <typ.UInt32> x [16]) [31])
(Rsh8x64  x (Const64 [c])) && uint32(c) >= 8  => (SRAconst (SLLconst <typ.UInt32> x [24]) [31])

// shifts
// hardware instruction uses only the low 5 bits of the shift
// we compare to 32 to ensure Go semantics for large shifts
(Lsh32x32 <t> x y) => (CMOVZ (SLL <t> x y) (MOVWconst [0]) (SGTUconst [32] y))
(Lsh32x16 <t> x y) => (CMOVZ (SLL <t> x (ZeroExt16to32 y) ) (MOVWconst [0]) (SGTUconst [32]
(ZeroExt16to32 y)))
(Lsh32x8 <t> x y)  => (CMOVZ (SLL <t> x (ZeroExt8to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt8to32
y)))

(Lsh16x32 <t> x y) => (CMOVZ (SLL <t> x y) (MOVWconst [0]) (SGTUconst [32] y))
(Lsh16x16 <t> x y) => (CMOVZ (SLL <t>
 x (ZeroExt16to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt16to32 y)))
(Lsh16x8 <t> x y)  => (CMOVZ (SLL <t> x (ZeroExt8to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt8to32
y)))

(Lsh8x32 <t> x y) => (CMOVZ (SLL <t> x y) (MOVWconst [0]) (SGTUconst [32] y))
(Lsh8x16 <t> x y) => (CMOVZ (SLL <t> x (ZeroExt16to32 y) ) (MOVWconst [0]) (SGTUconst [32]
(ZeroExt16to32 y)))
(Lsh8x8 <t> x y)  => (CMOVZ (SLL <t> x (ZeroExt8to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt8to32
y)))
```

```
(Rsh32Ux32 <t> x y) => (CMOVZ (SRL <t> x y) (MOVWconst [0]) (SGTUconst [32] y))
(Rsh32Ux16 <t> x y) => (CMOVZ (SRL <t> x (ZeroExt16to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt16to32 y)))
(Rsh32Ux8 <t> x y)  => (CMOVZ (SRL <t> x (ZeroExt8to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt8to32 y)))

(Rsh16Ux32 <t> x y) => (CMOVZ (SRL <t> (ZeroExt16to32 x) y) (MOVWconst [0]) (SGTUconst [32] y))
(Rsh16Ux16 <t> x y) => (CMOVZ (SRL <t> (ZeroExt16to32 x) (ZeroExt16to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt16to32
 y)))
(Rsh16Ux8 <t> x y)  => (CMOVZ (SRL <t> (ZeroExt16to32 x) (ZeroExt8to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt8to32 y)))

(Rsh8Ux32 <t> x y) => (CMOVZ (SRL <t> (ZeroExt8to32 x) y) (MOVWconst [0]) (SGTUconst [32] y))
(Rsh8Ux16 <t> x y) => (CMOVZ (SRL <t> (ZeroExt8to32 x) (ZeroExt16to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt16to32 y)))
(Rsh8Ux8 <t> x y)  => (CMOVZ (SRL <t> (ZeroExt8to32 x) (ZeroExt8to32 y) ) (MOVWconst [0]) (SGTUconst [32] (ZeroExt8to32 y)))

(Rsh32x32 x y) => (SRA x ( CMOVZ <typ.UInt32> y (MOVWconst [31]) (SGTUconst [32] y)))
(Rsh32x16 x y) => (SRA x ( CMOVZ <typ.UInt32> (ZeroExt16to32 y) (MOVWconst [31]) (SGTUconst [32] (ZeroExt16to32 y))))
(Rsh32x8 x y)  => (SRA x ( CMOVZ <typ.UInt32> (ZeroExt8to32 y) (MOVWconst [31]) (SGTUconst [32] (ZeroExt8to32 y))))

(Rsh16x32 x y) => (SRA (SignExt16to32 x) ( CMOVZ <typ.UInt32> y (MOVWconst [31]) (SGTUconst [32] y)))
(Rsh16x16 x y) => (SRA (SignExt16to32 x) ( CMOVZ <typ.UInt32> (ZeroExt16to32 y) (MOVWconst [31]) (SGTUconst [32] (ZeroExt16to32 y))))
(Rsh16x8 x y)  => (SRA (SignExt16to32 x) ( CMOVZ <typ.UInt32> (ZeroExt8to32 y) (MOVWconst [31]) (SGTUconst [32] (ZeroExt8to32 y))))

(Rsh8x32 x y) => (SRA (SignExt16to32 x) ( CMOVZ <typ.UInt32> y (MOVWconst [31]) (SGTUconst [32] y)))
(Rsh8x16 x y) => (SRA (SignExt16to32 x) ( CMOVZ <typ.UInt32> (ZeroExt16to32 y) (MOVWconst [31]) (SGTUconst [32] (ZeroExt16to32 y))))
(Rsh8x8 x y)  => (SRA (SignExt16to32 x) ( CMOVZ <typ.UInt32> (ZeroExt8to32 y) (MOVWconst [31]) (SGTUconst [32] (ZeroExt8to32 y))))

// rotates
(RotateLeft8  <t> x (MOVWconst [c])) => (Or8  (Lsh8x32 <t>  x (MOVWconst [c&7]))  (Rsh8Ux32 <t> x (MOVWconst [-c&7])))
(RotateLeft16 <t> x (MOVWconst [c])) => (Or16 (Lsh16x32 <t> x (MOVWconst [c&15])) (Rsh16Ux32 <t> x (MOVWconst [-c&15])))
(RotateLeft32 <t> x (MOVWconst [c])) => (Or32 (Lsh32x32 <t> x (MOVWconst [c&31])) (Rsh32Ux32 <t> x (MOVWconst [-c&31])))
(RotateLeft64 <t> x (MOVWconst [c])) => (Or64 (Lsh64x32 <t> x (MOVWconst [c&63])) (Rsh64Ux32
 <t> x (MOVWconst [-c&63])))
```

```
// unary ops
(Neg(32|16|8) ...) => (NEG ...)
(Neg(32|64)F ...) => (NEG(F|D) ...)

(Com(32|16|8) x) => (NORconst [0] x)

(Sqrt ...) => (SQRTD ...)
(Sqrt32 ...) => (SQRTF ...)

// TODO: optimize this case?
(Ctz32NonZero ...) => (Ctz32 ...)

// count trailing zero
// 32 - CLZ(x&-x - 1)
(Ctz32 <t> x) => (SUB (MOVWconst [32]) (CLZ <t> (SUBconst <t> [1] (AND <t> x (NEG <t> x)))))

// bit length
(BitLen32 <t> x) => (SUB (MOVWconst [32]) (CLZ <t> x))

// boolean ops -- booleans are represented with 0=false, 1=true
(AndB ...) => (AND ...)
(OrB ...) => (OR ...)
(EqB x y) => (XORconst [1] (XOR <typ.Bool> x y))
(NeqB ...) => (XOR ...)
(Not x) => (XORconst [1] x)

// constants
(Const(32|16|8) [val]) => (MOVWconst [int32(val)])
(Const(32|64)F ...) => (MOV(F|D)const ...)
(ConstNil) => (MOVWconst [0])
(ConstBool [t]) => (MOVWconst [b2i32(t)])

// truncations
// Because we ignore high parts of registers, truncates are just copies.
(Trunc16to8 ...)  => (Copy ...)
(Trunc32to8
 ...)  => (Copy ...)
(Trunc32to16 ...) => (Copy ...)

// Zero-/Sign-extensions
(ZeroExt8to16 ...)  => (MOVBUreg ...)
(ZeroExt8to32 ...)  => (MOVBUreg ...)
(ZeroExt16to32 ...) => (MOVHUreg ...)

(SignExt8to16 ...)  => (MOVBreg ...)
(SignExt8to32 ...)  => (MOVBreg ...)
(SignExt16to32 ...) => (MOVHreg ...)
```

```
(Signmask x) => (SRAconst x [31])
(Zeromask x) => (NEG (SGTU x (MOVWconst [0])))
(Slicemask <t> x) => (SRAconst (NEG <t> x) [31])

// float-int conversion
(Cvt32to(32|64)F ...) => (MOVW(F|D) ...)
(Cvt(32|64)Fto32 ...) => (TRUNC(F|D)W ...)
(Cvt32Fto64F ...) => (MOVFD ...)
(Cvt64Fto32F ...) => (MOVDF ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round(32|64)F ...) => (Copy ...)

// comparisons
(Eq8 x y)  => (SGTUconst [1] (XOR (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Eq16 x y) => (SGTUconst [1] (XOR (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Eq32 x y) => (SGTUconst [1] (XOR x y))
(EqPtr x y) => (SGTUconst [1] (XOR x y))
(Eq(32|64)F x y) => (FPFlagTrue (CMPEQ(F|D) x y))

(Neq8 x y)  => (SGTU
 (XOR (ZeroExt8to32 x) (ZeroExt8to32 y)) (MOVWconst [0]))
(Neq16 x y) => (SGTU (XOR (ZeroExt16to32 x) (ZeroExt16to32 y)) (MOVWconst [0]))
(Neq32 x y) => (SGTU (XOR x y) (MOVWconst [0]))
(NeqPtr x y) => (SGTU (XOR x y) (MOVWconst [0]))
(Neq(32|64)F x y) => (FPFlagFalse (CMPEQ(F|D) x y))

(Less8 x y)  => (SGT (SignExt8to32 y) (SignExt8to32 x))
(Less16 x y) => (SGT (SignExt16to32 y) (SignExt16to32 x))
(Less32 x y) => (SGT y x)
(Less(32|64)F x y) => (FPFlagTrue (CMPGT(F|D) y x)) // reverse operands to work around NaN

(Less8U x y)  => (SGTU (ZeroExt8to32 y) (ZeroExt8to32 x))
(Less16U x y) => (SGTU (ZeroExt16to32 y) (ZeroExt16to32 x))
(Less32U x y) => (SGTU y x)

(Leq8 x y)  => (XORconst [1] (SGT (SignExt8to32 x) (SignExt8to32 y)))
(Leq16 x y) => (XORconst [1] (SGT (SignExt16to32 x) (SignExt16to32 y)))
(Leq32 x y) => (XORconst [1] (SGT x y))
(Leq(32|64)F x y) => (FPFlagTrue (CMPGE(F|D) y x)) // reverse operands to work around NaN

(Leq8U x y)  => (XORconst [1] (SGTU (ZeroExt8to32 x) (ZeroExt8to32
 y)))
(Leq16U x y) => (XORconst [1] (SGTU (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Leq32U x y) => (XORconst [1] (SGTU x y))

(OffPtr [off] ptr:(SP)) => (MOVWaddr [int32(off)] ptr)
```

```
(OffPtr [off] ptr) => (ADDconst [int32(off)] ptr)

(Addr {sym} base) => (MOVWaddr {sym} base)
(LocalAddr {sym} base _) => (MOVWaddr {sym} base)

// loads
(Load <t> ptr mem) && t.IsBoolean() => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && isSigned(t)) => (MOVBload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && !isSigned(t)) => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && isSigned(t)) => (MOVHload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && !isSigned(t)) => (MOVHUload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) || isPtr(t)) => (MOVWload ptr mem)
(Load <t> ptr mem) && is32BitFloat(t) => (MOVFload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (MOVDload ptr mem)

// stores
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)
(Store {t} ptr val mem) && t.Size()
 == 2 => (MOVHstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && !is32BitFloat(val.Type) => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && is32BitFloat(val.Type) => (MOVFstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (MOVDstore ptr val mem)

// zero instructions
(Zero [0] _ mem) => mem
(Zero [1] ptr mem) => (MOVBstore ptr (MOVWconst [0]) mem)
(Zero [2] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore ptr (MOVWconst [0]) mem)
(Zero [2] ptr mem) =>
 (MOVBstore [1] ptr (MOVWconst [0])
  (MOVBstore [0] ptr (MOVWconst [0]) mem))
(Zero [4] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore ptr (MOVWconst [0]) mem)
(Zero [4] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] ptr (MOVWconst [0])
  (MOVHstore [0] ptr (MOVWconst [0]) mem))
(Zero [4] ptr mem) =>
 (MOVBstore [3] ptr (MOVWconst [0])
  (MOVBstore [2] ptr (MOVWconst [0])
   (MOVBstore [1] ptr (MOVWconst [0])
    (MOVBstore [0] ptr (MOVWconst [0])
 mem))))
(Zero [3] ptr mem) =>
 (MOVBstore [2] ptr (MOVWconst [0])
  (MOVBstore [1] ptr (MOVWconst [0])
   (MOVBstore [0] ptr (MOVWconst [0]) mem)))
(Zero [6] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] ptr (MOVWconst [0])
```

```
  (MOVHstore [2] ptr (MOVWconst [0])
   (MOVHstore [0] ptr (MOVWconst [0]) mem)))
(Zero [8] {t} ptr mem) && t.Alignment()%4 == 0 =>
  (MOVWstore [4] ptr (MOVWconst [0])
   (MOVWstore [0] ptr (MOVWconst [0]) mem))
(Zero [12] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8] ptr (MOVWconst [0])
  (MOVWstore [4] ptr (MOVWconst [0])
   (MOVWstore [0] ptr (MOVWconst [0]) mem)))
(Zero [16] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [12] ptr (MOVWconst [0])
  (MOVWstore [8] ptr (MOVWconst [0])
   (MOVWstore [4] ptr (MOVWconst [0])
    (MOVWstore [0] ptr (MOVWconst [0]) mem))))

// large or unaligned zeroing uses a loop
(Zero [s] {t} ptr mem)
 && (s > 16  || t.Alignment()%4 != 0) =>
 (LoweredZero [int32(t.Alignment())]
  ptr
  (ADDconst <ptr.Type>
 ptr [int32(s-moveSize(t.Alignment(), config))])
  mem)

// moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBUload src mem) mem)
(Move [2] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore dst (MOVHUload src mem) mem)
(Move [2] dst src mem) =>
 (MOVBstore [1] dst (MOVBUload [1] src mem)
  (MOVBstore dst (MOVBUload src mem) mem))
(Move [4] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore dst (MOVWload src mem) mem)
(Move [4] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] dst (MOVHUload [2] src mem)
  (MOVHstore dst (MOVHUload src mem) mem))
(Move [4] dst src mem) =>
 (MOVBstore [3] dst (MOVBUload [3] src mem)
  (MOVBstore [2] dst (MOVBUload [2] src mem)
   (MOVBstore [1] dst (MOVBUload [1] src mem)
    (MOVBstore dst (MOVBUload src mem) mem))))
(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBUload [2] src mem)
  (MOVBstore [1] dst (MOVBUload [1] src mem)
   (MOVBstore dst (MOVBUload src mem) mem)))
(Move [8] {t} dst src mem) &&
```

```
 t.Alignment()%4 == 0 =>
 (MOVWstore [4] dst (MOVWload [4] src mem)
  (MOVWstore dst (MOVWload src mem) mem))
(Move [8] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [6] dst (MOVHload [6] src mem)
  (MOVHstore [4] dst (MOVHload [4] src mem)
   (MOVHstore [2] dst (MOVHload [2] src mem)
    (MOVHstore dst (MOVHload src mem) mem))))
(Move [6] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] dst (MOVHload [4] src mem)
  (MOVHstore [2] dst (MOVHload [2] src mem)
   (MOVHstore dst (MOVHload src mem) mem)))
(Move [12] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8] dst (MOVWload [8] src mem)
  (MOVWstore [4] dst (MOVWload [4] src mem)
   (MOVWstore dst (MOVWload src mem) mem)))
(Move [16] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [12] dst (MOVWload [12] src mem)
  (MOVWstore [8] dst (MOVWload [8] src mem)
   (MOVWstore [4] dst (MOVWload [4] src mem)
    (MOVWstore dst (MOVWload src mem) mem))))


// large or unaligned move uses a loop
(Move [s] {t}
 dst src mem)
 && (s > 16 && logLargeCopy(v, s) || t.Alignment()%4 != 0) =>
 (LoweredMove [int32(t.Alignment())]
  dst
  src
  (ADDconst <src.Type> src [int32(s-moveSize(t.Alignment(), config))])
  mem)

// calls
(StaticCall ...)  => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall ...)   => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// atomic intrinsics
(AtomicLoad(8|32) ...) => (LoweredAtomicLoad(8|32) ...)
(AtomicLoadPtr    ...) => (LoweredAtomicLoad32     ...)

(AtomicStore(8|32)  ...) => (LoweredAtomicStore(8|32) ...)
(AtomicStorePtrNoWB ...) => (LoweredAtomicStore32     ...)

(AtomicExchange32 ...) => (LoweredAtomicExchange ...)
(AtomicAdd32 ...) => (LoweredAtomicAdd ...)
```

```
(AtomicCompareAndSwap32 ...) => (LoweredAtomicCas ...)

// AtomicOr8(ptr,val)  =>   LoweredAtomicOr(ptr&^3,uint32(val) << ((ptr & 3) * 8))
(AtomicOr8 ptr val mem) && !config.BigEndian =>
 (LoweredAtomicOr (AND <typ.UInt32Ptr> (MOVWconst [^3]) ptr)
  (SLL <typ.UInt32> (ZeroExt8to32 val)
   (SLLconst
 <typ.UInt32> [3]
    (ANDconst <typ.UInt32> [3] ptr))) mem)

// AtomicAnd8(ptr,val)  =>  LoweredAtomicAnd(ptr&^3,(uint32(val) << ((ptr & 3) * 8)) | ^(uint32(0xFF) << ((ptr
& 3) * 8))))
(AtomicAnd8  ptr val mem) && !config.BigEndian =>
 (LoweredAtomicAnd (AND <typ.UInt32Ptr> (MOVWconst [^3]) ptr)
  (OR <typ.UInt32> (SLL <typ.UInt32> (ZeroExt8to32 val)
   (SLLconst <typ.UInt32> [3]
    (ANDconst  <typ.UInt32> [3] ptr)))
  (NORconst [0] <typ.UInt32> (SLL <typ.UInt32>
   (MOVWconst [0xff]) (SLLconst <typ.UInt32> [3]
    (ANDconst <typ.UInt32> [3] ptr))))) mem)

// AtomicOr8(ptr,val)  =>  LoweredAtomicOr(ptr&^3,uint32(val) << (((ptr^3) & 3) * 8))
(AtomicOr8 ptr val mem) && config.BigEndian =>
 (LoweredAtomicOr (AND <typ.UInt32Ptr> (MOVWconst [^3]) ptr)
  (SLL <typ.UInt32> (ZeroExt8to32 val)
   (SLLconst <typ.UInt32> [3]
    (ANDconst <typ.UInt32> [3]
     (XORconst <typ.UInt32> [3] ptr)))) mem)

// AtomicAnd8(ptr,val)  =>  LoweredAtomicAnd(ptr&^3,(uint32(val) << (((ptr^3) & 3)
 * 8)) | ^(uint32(0xFF) << (((ptr^3) & 3) * 8))))
(AtomicAnd8  ptr val mem) && config.BigEndian =>
 (LoweredAtomicAnd (AND <typ.UInt32Ptr> (MOVWconst [^3]) ptr)
  (OR <typ.UInt32> (SLL <typ.UInt32> (ZeroExt8to32 val)
   (SLLconst <typ.UInt32> [3]
    (ANDconst  <typ.UInt32> [3]
     (XORconst <typ.UInt32> [3] ptr))))
  (NORconst [0] <typ.UInt32> (SLL <typ.UInt32>
   (MOVWconst [0xff]) (SLLconst <typ.UInt32> [3]
    (ANDconst <typ.UInt32> [3]
     (XORconst <typ.UInt32> [3] ptr)))))) mem)

(AtomicAnd32 ...) => (LoweredAtomicAnd ...)
(AtomicOr32  ...) => (LoweredAtomicOr  ...)


// checks
```

```
(NilCheck ...) => (LoweredNilCheck ...)
(IsNonNil ptr) => (SGTU ptr (MOVWconst [0]))
(IsInBounds idx len) => (SGTU len idx)
(IsSliceInBounds idx len) => (XORconst [1] (SGTU idx len))

// pseudo-ops
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)

(If cond yes no) => (NE cond yes no)

// Write barrier.
(WB ...)
 => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 0 => (LoweredPanicExtendA [kind] hi lo y mem)
(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 1 => (LoweredPanicExtendB [kind] hi lo y mem)
(PanicExtend [kind] hi lo y mem) && boundsABI(kind) == 2 => (LoweredPanicExtendC [kind] hi lo y mem)

// Optimizations

// Absorb boolean tests into block
(NE (FPFlagTrue cmp)  yes no) => (FPT cmp yes no)
(NE (FPFlagFalse cmp) yes no) => (FPF cmp yes no)
(EQ (FPFlagTrue cmp)  yes no) => (FPF cmp yes no)
(EQ (FPFlagFalse cmp) yes no) => (FPT cmp yes no)
(NE (XORconst [1] cmp:(SGT _ _))     yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTU _ _))    yes no) => (EQ cmp yes no)
(NE (XORconst [1]
 cmp:(SGTconst _))  yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTUconst _)) yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTzero _))   yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTUzero _))  yes no) => (EQ cmp yes no)
(EQ (XORconst [1] cmp:(SGT _ _))     yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTU _ _))    yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTconst _))  yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTUconst _)) yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTzero _))   yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTUzero _))  yes no) => (NE cmp yes no)
(NE (SGTUconst [1] x) yes no) => (EQ x yes no)
(EQ (SGTUconst [1] x) yes no) => (NE x yes no)
(NE (SGTUzero x) yes no) => (NE x yes no)
(EQ (SGTUzero x) yes no) => (EQ x yes no)
```

```
(NE (SGTconst [0] x) yes no) => (LTZ x yes no)
(EQ (SGTconst [0] x) yes no) => (GEZ x yes no)
(NE (SGTzero x) yes no) => (GTZ x yes no)
(EQ (SGTzero x) yes no) => (LEZ x yes no)

// fold offset into
 address
(ADDconst [off1] (MOVWaddr [off2] {sym} ptr)) => (MOVWaddr [off1+off2] {sym} ptr)

// fold address into load/store
(MOVBload  [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVBload  [off1+off2] {sym} ptr mem)
(MOVBUload [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVBUload [off1+off2] {sym} ptr mem)
(MOVHload  [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVHload  [off1+off2] {sym} ptr mem)
(MOVHUload [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVHUload [off1+off2] {sym} ptr mem)
(MOVWload  [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVWload  [off1+off2] {sym} ptr mem)
(MOVFload  [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVFload  [off1+off2] {sym} ptr mem)
(MOVDload  [off1] {sym} x:(ADDconst
 [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) => (MOVDload  [off1+off2] {sym} ptr mem)

(MOVBstore [off1] {sym} x:(ADDconst [off2] ptr) val mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVBstore [off1+off2] {sym} ptr val mem)
(MOVHstore [off1] {sym} x:(ADDconst [off2] ptr) val mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVHstore [off1+off2] {sym} ptr val mem)
(MOVWstore [off1] {sym} x:(ADDconst [off2] ptr) val mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVWstore [off1+off2] {sym} ptr val mem)
(MOVFstore [off1] {sym} x:(ADDconst [off2] ptr) val mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVFstore [off1+off2] {sym} ptr val mem)
(MOVDstore [off1] {sym} x:(ADDconst [off2] ptr) val mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVDstore [off1+off2] {sym} ptr val mem)

(MOVBstorezero [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVBstorezero [off1+off2] {sym} ptr mem)
(MOVHstorezero
 [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) => (MOVHstorezero
[off1+off2] {sym} ptr mem)
(MOVWstorezero [off1] {sym} x:(ADDconst [off2] ptr) mem) && (is16Bit(int64(off1+off2)) || x.Uses == 1) =>
(MOVWstorezero [off1+off2] {sym} ptr mem)

(MOVBload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)  =>
 (MOVBload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVBUload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVBUload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
```

```
(MOVHload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2)  =>
 (MOVHload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHUload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVHUload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVWload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVFload
 [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVFload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVDload [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVDload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)

(MOVBstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVBstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVHstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVHstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVWstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVWstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVFstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVFstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVDstore [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) =>
 (MOVDstore [off1+off2]
 {mergeSym(sym1,sym2)} ptr val mem)
(MOVBstorezero [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVBstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHstorezero [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVHstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWstorezero [off1] {sym1} (MOVWaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) =>
 (MOVWstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)

// replace load from same location as preceding store with zero/sign extension (or copy in case of full width)
(MOVBload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _))  && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVBreg x)
(MOVBUload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVBUreg x)
(MOVHload [off] {sym} ptr (MOVHstore [off2] {sym2} ptr2 x _))  && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVHreg
 x)
(MOVHUload [off] {sym} ptr (MOVHstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVHUreg x)
(MOVWload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2 x _))  && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x
(MOVFload [off] {sym} ptr (MOVFstore [off2] {sym2} ptr2 x _))  && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x
(MOVDload [off] {sym} ptr (MOVDstore [off2] {sym2} ptr2 x _))  && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => x

// store zero
```

```
(MOVBstore [off] {sym} ptr (MOVWconst [0]) mem) => (MOVBstorezero [off] {sym} ptr mem)
(MOVHstore [off] {sym} ptr (MOVWconst [0]) mem) => (MOVHstorezero [off] {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOVWconst [0]) mem) => (MOVWstorezero [off] {sym} ptr mem)

// don't extend after proper load
(MOVBreg x:(MOVBload _ _))   => (MOVWreg x)
(MOVBUreg x:(MOVBUload _ _)) => (MOVWreg x)
(MOVHreg x:(MOVBload _ _))   => (MOVWreg x)
(MOVHreg x:(MOVBUload _ _))  => (MOVWreg x)
(MOVHreg x:(MOVHload
 _ _))   => (MOVWreg x)
(MOVHUreg x:(MOVBUload _ _)) => (MOVWreg x)
(MOVHUreg x:(MOVHUload _ _)) => (MOVWreg x)

// fold double extensions
(MOVBreg x:(MOVBreg _))   => (MOVWreg x)
(MOVBUreg x:(MOVBUreg _)) => (MOVWreg x)
(MOVHreg x:(MOVBreg _))   => (MOVWreg x)
(MOVHreg x:(MOVBUreg _))  => (MOVWreg x)
(MOVHreg x:(MOVHreg _))   => (MOVWreg x)
(MOVHUreg x:(MOVBUreg _)) => (MOVWreg x)
(MOVHUreg x:(MOVHUreg _)) => (MOVWreg x)

// sign extended loads
// Note: The combined instruction must end up in the same block
// as the original load. If not, we end up making a value with
// memory type live in two different blocks, which can lead to
// multiple memory values alive simultaneously.
// Make sure we don't combine these ops if the load has another use.
// This prevents a single load from being split into multiple loads
// which then might return different values.  See test/atomicload.go.
(MOVBreg <t> x:(MOVBUload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBload
  <t> [off] {sym} ptr mem)
(MOVBUreg <t> x:(MOVBload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVBUload <t> [off] {sym} ptr mem)
(MOVHreg <t> x:(MOVHUload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVHload
<t> [off] {sym} ptr mem)
(MOVHUreg <t> x:(MOVHload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVHUload <t> [off] {sym} ptr mem)

// fold extensions and ANDs together
(MOVBUreg (ANDconst [c] x)) => (ANDconst [c&0xff] x)
(MOVHUreg (ANDconst [c] x)) => (ANDconst [c&0xffff] x)
(MOVBreg (ANDconst [c] x)) && c & 0x80   == 0 => (ANDconst [c&0x7f] x)
(MOVHreg (ANDconst [c] x)) && c & 0x8000 == 0 => (ANDconst [c&0x7fff] x)

// don't extend before store
(MOVBstore [off] {sym} ptr (MOVBreg x)  mem) => (MOVBstore [off] {sym} ptr x mem)
```

```
(MOVBstore [off] {sym} ptr (MOVBUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHreg x)  mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHUreg
 x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVWreg x)  mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHreg x)  mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWreg x)  mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWreg x)  mem) => (MOVWstore [off] {sym} ptr x mem)

// if a register move has only 1 use, just use the same register without emitting instruction
// MOVWnop doesn't emit instruction, only for ensuring the type.
(MOVWreg x) && x.Uses == 1 => (MOVWnop x)

// TODO: we should be able to get rid of MOVWnop all together.
// But for now, this is enough to get rid of lots of them.
(MOVWnop (MOVWconst [c])) => (MOVWconst [c])

// fold constant into arithmetic ops
(ADD x (MOVWconst [c])) => (ADDconst [c] x)
(SUB x (MOVWconst [c])) => (SUBconst [c] x)
(AND x (MOVWconst [c])) => (ANDconst [c] x)
(OR
  x (MOVWconst [c])) => (ORconst  [c] x)
(XOR x (MOVWconst [c])) => (XORconst [c] x)
(NOR x (MOVWconst [c])) => (NORconst [c] x)

(SLL x (MOVWconst [c])) => (SLLconst x [c&31])
(SRL x (MOVWconst [c])) => (SRLconst x [c&31])
(SRA x (MOVWconst [c])) => (SRAconst x [c&31])

(SGT  (MOVWconst [c]) x) => (SGTconst  [c] x)
(SGTU (MOVWconst [c]) x) => (SGTUconst [c] x)
(SGT x  (MOVWconst [0])) => (SGTzero x)
(SGTU x (MOVWconst [0])) => (SGTUzero x)

// mul with constant
(Select1 (MULTU (MOVWconst [0])  _ )) => (MOVWconst [0])
(Select0 (MULTU (MOVWconst [0])  _ )) => (MOVWconst [0])
(Select1 (MULTU (MOVWconst [1])  x )) => x
(Select0 (MULTU (MOVWconst [1])  _ )) => (MOVWconst [0])
(Select1 (MULTU (MOVWconst [-1]) x )) => (NEG <x.Type> x)
(Select0 (MULTU (MOVWconst [-1]) x )) => (CMOVZ (ADDconst <x.Type> [-1] x) (MOVWconst [0]) x)
(Select1 (MULTU (MOVWconst [c])  x )) && isPowerOfTwo64(int64(uint32(c))) => (SLLconst
[int32(log2uint32(int64(c)))] x)
(Select0 (MULTU (MOVWconst [c])  x )) && isPowerOfTwo64(int64(uint32(c)))
 => (SRLconst [int32(32-log2uint32(int64(c)))] x)
```

```
(MUL (MOVWconst [0])  _ ) => (MOVWconst [0])
(MUL (MOVWconst [1])  x ) => x
(MUL (MOVWconst [-1]) x ) => (NEG x)
(MUL (MOVWconst [c]) x ) && isPowerOfTwo64(int64(uint32(c))) => (SLLconst [int32(log2uint32(int64(c)))] x)

// generic simplifications
(ADD x (NEG y)) => (SUB x y)
(SUB x x) => (MOVWconst [0])
(SUB (MOVWconst [0]) x) => (NEG x)
(AND x x) => x
(OR  x x) => x
(XOR x x) => (MOVWconst [0])

// miscellaneous patterns generated by dec64
(AND (SGTUconst [1] x) (SGTUconst [1] y)) =>  (SGTUconst [1] (OR <x.Type> x y))
(OR (SGTUzero x) (SGTUzero y)) =>  (SGTUzero (OR <x.Type> x y))

// remove redundant *const ops
(ADDconst [0]  x) => x
(SUBconst [0]  x) => x
(ANDconst [0]  _) => (MOVWconst [0])
(ANDconst [-1] x) => x
(ORconst  [0]  x) => x
(ORconst  [-1] _) => (MOVWconst [-1])
(XORconst [0]  x) => x
(XORconst [-1] x) => (NORconst [0] x)

// generic constant folding
(ADDconst [c] (MOVWconst [d]))  => (MOVWconst
 [int32(c+d)])
(ADDconst [c] (ADDconst [d] x)) => (ADDconst [c+d] x)
(ADDconst [c] (SUBconst [d] x)) => (ADDconst [c-d] x)
(SUBconst [c] (MOVWconst [d]))  => (MOVWconst [d-c])
(SUBconst [c] (SUBconst [d] x)) => (ADDconst [-c-d] x)
(SUBconst [c] (ADDconst [d] x)) => (ADDconst [-c+d] x)
(SLLconst [c] (MOVWconst [d]))  => (MOVWconst [d<<uint32(c)])
(SRLconst [c] (MOVWconst [d]))  => (MOVWconst [int32(uint32(d)>>uint32(c))])
(SRAconst [c] (MOVWconst [d]))  => (MOVWconst [d>>uint32(c)])
(MUL (MOVWconst [c]) (MOVWconst [d])) => (MOVWconst [c*d])
(Select1 (MULTU  (MOVWconst [c]) (MOVWconst [d]))) => (MOVWconst [int32(uint32(c)*uint32(d))])
(Select0 (MULTU  (MOVWconst [c]) (MOVWconst [d]))) => (MOVWconst
[int32((int64(uint32(c))*int64(uint32(d)))>>32)])
(Select1 (DIV  (MOVWconst [c]) (MOVWconst [d]))) && d != 0 => (MOVWconst [c/d])
(Select1 (DIVU (MOVWconst [c]) (MOVWconst [d]))) && d != 0 => (MOVWconst [int32(uint32(c)/uint32(d))])
(Select0 (DIV  (MOVWconst [c]) (MOVWconst [d]))) && d !=
 0 => (MOVWconst [c%d])
(Select0 (DIVU (MOVWconst [c]) (MOVWconst [d]))) && d != 0 => (MOVWconst [int32(uint32(c)%uint32(d))])
(ANDconst [c] (MOVWconst [d])) => (MOVWconst [c&d])
```

```
(ANDconst [c] (ANDconst [d] x)) => (ANDconst [c&d] x)
(ORconst [c] (MOVWconst [d])) => (MOVWconst [c|d])
(ORconst [c] (ORconst [d] x)) => (ORconst [c|d] x)
(XORconst [c] (MOVWconst [d])) => (MOVWconst [c^d])
(XORconst [c] (XORconst [d] x)) => (XORconst [c^d] x)
(NORconst [c] (MOVWconst [d])) => (MOVWconst [^(c|d)])
(NEG (MOVWconst [c])) => (MOVWconst [-c])
(MOVBreg  (MOVWconst [c])) => (MOVWconst [int32(int8(c))])
(MOVBUreg (MOVWconst [c])) => (MOVWconst [int32(uint8(c))])
(MOVHreg  (MOVWconst [c])) => (MOVWconst [int32(int16(c))])
(MOVHUreg (MOVWconst [c])) => (MOVWconst [int32(uint16(c))])
(MOVWreg  (MOVWconst [c])) => (MOVWconst [c])

// constant comparisons
(SGTconst  [c] (MOVWconst [d])) && c >  d => (MOVWconst [1])
(SGTconst  [c] (MOVWconst [d])) && c <= d => (MOVWconst [0])
(SGTUconst [c] (MOVWconst [d]))
 && uint32(c) >  uint32(d) => (MOVWconst [1])
(SGTUconst [c] (MOVWconst [d])) && uint32(c) <= uint32(d) => (MOVWconst [0])
(SGTzero (MOVWconst [d])) && d >  0 => (MOVWconst [1])
(SGTzero (MOVWconst [d])) && d <= 0 => (MOVWconst [0])
(SGTUzero (MOVWconst [d])) && d != 0 => (MOVWconst [1])
(SGTUzero (MOVWconst [d])) && d == 0 => (MOVWconst [0])

// other known comparisons
(SGTconst [c] (MOVBreg _)) && 0x7f < c   => (MOVWconst [1])
(SGTconst [c] (MOVBreg _)) && c <= -0x80 => (MOVWconst [0])
(SGTconst [c] (MOVBUreg _)) && 0xff < c  => (MOVWconst [1])
(SGTconst [c] (MOVBUreg _)) && c < 0     => (MOVWconst [0])
(SGTUconst [c] (MOVBUreg _)) && 0xff < uint32(c) => (MOVWconst [1])
(SGTconst [c] (MOVHreg _)) && 0x7fff < c => (MOVWconst [1])
(SGTconst [c] (MOVHreg _)) && c <= -0x8000 => (MOVWconst [0])
(SGTconst [c] (MOVHUreg _)) && 0xffff < c => (MOVWconst [1])
(SGTconst [c] (MOVHUreg _)) && c < 0 => (MOVWconst [0])
(SGTUconst [c] (MOVHUreg _)) && 0xffff < uint32(c) => (MOVWconst [1])
(SGTconst
 [c] (ANDconst [m] _)) && 0 <= m && m < c => (MOVWconst [1])
(SGTUconst [c] (ANDconst [m] _)) && uint32(m) < uint32(c) => (MOVWconst [1])
(SGTconst [c] (SRLconst _ [d])) && 0 <= c && uint32(d) <= 31 && 0xffffffff>>uint32(d) < uint32(c) =>
(MOVWconst [1])
(SGTUconst [c] (SRLconst _ [d])) && uint32(d) <= 31 && 0xffffffff>>uint32(d) < uint32(c) => (MOVWconst [1])

// absorb constants into branches
(EQ  (MOVWconst [0]) yes no) => (First yes no)
(EQ  (MOVWconst [c]) yes no) && c != 0 => (First no yes)
(NE  (MOVWconst [0]) yes no) => (First no yes)
(NE  (MOVWconst [c]) yes no) && c != 0 => (First yes no)
(LTZ (MOVWconst [c]) yes no) && c <  0 => (First yes no)
```

(LTZ (MOVWconst [c]) yes no) && c >= 0 => (First no yes)
(LEZ (MOVWconst [c]) yes no) && c <= 0 => (First yes no)
(LEZ (MOVWconst [c]) yes no) && c > 0 => (First no yes)
(GTZ (MOVWconst [c]) yes no) && c > 0 => (First yes no)
(GTZ (MOVWconst [c]) yes no) && c <= 0 => (First no yes)
(GEZ (MOVWconst [c]) yes no) && c >= 0 => (First yes
no)
(GEZ (MOVWconst [c]) yes no) && c < 0 => (First no yes)

// conditional move
(CMOVZ _ f (MOVWconst [0])) => f
(CMOVZ a _ (MOVWconst [c])) && c!=0 => a
(CMOVZzero _ (MOVWconst [0])) => (MOVWconst [0])
(CMOVZzero a (MOVWconst [c])) && c!=0 => a
(CMOVZ a (MOVWconst [0]) c) => (CMOVZzero a c)

// atomic
(LoweredAtomicStore32 ptr (MOVWconst [0]) mem) => (LoweredAtomicStorezero ptr mem)
(LoweredAtomicAdd ptr (MOVWconst [c]) mem) && is16Bit(int64(c)) => (LoweredAtomicAddconst [c] ptr mem)

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/MIPS.rules
No license file was found, but licenses were detected in source scan.

// Copyright 2015 The Go Authors. All rights reserved.
// Use of this source code is governed by a BSD-style
// license that can be found in the LICENSE file.

// Simplifications that apply to all backend architectures. As an example, this
// Go source code
//
// y := 0 * x
//
// can be translated into y := 0 without losing any information, which saves a
// pointless multiplication instruction. Other .rules files in this directory
// (for example AMD64.rules) contain rules specific to the architecture in the
// filename. The rules here apply to every architecture.
//
// The code for parsing this file lives in rulegen.go; this file generates
// ssa/rewritegeneric.go.

// values are specified using the following format:
// (op <type> [auxint] {aux} arg0 arg1 ...)
// the type, aux, and auxint fields are optional
// on the matching side
// - the type, aux, and auxint fields must match if they are specified.
// - the first

```
 occurrence of a variable defines that variable.  Subsequent
//    uses must match (be == to) the first use.
//  - v is defined to be the value matched.
//  - an additional conditional can be provided after the match pattern with "&&".
// on the generated side
//  - the type of the top-level expression is the same as the one on the left-hand side.
//  - the type of any subexpressions must be specified explicitly (or
//    be specified in the op's type field).
//  - auxint will be 0 if not specified.
//  - aux will be nil if not specified.

// blocks are specified using the following format:
// (kind controlvalue succ0 succ1 ...)
// controlvalue must be "nil" or a value expression
// succ* fields must be variables
// For now, the generated successors must be a permutation of the matched successors.

// constant folding
(Trunc16to8  (Const16  [c])) => (Const8   [int8(c)])
(Trunc32to8  (Const32  [c])) => (Const8   [int8(c)])
(Trunc32to16 (Const32  [c])) => (Const16  [int16(c)])
(Trunc64to8
  (Const64  [c])) => (Const8   [int8(c)])
(Trunc64to16 (Const64  [c])) => (Const16  [int16(c)])
(Trunc64to32 (Const64  [c])) => (Const32  [int32(c)])
(Cvt64Fto32F (Const64F [c])) => (Const32F [float32(c)])
(Cvt32Fto64F (Const32F [c])) => (Const64F [float64(c)])
(Cvt32to32F  (Const32  [c])) => (Const32F [float32(c)])
(Cvt32to64F  (Const32  [c])) => (Const64F [float64(c)])
(Cvt64to32F  (Const64  [c])) => (Const32F [float32(c)])
(Cvt64to64F  (Const64  [c])) => (Const64F [float64(c)])
(Cvt32Fto32  (Const32F [c])) => (Const32  [int32(c)])
(Cvt32Fto64  (Const32F [c])) => (Const64  [int64(c)])
(Cvt64Fto32  (Const64F [c])) => (Const32  [int32(c)])
(Cvt64Fto64  (Const64F [c])) => (Const64  [int64(c)])
(Round32F x:(Const32F)) => x
(Round64F x:(Const64F)) => x
(CvtBoolToUint8 (ConstBool [false])) => (Const8 [0])
(CvtBoolToUint8 (ConstBool [true])) => (Const8 [1])

(Trunc16to8  (ZeroExt8to16  x)) => x
(Trunc32to8  (ZeroExt8to32  x)) => x
(Trunc32to16 (ZeroExt8to32  x)) => (ZeroExt8to16  x)
(Trunc32to16
 (ZeroExt16to32 x)) => x
(Trunc64to8  (ZeroExt8to64  x)) => x
(Trunc64to16 (ZeroExt8to64  x)) => (ZeroExt8to16  x)
(Trunc64to16 (ZeroExt16to64 x)) => x
```

```
(Trunc64to32 (ZeroExt8to64  x)) => (ZeroExt8to32  x)
(Trunc64to32 (ZeroExt16to64 x)) => (ZeroExt16to32 x)
(Trunc64to32 (ZeroExt32to64 x)) => x
(Trunc16to8  (SignExt8to16  x)) => x
(Trunc32to8  (SignExt8to32  x)) => x
(Trunc32to16 (SignExt8to32  x)) => (SignExt8to16  x)
(Trunc32to16 (SignExt16to32 x)) => x
(Trunc64to8  (SignExt8to64  x)) => x
(Trunc64to16 (SignExt8to64  x)) => (SignExt8to16  x)
(Trunc64to16 (SignExt16to64 x)) => x
(Trunc64to32 (SignExt8to64  x)) => (SignExt8to32  x)
(Trunc64to32 (SignExt16to64 x)) => (SignExt16to32 x)
(Trunc64to32 (SignExt32to64 x)) => x

(ZeroExt8to16  (Const8  [c])) => (Const16 [int16( uint8(c))])
(ZeroExt8to32  (Const8  [c])) => (Const32 [int32( uint8(c))])
(ZeroExt8to64  (Const8  [c])) => (Const64 [int64( uint8(c))])
(ZeroExt16to32 (Const16 [c])) => (Const32 [int32(uint16(c))])
(ZeroExt16to64
 (Const16 [c])) => (Const64 [int64(uint16(c))])
(ZeroExt32to64 (Const32 [c])) => (Const64 [int64(uint32(c))])
(SignExt8to16  (Const8  [c])) => (Const16 [int16(c)])
(SignExt8to32  (Const8  [c])) => (Const32 [int32(c)])
(SignExt8to64  (Const8  [c])) => (Const64 [int64(c)])
(SignExt16to32 (Const16 [c])) => (Const32 [int32(c)])
(SignExt16to64 (Const16 [c])) => (Const64 [int64(c)])
(SignExt32to64 (Const32 [c])) => (Const64 [int64(c)])

(Neg8   (Const8   [c])) => (Const8   [-c])
(Neg16  (Const16  [c])) => (Const16  [-c])
(Neg32  (Const32  [c])) => (Const32  [-c])
(Neg64  (Const64  [c])) => (Const64  [-c])
(Neg32F (Const32F [c])) && c != 0 => (Const32F [-c])
(Neg64F (Const64F [c])) && c != 0 => (Const64F [-c])

(Add8   (Const8 [c])   (Const8 [d]))   => (Const8  [c+d])
(Add16  (Const16 [c])  (Const16 [d]))  => (Const16 [c+d])
(Add32  (Const32 [c])  (Const32 [d]))  => (Const32 [c+d])
(Add64  (Const64 [c])  (Const64 [d]))  => (Const64 [c+d])
(Add32F (Const32F [c]) (Const32F [d])) && c+d == c+d
 => (Const32F [c+d])
(Add64F (Const64F [c]) (Const64F [d])) && c+d == c+d => (Const64F [c+d])
(AddPtr <t> x (Const64 [c])) => (OffPtr <t> x [c])
(AddPtr <t> x (Const32 [c])) => (OffPtr <t> x [int64(c)])

(Sub8   (Const8 [c]) (Const8 [d]))     => (Const8 [c-d])
(Sub16  (Const16 [c]) (Const16 [d]))   => (Const16 [c-d])
(Sub32  (Const32 [c]) (Const32 [d]))   => (Const32 [c-d])
```

```
(Sub64  (Const64 [c]) (Const64 [d]))   => (Const64 [c-d])
(Sub32F (Const32F [c]) (Const32F [d])) && c-d == c-d => (Const32F [c-d])
(Sub64F (Const64F [c]) (Const64F [d])) && c-d == c-d => (Const64F [c-d])

(Mul8   (Const8 [c])   (Const8 [d]))   => (Const8  [c*d])
(Mul16  (Const16 [c])  (Const16 [d]))  => (Const16 [c*d])
(Mul32  (Const32 [c])  (Const32 [d]))  => (Const32 [c*d])
(Mul64  (Const64 [c])  (Const64 [d]))  => (Const64 [c*d])
(Mul32F (Const32F [c]) (Const32F [d])) && c*d == c*d => (Const32F [c*d])
(Mul64F (Const64F [c]) (Const64F [d])) && c*d == c*d => (Const64F [c*d])

(And8   (Const8 [c])   (Const8 [d]))   =>
 (Const8  [c&d])
(And16  (Const16 [c])  (Const16 [d]))  => (Const16 [c&d])
(And32  (Const32 [c])  (Const32 [d]))  => (Const32 [c&d])
(And64  (Const64 [c])  (Const64 [d]))  => (Const64 [c&d])

(Or8   (Const8 [c])   (Const8 [d]))   => (Const8  [c|d])
(Or16  (Const16 [c])  (Const16 [d]))  => (Const16 [c|d])
(Or32  (Const32 [c])  (Const32 [d]))  => (Const32 [c|d])
(Or64  (Const64 [c])  (Const64 [d]))  => (Const64 [c|d])

(Xor8   (Const8 [c])   (Const8 [d]))   => (Const8  [c^d])
(Xor16  (Const16 [c])  (Const16 [d]))  => (Const16 [c^d])
(Xor32  (Const32 [c])  (Const32 [d]))  => (Const32 [c^d])
(Xor64  (Const64 [c])  (Const64 [d]))  => (Const64 [c^d])

(Ctz64 (Const64 [c])) && config.PtrSize == 4 => (Const32 [int32(ntz64(c))])
(Ctz32 (Const32 [c])) && config.PtrSize == 4 => (Const32 [int32(ntz32(c))])
(Ctz16 (Const16 [c])) && config.PtrSize == 4 => (Const32 [int32(ntz16(c))])
(Ctz8  (Const8  [c])) && config.PtrSize == 4 => (Const32 [int32(ntz8(c))])

(Ctz64 (Const64 [c])) && config.PtrSize ==
 8 => (Const64 [int64(ntz64(c))])
(Ctz32 (Const32 [c])) && config.PtrSize == 8 => (Const64 [int64(ntz32(c))])
(Ctz16 (Const16 [c])) && config.PtrSize == 8 => (Const64 [int64(ntz16(c))])
(Ctz8  (Const8  [c])) && config.PtrSize == 8 => (Const64 [int64(ntz8(c))])

(Div8   (Const8  [c])  (Const8  [d])) && d != 0 => (Const8  [c/d])
(Div16  (Const16 [c])  (Const16 [d])) && d != 0 => (Const16 [c/d])
(Div32  (Const32 [c])  (Const32 [d])) && d != 0 => (Const32 [c/d])
(Div64  (Const64 [c])  (Const64 [d])) && d != 0 => (Const64 [c/d])
(Div8u  (Const8  [c])  (Const8  [d])) && d != 0 => (Const8  [int8(uint8(c)/uint8(d))])
(Div16u (Const16 [c])  (Const16 [d])) && d != 0 => (Const16 [int16(uint16(c)/uint16(d))])
(Div32u (Const32 [c])  (Const32 [d])) && d != 0 => (Const32 [int32(uint32(c)/uint32(d))])
(Div64u (Const64 [c])  (Const64 [d])) && d != 0 => (Const64 [int64(uint64(c)/uint64(d))])
(Div32F (Const32F [c]) (Const32F [d])) && c/d == c/d => (Const32F [c/d])
(Div64F (Const64F [c]) (Const64F [d]))
```

```
 && c/d == c/d => (Const64F [c/d])
(Select0 (Div128u (Const64 [0]) lo y)) => (Div64u lo y)
(Select1 (Div128u (Const64 [0]) lo y)) => (Mod64u lo y)

(Not (ConstBool [c])) => (ConstBool [!c])

// Convert x * 1 to x.
(Mul(8|16|32|64)  (Const(8|16|32|64)  [1]) x) => x

// Convert x * -1 to -x.
(Mul(8|16|32|64)  (Const(8|16|32|64)  [-1]) x) => (Neg(8|16|32|64)  x)

// Convert multiplication by a power of two to a shift.
(Mul8  <t> n (Const8  [c])) && isPowerOfTwo8(c) => (Lsh8x64  <t> n (Const64 <typ.UInt64> [log8(c)]))
(Mul16 <t> n (Const16 [c])) && isPowerOfTwo16(c) => (Lsh16x64 <t> n (Const64 <typ.UInt64> [log16(c)]))
(Mul32 <t> n (Const32 [c])) && isPowerOfTwo32(c) => (Lsh32x64 <t> n (Const64 <typ.UInt64> [log32(c)]))
(Mul64 <t> n (Const64 [c])) && isPowerOfTwo64(c) => (Lsh64x64 <t> n (Const64 <typ.UInt64> [log64(c)]))
(Mul8  <t> n (Const8  [c])) && t.IsSigned() && isPowerOfTwo8(-c)  => (Neg8  (Lsh8x64  <t> n (Const64
<typ.UInt64> [log8(-c)])))
(Mul16 <t> n (Const16 [c])) && t.IsSigned()
 && isPowerOfTwo16(-c) => (Neg16 (Lsh16x64 <t> n (Const64 <typ.UInt64> [log16(-c)])))
(Mul32 <t> n (Const32 [c])) && t.IsSigned() && isPowerOfTwo32(-c) => (Neg32 (Lsh32x64 <t> n (Const64
<typ.UInt64> [log32(-c)])))
(Mul64 <t> n (Const64 [c])) && t.IsSigned() && isPowerOfTwo64(-c) => (Neg64 (Lsh64x64 <t> n (Const64
<typ.UInt64> [log64(-c)])))

(Mod8  (Const8  [c]) (Const8  [d])) && d != 0 => (Const8  [c % d])
(Mod16 (Const16 [c]) (Const16 [d])) && d != 0 => (Const16 [c % d])
(Mod32 (Const32 [c]) (Const32 [d])) && d != 0 => (Const32 [c % d])
(Mod64 (Const64 [c]) (Const64 [d])) && d != 0 => (Const64 [c % d])

(Mod8u  (Const8 [c])  (Const8  [d])) && d != 0 => (Const8  [int8(uint8(c) % uint8(d))])
(Mod16u (Const16 [c]) (Const16 [d])) && d != 0 => (Const16 [int16(uint16(c) % uint16(d))])
(Mod32u (Const32 [c]) (Const32 [d])) && d != 0 => (Const32 [int32(uint32(c) % uint32(d))])
(Mod64u (Const64 [c]) (Const64 [d])) && d != 0 => (Const64 [int64(uint64(c) % uint64(d))])

(Lsh64x64  (Const64 [c])
 (Const64 [d])) => (Const64 [c << uint64(d)])
(Rsh64x64  (Const64 [c]) (Const64 [d])) => (Const64 [c >> uint64(d)])
(Rsh64Ux64 (Const64 [c]) (Const64 [d])) => (Const64 [int64(uint64(c) >> uint64(d))])
(Lsh32x64  (Const32 [c]) (Const64 [d])) => (Const32 [c << uint64(d)])
(Rsh32x64  (Const32 [c]) (Const64 [d])) => (Const32 [c >> uint64(d)])
(Rsh32Ux64 (Const32 [c]) (Const64 [d])) => (Const32 [int32(uint32(c) >> uint64(d))])
(Lsh16x64  (Const16 [c]) (Const64 [d])) => (Const16 [c << uint64(d)])
(Rsh16x64  (Const16 [c]) (Const64 [d])) => (Const16 [c >> uint64(d)])
(Rsh16Ux64 (Const16 [c]) (Const64 [d])) => (Const16 [int16(uint16(c) >> uint64(d))])
(Lsh8x64   (Const8  [c]) (Const64 [d])) => (Const8  [c << uint64(d)])
(Rsh8x64   (Const8  [c]) (Const64 [d])) => (Const8  [c >> uint64(d)])
```

```
(Rsh8Ux64  (Const8  [c]) (Const64 [d])) => (Const8  [int8(uint8(c) >> uint64(d))])

// Fold IsInBounds when the range of the index cannot exceed the limit.
(IsInBounds (ZeroExt8to32  _) (Const32 [c])) && (1 <<
 8)  <= c => (ConstBool [true])
(IsInBounds (ZeroExt8to64  _) (Const64 [c])) && (1 << 8)  <= c => (ConstBool [true])
(IsInBounds (ZeroExt16to32 _) (Const32 [c])) && (1 << 16) <= c => (ConstBool [true])
(IsInBounds (ZeroExt16to64 _) (Const64 [c])) && (1 << 16) <= c => (ConstBool [true])
(IsInBounds x x) => (ConstBool [false])
(IsInBounds              (And8  (Const8  [c]) _)  (Const8  [d])) && 0 <= c && c < d => (ConstBool [true])
(IsInBounds (ZeroExt8to16  (And8  (Const8  [c]) _)) (Const16 [d])) && 0 <= c && int16(c) < d => (ConstBool
[true])
(IsInBounds (ZeroExt8to32  (And8  (Const8  [c]) _)) (Const32 [d])) && 0 <= c && int32(c) < d => (ConstBool
[true])
(IsInBounds (ZeroExt8to64  (And8  (Const8  [c]) _)) (Const64 [d])) && 0 <= c && int64(c) < d => (ConstBool
[true])
(IsInBounds              (And16 (Const16 [c]) _)  (Const16 [d])) && 0 <= c && c < d => (ConstBool [true])
(IsInBounds (ZeroExt16to32 (And16 (Const16 [c]) _)) (Const32 [d])) && 0 <= c && int32(c) < d => (ConstBool
[true])
(IsInBounds
 (ZeroExt16to64 (And16 (Const16 [c]) _)) (Const64 [d])) && 0 <= c && int64(c) < d => (ConstBool [true])
(IsInBounds              (And32 (Const32 [c]) _)  (Const32 [d])) && 0 <= c && c < d => (ConstBool [true])
(IsInBounds (ZeroExt32to64 (And32 (Const32 [c]) _)) (Const64 [d])) && 0 <= c && int64(c) < d => (ConstBool
[true])
(IsInBounds              (And64 (Const64 [c]) _)  (Const64 [d])) && 0 <= c && c < d => (ConstBool [true])
(IsInBounds (Const32 [c]) (Const32 [d])) => (ConstBool [0 <= c && c < d])
(IsInBounds (Const64 [c]) (Const64 [d])) => (ConstBool [0 <= c && c < d])
// (Mod64u x y) is always between 0 (inclusive) and y (exclusive).
(IsInBounds (Mod32u _ y) y) => (ConstBool [true])
(IsInBounds (Mod64u _ y) y) => (ConstBool [true])
// Right shifting an unsigned number limits its value.
(IsInBounds (ZeroExt8to64  (Rsh8Ux64  _ (Const64 [c]))) (Const64 [d])) && 0 < c && c <  8 && 1<<uint( 8-c)-1
< d => (ConstBool [true])
(IsInBounds (ZeroExt8to32  (Rsh8Ux64  _ (Const64
 [c]))) (Const32 [d])) && 0 < c && c <  8 && 1<<uint( 8-c)-1 < d => (ConstBool [true])
(IsInBounds (ZeroExt8to16  (Rsh8Ux64  _ (Const64 [c]))) (Const16 [d])) && 0 < c && c <  8 && 1<<uint( 8-c)-1
< d => (ConstBool [true])
(IsInBounds              (Rsh8Ux64  _ (Const64 [c]))  (Const64 [d])) && 0 < c && c <  8 && 1<<uint( 8-c)-1 < d =>
(ConstBool [true])
(IsInBounds (ZeroExt16to64 (Rsh16Ux64 _ (Const64 [c]))) (Const64 [d])) && 0 < c && c < 16 && 1<<uint(16-c)-
1 < d => (ConstBool [true])
(IsInBounds (ZeroExt16to32 (Rsh16Ux64 _ (Const64 [c]))) (Const64 [d])) && 0 < c && c < 16 && 1<<uint(16-c)-
1 < d => (ConstBool [true])
(IsInBounds              (Rsh16Ux64 _ (Const64 [c]))  (Const64 [d])) && 0 < c && c < 16 && 1<<uint(16-c)-1 < d
=> (ConstBool [true])
(IsInBounds (ZeroExt32to64 (Rsh32Ux64 _ (Const64 [c]))) (Const64 [d])) && 0 < c && c < 32 && 1<<uint(32-c)-
1 < d => (ConstBool [true])
(IsInBounds              (Rsh32Ux64 _ (Const64 [c]))  (Const64 [d])) && 0 < c && c < 32 && 1<<uint(32-c)-1
```

```
 < d => (ConstBool [true])
(IsInBounds                (Rsh64Ux64 _ (Const64 [c]))  (Const64 [d])) && 0 < c && c < 64 && 1<<uint(64-c)-1 < d
=> (ConstBool [true])

(IsSliceInBounds x x) => (ConstBool [true])
(IsSliceInBounds (And32 (Const32 [c]) _) (Const32 [d])) && 0 <= c && c <= d => (ConstBool [true])
(IsSliceInBounds (And64 (Const64 [c]) _) (Const64 [d])) && 0 <= c && c <= d => (ConstBool [true])
(IsSliceInBounds (Const32 [0]) _) => (ConstBool [true])
(IsSliceInBounds (Const64 [0]) _) => (ConstBool [true])
(IsSliceInBounds (Const32 [c]) (Const32 [d])) => (ConstBool [0 <= c && c <= d])
(IsSliceInBounds (Const64 [c]) (Const64 [d])) => (ConstBool [0 <= c && c <= d])
(IsSliceInBounds (SliceLen x) (SliceCap x)) => (ConstBool [true])

(Eq(64|32|16|8) x x) => (ConstBool [true])
(EqB (ConstBool [c]) (ConstBool [d])) => (ConstBool [c == d])
(EqB (ConstBool [false]) x) => (Not x)
(EqB (ConstBool [true]) x) => x

(Neq(64|32|16|8) x x) => (ConstBool [false])
(NeqB (ConstBool [c]) (ConstBool
 [d])) => (ConstBool [c != d])
(NeqB (ConstBool [false]) x) => x
(NeqB (ConstBool [true]) x) => (Not x)
(NeqB (Not x) (Not y)) => (NeqB x y)

(Eq64 (Const64 <t> [c]) (Add64 (Const64 <t> [d]) x)) => (Eq64 (Const64 <t> [c-d]) x)
(Eq32 (Const32 <t> [c]) (Add32 (Const32 <t> [d]) x)) => (Eq32 (Const32 <t> [c-d]) x)
(Eq16 (Const16 <t> [c]) (Add16 (Const16 <t> [d]) x)) => (Eq16 (Const16 <t> [c-d]) x)
(Eq8  (Const8  <t> [c]) (Add8  (Const8  <t> [d]) x)) => (Eq8  (Const8  <t> [c-d]) x)

(Neq64 (Const64 <t> [c]) (Add64 (Const64 <t> [d]) x)) => (Neq64 (Const64 <t> [c-d]) x)
(Neq32 (Const32 <t> [c]) (Add32 (Const32 <t> [d]) x)) => (Neq32 (Const32 <t> [c-d]) x)
(Neq16 (Const16 <t> [c]) (Add16 (Const16 <t> [d]) x)) => (Neq16 (Const16 <t> [c-d]) x)
(Neq8  (Const8  <t> [c]) (Add8  (Const8  <t> [d]) x)) => (Neq8  (Const8  <t> [c-d]) x)

// signed integer range: ( c <= x && x (<|<=) d ) -> ( unsigned(x-c) (<|<=) unsigned(d-c) )
(AndB (Leq64 (Const64 [c]) x) ((Less|Leq)64 x (Const64 [d]))) && d >= c =>
 ((Less|Leq)64U (Sub64 <x.Type> x (Const64 <x.Type> [c])) (Const64 <x.Type> [d-c]))
(AndB (Leq32 (Const32 [c]) x) ((Less|Leq)32 x (Const32 [d]))) && d >= c => ((Less|Leq)32U (Sub32 <x.Type> x
(Const32 <x.Type> [c])) (Const32 <x.Type> [d-c]))
(AndB (Leq16 (Const16 [c]) x) ((Less|Leq)16 x (Const16 [d]))) && d >= c => ((Less|Leq)16U (Sub16 <x.Type> x
(Const16 <x.Type> [c])) (Const16 <x.Type> [d-c]))
(AndB (Leq8  (Const8  [c]) x) ((Less|Leq)8  x (Const8  [d]))) && d >= c => ((Less|Leq)8U  (Sub8  <x.Type> x
(Const8  <x.Type> [c])) (Const8  <x.Type> [d-c]))

// signed integer range: ( c < x && x (<|<=) d ) -> ( unsigned(x-(c+1)) (<|<=) unsigned(d-(c+1)) )
(AndB (Less64 (Const64 [c]) x) ((Less|Leq)64 x (Const64 [d]))) && d >= c+1 && c+1 > c => ((Less|Leq)64U
(Sub64 <x.Type> x (Const64 <x.Type> [c+1])) (Const64 <x.Type> [d-c-1]))
```

(AndB (Less32 (Const32 [c]) x) ((Less|Leq)32 x (Const32 [d])) && d >= c+1 && c+1 > c => ((Less|Leq)32U (Sub32 <x.Type> x (Const32 <x.Type> [c+1])) (Const32 <x.Type>
[d-c-1]))
(AndB (Less16 (Const16 [c]) x) ((Less|Leq)16 x (Const16 [d])) && d >= c+1 && c+1 > c => ((Less|Leq)16U (Sub16 <x.Type> x (Const16 <x.Type> [c+1])) (Const16 <x.Type> [d-c-1]))
(AndB (Less8 (Const8 [c]) x) ((Less|Leq)8 x (Const8 [d])) && d >= c+1 && c+1 > c => ((Less|Leq)8U (Sub8 <x.Type> x (Const8 <x.Type> [c+1])) (Const8 <x.Type> [d-c-1]))

// unsigned integer range: (c <= x && x (<|<=) d) -> (x-c (<|<=) d-c)
(AndB (Leq64U (Const64 [c]) x) ((Less|Leq)64U x (Const64 [d])) && uint64(d) >= uint64(c) => ((Less|Leq)64U (Sub64 <x.Type> x (Const64 <x.Type> [c])) (Const64 <x.Type> [d-c]))
(AndB (Leq32U (Const32 [c]) x) ((Less|Leq)32U x (Const32 [d])) && uint32(d) >= uint32(c) => ((Less|Leq)32U (Sub32 <x.Type> x (Const32 <x.Type> [c])) (Const32 <x.Type> [d-c]))
(AndB (Leq16U (Const16 [c]) x) ((Less|Leq)16U x (Const16 [d])) && uint16(d) >= uint16(c) => ((Less|Leq)16U (Sub16 <x.Type> x (Const16 <x.Type> [c])) (Const16 <x.Type> [d-c]))
(AndB (Leq8U (Const8 [c]) x) ((Less|Leq)8U
x (Const8 [d])) && uint8(d) >= uint8(c) => ((Less|Leq)8U (Sub8 <x.Type> x (Const8 <x.Type> [c])) (Const8 <x.Type> [d-c]))

// unsigned integer range: (c < x && x (<|<=) d) -> (x-(c+1) (<|<=) d-(c+1))
(AndB (Less64U (Const64 [c]) x) ((Less|Leq)64U x (Const64 [d])) && uint64(d) >= uint64(c+1) && uint64(c+1) > uint64(c) => ((Less|Leq)64U (Sub64 <x.Type> x (Const64 <x.Type> [c+1])) (Const64 <x.Type> [d-c-1]))
(AndB (Less32U (Const32 [c]) x) ((Less|Leq)32U x (Const32 [d])) && uint32(d) >= uint32(c+1) && uint32(c+1) > uint32(c) => ((Less|Leq)32U (Sub32 <x.Type> x (Const32 <x.Type> [c+1])) (Const32 <x.Type> [d-c-1]))
(AndB (Less16U (Const16 [c]) x) ((Less|Leq)16U x (Const16 [d])) && uint16(d) >= uint16(c+1) && uint16(c+1) > uint16(c) => ((Less|Leq)16U (Sub16 <x.Type> x (Const16 <x.Type> [c+1])) (Const16 <x.Type> [d-c-1]))
(AndB (Less8U (Const8 [c]) x) ((Less|Leq)8U x (Const8 [d])) && uint8(d) >= uint8(c+1) && uint8(c+1) > uint8(c) => ((Less|Leq)8U (Sub8 <x.Type>
x (Const8 <x.Type> [c+1])) (Const8 <x.Type> [d-c-1]))

// signed integer range: (c (<|<=) x || x < d) -> (unsigned(c-d) (<|<=) unsigned(x-d))
(OrB ((Less|Leq)64 (Const64 [c]) x) (Less64 x (Const64 [d])) && c >= d => ((Less|Leq)64U (Const64 <x.Type> [c-d]) (Sub64 <x.Type> x (Const64 <x.Type> [d])))
(OrB ((Less|Leq)32 (Const32 [c]) x) (Less32 x (Const32 [d])) && c >= d => ((Less|Leq)32U (Const32 <x.Type> [c-d]) (Sub32 <x.Type> x (Const32 <x.Type> [d])))
(OrB ((Less|Leq)16 (Const16 [c]) x) (Less16 x (Const16 [d])) && c >= d => ((Less|Leq)16U (Const16 <x.Type> [c-d]) (Sub16 <x.Type> x (Const16 <x.Type> [d])))
(OrB ((Less|Leq)8 (Const8 [c]) x) (Less8 x (Const8 [d])) && c >= d => ((Less|Leq)8U (Const8 <x.Type> [c-d]) (Sub8 <x.Type> x (Const8 <x.Type> [d])))

// signed integer range: (c (<|<=) x || x <= d) -> (unsigned(c-(d+1)) (<|<=) unsigned(x-(d+1)))
(OrB ((Less|Leq)64 (Const64 [c]) x) (Leq64 x (Const64 [d])) && c >= d+1 && d+1 > d => ((Less|Leq)64U (Const64
<x.Type> [c-d-1]) (Sub64 <x.Type> x (Const64 <x.Type> [d+1])))
(OrB ((Less|Leq)32 (Const32 [c]) x) (Leq32 x (Const32 [d])) && c >= d+1 && d+1 > d => ((Less|Leq)32U (Const32 <x.Type> [c-d-1]) (Sub32 <x.Type> x (Const32 <x.Type> [d+1])))
(OrB ((Less|Leq)16 (Const16 [c]) x) (Leq16 x (Const16 [d])) && c >= d+1 && d+1 > d => ((Less|Leq)16U (Const16 <x.Type> [c-d-1]) (Sub16 <x.Type> x (Const16 <x.Type> [d+1])))

```
(OrB ((Less|Leq)8  (Const8  [c]) x) (Leq8  x (Const8  [d]))) && c >= d+1 && d+1 > d => ((Less|Leq)8U  (Const8
<x.Type> [c-d-1]) (Sub8  <x.Type> x (Const8  <x.Type> [d+1])))

// unsigned integer range: ( c (<|<=) x || x < d ) -> ( c-d (<|<=) x-d )
(OrB ((Less|Leq)64U (Const64 [c]) x) (Less64U x (Const64 [d]))) && uint64(c) >= uint64(d) => ((Less|Leq)64U
(Const64 <x.Type> [c-d]) (Sub64 <x.Type> x (Const64 <x.Type> [d])))
(OrB ((Less|Leq)32U (Const32 [c]) x) (Less32U x (Const32 [d]))) && uint32(c) >= uint32(d) => ((Less|Leq)32U
(Const32 <x.Type> [c-d]) (Sub32 <x.Type> x (Const32 <x.Type>
 [d])))
(OrB ((Less|Leq)16U (Const16 [c]) x) (Less16U x (Const16 [d]))) && uint16(c) >= uint16(d) => ((Less|Leq)16U
(Const16 <x.Type> [c-d]) (Sub16 <x.Type> x (Const16 <x.Type> [d])))
(OrB ((Less|Leq)8U  (Const8  [c]) x) (Less8U  x (Const8  [d]))) && uint8(c)  >= uint8(d)  => ((Less|Leq)8U
(Const8  <x.Type> [c-d]) (Sub8  <x.Type> x (Const8  <x.Type> [d])))

// unsigned integer range: ( c (<|<=) x || x <= d ) -> ( c-(d+1) (<|<=) x-(d+1) )
(OrB ((Less|Leq)64U (Const64 [c]) x) (Leq64U x (Const64 [d]))) && uint64(c) >= uint64(d+1) && uint64(d+1) >
uint64(d) => ((Less|Leq)64U (Const64 <x.Type> [c-d-1]) (Sub64 <x.Type> x (Const64 <x.Type> [d+1])))
(OrB ((Less|Leq)32U (Const32 [c]) x) (Leq32U x (Const32 [d]))) && uint32(c) >= uint32(d+1) && uint32(d+1) >
uint32(d) => ((Less|Leq)32U (Const32 <x.Type> [c-d-1]) (Sub32 <x.Type> x (Const32 <x.Type> [d+1])))
(OrB ((Less|Leq)16U (Const16 [c]) x) (Leq16U x (Const16 [d]))) && uint16(c) >= uint16(d+1) && uint16(d+1) >
uint16(d) => ((Less|Leq)16U (Const16
 <x.Type> [c-d-1]) (Sub16 <x.Type> x (Const16 <x.Type> [d+1])))
(OrB ((Less|Leq)8U  (Const8  [c]) x) (Leq8U  x (Const8  [d]))) && uint8(c)  >= uint8(d+1)  && uint8(d+1)  >
uint8(d)  => ((Less|Leq)8U  (Const8  <x.Type> [c-d-1]) (Sub8  <x.Type> x (Const8  <x.Type> [d+1])))

// Canonicalize x-const to x+(-const)
(Sub64 x (Const64 <t> [c])) && x.Op != OpConst64 => (Add64 (Const64 <t> [-c]) x)
(Sub32 x (Const32 <t> [c])) && x.Op != OpConst32 => (Add32 (Const32 <t> [-c]) x)
(Sub16 x (Const16 <t> [c])) && x.Op != OpConst16 => (Add16 (Const16 <t> [-c]) x)
(Sub8  x (Const8  <t> [c])) && x.Op != OpConst8  => (Add8  (Const8  <t> [-c]) x)

// fold negation into comparison operators
(Not (Eq(64|32|16|8|B|Ptr|64F|32F) x y)) => (Neq(64|32|16|8|B|Ptr|64F|32F) x y)
(Not (Neq(64|32|16|8|B|Ptr|64F|32F) x y)) => (Eq(64|32|16|8|B|Ptr|64F|32F) x y)

(Not (Less(64|32|16|8) x y)) => (Leq(64|32|16|8) y x)
(Not (Less(64|32|16|8)U x y)) => (Leq(64|32|16|8)U y x)
(Not (Leq(64|32|16|8) x y)) => (Less(64|32|16|8)
 y x)
(Not (Leq(64|32|16|8)U x y)) => (Less(64|32|16|8)U y x)

// Distribute multiplication c * (d+x) -> c*d + c*x. Useful for:
// a[i].b = ...; a[i+1].b = ...
(Mul64 (Const64 <t> [c]) (Add64 <t> (Const64 <t> [d]) x)) =>
 (Add64 (Const64 <t> [c*d]) (Mul64 <t> (Const64 <t> [c]) x))
(Mul32 (Const32 <t> [c]) (Add32 <t> (Const32 <t> [d]) x)) =>
 (Add32 (Const32 <t> [c*d]) (Mul32 <t> (Const32 <t> [c]) x))
```

```
// Rewrite x*y ± x*z  to  x*(y±z)
(Add(64|32|16|8) <t> (Mul(64|32|16|8) x y) (Mul(64|32|16|8) x z))
 => (Mul(64|32|16|8) x (Add(64|32|16|8) <t> y z))
(Sub(64|32|16|8) <t> (Mul(64|32|16|8) x y) (Mul(64|32|16|8) x z))
 => (Mul(64|32|16|8) x (Sub(64|32|16|8) <t> y z))

// rewrite shifts of 8/16/32 bit consts into 64 bit consts to reduce
// the number of the other rewrite rules for const shifts
(Lsh64x32  <t> x (Const32 [c])) => (Lsh64x64  x (Const64 <t> [int64(uint32(c))]))
(Lsh64x16  <t> x (Const16 [c])) => (Lsh64x64  x (Const64 <t> [int64(uint16(c))]))
(Lsh64x8   <t> x (Const8  [c]))
 => (Lsh64x64  x (Const64 <t> [int64(uint8(c))]))
(Rsh64x32  <t> x (Const32 [c])) => (Rsh64x64  x (Const64 <t> [int64(uint32(c))]))
(Rsh64x16  <t> x (Const16 [c])) => (Rsh64x64  x (Const64 <t> [int64(uint16(c))]))
(Rsh64x8   <t> x (Const8  [c])) => (Rsh64x64  x (Const64 <t> [int64(uint8(c))]))
(Rsh64Ux32 <t> x (Const32 [c])) => (Rsh64Ux64 x (Const64 <t> [int64(uint32(c))]))
(Rsh64Ux16 <t> x (Const16 [c])) => (Rsh64Ux64 x (Const64 <t> [int64(uint16(c))]))
(Rsh64Ux8  <t> x (Const8  [c])) => (Rsh64Ux64 x (Const64 <t> [int64(uint8(c))]))

(Lsh32x32  <t> x (Const32 [c])) => (Lsh32x64  x (Const64 <t> [int64(uint32(c))]))
(Lsh32x16  <t> x (Const16 [c])) => (Lsh32x64  x (Const64 <t> [int64(uint16(c))]))
(Lsh32x8   <t> x (Const8  [c])) => (Lsh32x64  x (Const64 <t> [int64(uint8(c))]))
(Rsh32x32  <t> x (Const32 [c])) => (Rsh32x64  x (Const64 <t> [int64(uint32(c))]))
(Rsh32x16  <t> x (Const16 [c])) => (Rsh32x64  x (Const64 <t> [int64(uint16(c))]))
(Rsh32x8   <t> x (Const8  [c])) => (Rsh32x64  x (Const64
 <t> [int64(uint8(c))]))
(Rsh32Ux32 <t> x (Const32 [c])) => (Rsh32Ux64 x (Const64 <t> [int64(uint32(c))]))
(Rsh32Ux16 <t> x (Const16 [c])) => (Rsh32Ux64 x (Const64 <t> [int64(uint16(c))]))
(Rsh32Ux8  <t> x (Const8  [c])) => (Rsh32Ux64 x (Const64 <t> [int64(uint8(c))]))

(Lsh16x32  <t> x (Const32 [c])) => (Lsh16x64  x (Const64 <t> [int64(uint32(c))]))
(Lsh16x16  <t> x (Const16 [c])) => (Lsh16x64  x (Const64 <t> [int64(uint16(c))]))
(Lsh16x8   <t> x (Const8  [c])) => (Lsh16x64  x (Const64 <t> [int64(uint8(c))]))
(Rsh16x32  <t> x (Const32 [c])) => (Rsh16x64  x (Const64 <t> [int64(uint32(c))]))
(Rsh16x16  <t> x (Const16 [c])) => (Rsh16x64  x (Const64 <t> [int64(uint16(c))]))
(Rsh16x8   <t> x (Const8  [c])) => (Rsh16x64  x (Const64 <t> [int64(uint8(c))]))
(Rsh16Ux32 <t> x (Const32 [c])) => (Rsh16Ux64 x (Const64 <t> [int64(uint32(c))]))
(Rsh16Ux16 <t> x (Const16 [c])) => (Rsh16Ux64 x (Const64 <t> [int64(uint16(c))]))
(Rsh16Ux8  <t> x (Const8  [c])) => (Rsh16Ux64 x (Const64 <t> [int64(uint8(c))]))

(Lsh8x32
  <t> x (Const32 [c])) => (Lsh8x64  x (Const64 <t> [int64(uint32(c))]))
(Lsh8x16  <t> x (Const16 [c])) => (Lsh8x64  x (Const64 <t> [int64(uint16(c))]))
(Lsh8x8   <t> x (Const8  [c])) => (Lsh8x64  x (Const64 <t> [int64(uint8(c))]))
(Rsh8x32  <t> x (Const32 [c])) => (Rsh8x64  x (Const64 <t> [int64(uint32(c))]))
(Rsh8x16  <t> x (Const16 [c])) => (Rsh8x64  x (Const64 <t> [int64(uint16(c))]))
(Rsh8x8   <t> x (Const8  [c])) => (Rsh8x64  x (Const64 <t> [int64(uint8(c))]))
(Rsh8Ux32 <t> x (Const32 [c])) => (Rsh8Ux64 x (Const64 <t> [int64(uint32(c))]))
```

```
(Rsh8Ux16 <t> x (Const16 [c])) => (Rsh8Ux64 x (Const64 <t> [int64(uint16(c))]))
(Rsh8Ux8  <t> x (Const8  [c])) => (Rsh8Ux64 x (Const64 <t> [int64(uint8(c))]))

// shifts by zero
(Lsh(64|32|16|8)x64  x (Const64 [0])) => x
(Rsh(64|32|16|8)x64  x (Const64 [0])) => x
(Rsh(64|32|16|8)Ux64 x (Const64 [0])) => x

// rotates by multiples of register width
(RotateLeft64 x (Const64 [c])) && c%64 == 0 => x
(RotateLeft32 x (Const32 [c]))
 && c%32 == 0 => x
(RotateLeft16 x (Const16 [c])) && c%16 == 0 => x
(RotateLeft8  x (Const8 [c]))  && c%8  == 0 => x

// zero shifted
(Lsh64x(64|32|16|8)  (Const64 [0]) _) => (Const64 [0])
(Rsh64x(64|32|16|8)  (Const64 [0]) _) => (Const64 [0])
(Rsh64Ux(64|32|16|8) (Const64 [0]) _) => (Const64 [0])
(Lsh32x(64|32|16|8)  (Const32 [0]) _) => (Const32 [0])
(Rsh32x(64|32|16|8)  (Const32 [0]) _) => (Const32 [0])
(Rsh32Ux(64|32|16|8) (Const32 [0]) _) => (Const32 [0])
(Lsh16x(64|32|16|8)  (Const16 [0]) _) => (Const16 [0])
(Rsh16x(64|32|16|8)  (Const16 [0]) _) => (Const16 [0])
(Rsh16Ux(64|32|16|8) (Const16 [0]) _) => (Const16 [0])
(Lsh8x(64|32|16|8)   (Const8  [0]) _) => (Const8  [0])
(Rsh8x(64|32|16|8)   (Const8  [0]) _) => (Const8  [0])
(Rsh8Ux(64|32|16|8)  (Const8  [0]) _) => (Const8  [0])

// large left shifts of all values, and right shifts of unsigned values
((Lsh64|Rsh64U)x64  _ (Const64 [c])) && uint64(c) >= 64 => (Const64 [0])
((Lsh32|Rsh32U)x64  _ (Const64 [c])) && uint64(c) >= 32 => (Const32
 [0])
((Lsh16|Rsh16U)x64  _ (Const64 [c])) && uint64(c) >= 16 => (Const16 [0])
((Lsh8|Rsh8U)x64    _ (Const64 [c])) && uint64(c) >= 8  => (Const8  [0])

// combine const shifts
(Lsh64x64 <t> (Lsh64x64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Lsh64x64 x (Const64 <t> [c+d]))
(Lsh32x64 <t> (Lsh32x64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Lsh32x64 x (Const64 <t> [c+d]))
(Lsh16x64 <t> (Lsh16x64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Lsh16x64 x (Const64 <t> [c+d]))
(Lsh8x64  <t> (Lsh8x64  x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Lsh8x64  x (Const64 <t> [c+d]))

(Rsh64x64 <t> (Rsh64x64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Rsh64x64 x (Const64 <t> [c+d]))
(Rsh32x64 <t> (Rsh32x64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Rsh32x64 x (Const64 <t> [c+d]))
(Rsh16x64 <t> (Rsh16x64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Rsh16x64 x (Const64 <t> [c+d]))
(Rsh8x64  <t> (Rsh8x64  x (Const64 [c])) (Const64 [d]))
 && !uaddOvf(c,d) => (Rsh8x64  x (Const64 <t> [c+d]))
```

```
(Rsh64Ux64 <t> (Rsh64Ux64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Rsh64Ux64 x (Const64 <t> [c+d]))
(Rsh32Ux64 <t> (Rsh32Ux64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Rsh32Ux64 x (Const64 <t> [c+d]))
(Rsh16Ux64 <t> (Rsh16Ux64 x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Rsh16Ux64 x (Const64 <t> [c+d]))
(Rsh8Ux64  <t> (Rsh8Ux64  x (Const64 [c])) (Const64 [d])) && !uaddOvf(c,d) => (Rsh8Ux64  x (Const64 <t> [c+d]))

// Remove signed right shift before an unsigned right shift that extracts the sign bit.
(Rsh8Ux64  (Rsh8x64  x _) (Const64 <t> [7] )) => (Rsh8Ux64  x (Const64 <t> [7] ))
(Rsh16Ux64 (Rsh16x64 x _) (Const64 <t> [15])) => (Rsh16Ux64 x (Const64 <t> [15]))
(Rsh32Ux64 (Rsh32x64 x _) (Const64 <t> [31])) => (Rsh32Ux64 x (Const64 <t> [31]))
(Rsh64Ux64 (Rsh64x64 x _) (Const64 <t> [63])) => (Rsh64Ux64 x (Const64 <t> [63]))

// ((x >> c1) << c2) >> c3
(Rsh(64|32|16|8)Ux64 (Lsh(64|32|16|8)x64 (Rsh(64|32|16|8)Ux64
 x (Const64 [c1])) (Const64 [c2])) (Const64 [c3]))
 && uint64(c1) >= uint64(c2) && uint64(c3) >= uint64(c2) && !uaddOvf(c1-c2, c3)
 => (Rsh(64|32|16|8)Ux64 x (Const64 <typ.UInt64> [c1-c2+c3]))

// ((x << c1) >> c2) << c3
(Lsh(64|32|16|8)x64 (Rsh(64|32|16|8)Ux64 (Lsh(64|32|16|8)x64 x (Const64 [c1])) (Const64 [c2])) (Const64 [c3]))
 && uint64(c1) >= uint64(c2) && uint64(c3) >= uint64(c2) && !uaddOvf(c1-c2, c3)
 => (Lsh(64|32|16|8)x64 x (Const64 <typ.UInt64> [c1-c2+c3]))

// (x >> c) & uppermask = 0
(And64 (Const64 [m]) (Rsh64Ux64 _ (Const64 [c]))) && c >= int64(64-ntz64(m)) => (Const64 [0])
(And32 (Const32 [m]) (Rsh32Ux64 _ (Const64 [c]))) && c >= int64(32-ntz32(m)) => (Const32 [0])
(And16 (Const16 [m]) (Rsh16Ux64 _ (Const64 [c]))) && c >= int64(16-ntz16(m)) => (Const16 [0])
(And8  (Const8  [m]) (Rsh8Ux64  _ (Const64 [c]))) && c >= int64(8-ntz8(m))  => (Const8  [0])

// (x << c) & lowermask = 0
(And64 (Const64 [m]) (Lsh64x64  _ (Const64 [c]))) && c >= int64(64-nlz64(m)) =>
 (Const64 [0])
(And32 (Const32 [m]) (Lsh32x64  _ (Const64 [c]))) && c >= int64(32-nlz32(m)) => (Const32 [0])
(And16 (Const16 [m]) (Lsh16x64  _ (Const64 [c]))) && c >= int64(16-nlz16(m)) => (Const16 [0])
(And8  (Const8  [m]) (Lsh8x64   _ (Const64 [c]))) && c >= int64(8-nlz8(m))  => (Const8  [0])

// replace shifts with zero extensions
(Rsh16Ux64 (Lsh16x64 x (Const64  [8])) (Const64  [8])) => (ZeroExt8to16  (Trunc16to8  <typ.UInt8>  x))
(Rsh32Ux64 (Lsh32x64 x (Const64 [24])) (Const64 [24])) => (ZeroExt8to32  (Trunc32to8  <typ.UInt8>  x))
(Rsh64Ux64 (Lsh64x64 x (Const64 [56])) (Const64 [56])) => (ZeroExt8to64  (Trunc64to8  <typ.UInt8>  x))
(Rsh32Ux64 (Lsh32x64 x (Const64 [16])) (Const64 [16])) => (ZeroExt16to32 (Trunc32to16 <typ.UInt16> x))
(Rsh64Ux64 (Lsh64x64 x (Const64 [48])) (Const64 [48])) => (ZeroExt16to64 (Trunc64to16 <typ.UInt16> x))
(Rsh64Ux64 (Lsh64x64 x (Const64 [32])) (Const64 [32])) => (ZeroExt32to64 (Trunc64to32 <typ.UInt32> x))

// replace shifts with sign extensions
```

```
(Rsh16x64
 (Lsh16x64 x (Const64  [8])) (Const64  [8])) => (SignExt8to16  (Trunc16to8  <typ.Int8>  x))
(Rsh32x64 (Lsh32x64 x (Const64 [24])) (Const64 [24])) => (SignExt8to32  (Trunc32to8  <typ.Int8>  x))
(Rsh64x64 (Lsh64x64 x (Const64 [56])) (Const64 [56])) => (SignExt8to64  (Trunc64to8  <typ.Int8>  x))
(Rsh32x64 (Lsh32x64 x (Const64 [16])) (Const64 [16])) => (SignExt16to32 (Trunc32to16 <typ.Int16> x))
(Rsh64x64 (Lsh64x64 x (Const64 [48])) (Const64 [48])) => (SignExt16to64 (Trunc64to16 <typ.Int16> x))
(Rsh64x64 (Lsh64x64 x (Const64 [32])) (Const64 [32])) => (SignExt32to64 (Trunc64to32 <typ.Int32> x))

// constant comparisons
(Eq(64|32|16|8)   (Const(64|32|16|8) [c]) (Const(64|32|16|8) [d])) => (ConstBool [c == d])
(Neq(64|32|16|8)  (Const(64|32|16|8) [c]) (Const(64|32|16|8) [d])) => (ConstBool [c != d])
(Less(64|32|16|8) (Const(64|32|16|8) [c]) (Const(64|32|16|8) [d])) => (ConstBool [c < d])
(Leq(64|32|16|8)  (Const(64|32|16|8) [c]) (Const(64|32|16|8) [d])) => (ConstBool [c <= d])

(Less64U (Const64
 [c]) (Const64 [d])) => (ConstBool [uint64(c) < uint64(d)])
(Less32U (Const32 [c]) (Const32 [d])) => (ConstBool [uint32(c) < uint32(d)])
(Less16U (Const16 [c]) (Const16 [d])) => (ConstBool [uint16(c) < uint16(d)])
(Less8U  (Const8  [c]) (Const8  [d])) => (ConstBool [ uint8(c) <  uint8(d)])

(Leq64U (Const64 [c]) (Const64 [d])) => (ConstBool [uint64(c) <= uint64(d)])
(Leq32U (Const32 [c]) (Const32 [d])) => (ConstBool [uint32(c) <= uint32(d)])
(Leq16U (Const16 [c]) (Const16 [d])) => (ConstBool [uint16(c) <= uint16(d)])
(Leq8U  (Const8  [c]) (Const8  [d])) => (ConstBool [ uint8(c) <=  uint8(d)])

(Leq8  (Const8  [0]) (And8  _ (Const8  [c]))) && c >= 0 => (ConstBool [true])
(Leq16 (Const16 [0]) (And16 _ (Const16 [c]))) && c >= 0 => (ConstBool [true])
(Leq32 (Const32 [0]) (And32 _ (Const32 [c]))) && c >= 0 => (ConstBool [true])
(Leq64 (Const64 [0]) (And64 _ (Const64 [c]))) && c >= 0 => (ConstBool [true])

(Leq8  (Const8  [0]) (Rsh8Ux64  _ (Const64 [c]))) && c > 0 => (ConstBool [true])
(Leq16
 (Const16 [0]) (Rsh16Ux64 _ (Const64 [c]))) && c > 0 => (ConstBool [true])
(Leq32 (Const32 [0]) (Rsh32Ux64 _ (Const64 [c]))) && c > 0 => (ConstBool [true])
(Leq64 (Const64 [0]) (Rsh64Ux64 _ (Const64 [c]))) && c > 0 => (ConstBool [true])

(Less(64|32|16|8) (Const(64|32|16|8) <t> [0]) x) && isNonNegative(x) => (Neq(64|32|16|8) (Const(64|32|16|8) <t>
[0]) x)
(Less(64|32|16|8) x (Const(64|32|16|8) <t> [1])) && isNonNegative(x) => (Eq(64|32|16|8) (Const(64|32|16|8) <t>
[0]) x)

// constant floating point comparisons
(Eq32F   (Const32F [c]) (Const32F [d])) => (ConstBool [c == d])
(Eq64F   (Const64F [c]) (Const64F [d])) => (ConstBool [c == d])
(Neq32F  (Const32F [c]) (Const32F [d])) => (ConstBool [c != d])
(Neq64F  (Const64F [c]) (Const64F [d])) => (ConstBool [c != d])
(Less32F (Const32F [c]) (Const32F [d])) => (ConstBool [c < d])
(Less64F (Const64F [c]) (Const64F [d])) => (ConstBool [c < d])
```

```
(Leq32F  (Const32F [c]) (Const32F [d])) => (ConstBool [c <= d])
(Leq64F  (Const64F [c]) (Const64F
 [d])) => (ConstBool [c <= d])

// simplifications
(Or(64|32|16|8) x x) => x
(Or(64|32|16|8) (Const(64|32|16|8)  [0]) x) => x
(Or(64|32|16|8) (Const(64|32|16|8) [-1]) _) => (Const(64|32|16|8) [-1])
(Or(64|32|16|8) (Com(64|32|16|8)     x)  x) => (Const(64|32|16|8) [-1])

(And(64|32|16|8) x x) => x
(And(64|32|16|8) (Const(64|32|16|8) [-1]) x) => x
(And(64|32|16|8) (Const(64|32|16|8)  [0]) _) => (Const(64|32|16|8) [0])
(And(64|32|16|8) (Com(64|32|16|8)     x)  x) => (Const(64|32|16|8) [0])

(Xor(64|32|16|8) x x) => (Const(64|32|16|8) [0])
(Xor(64|32|16|8) (Const(64|32|16|8) [0]) x) => x
(Xor(64|32|16|8) (Com(64|32|16|8)    x)  x) => (Const(64|32|16|8) [-1])

(Add(64|32|16|8) (Const(64|32|16|8) [0]) x) => x
(Sub(64|32|16|8) x x) => (Const(64|32|16|8) [0])
(Mul(64|32|16|8) (Const(64|32|16|8) [0]) _) => (Const(64|32|16|8) [0])

(Com(64|32|16|8) (Com(64|32|16|8)  x)) => x
(Com(64|32|16|8) (Const(64|32|16|8) [c])) => (Const(64|32|16|8) [^c])

(Neg(64|32|16|8) (Sub(64|32|16|8) x y)) => (Sub(64|32|16|8)
 y x)
(Add(64|32|16|8) x (Neg(64|32|16|8) y)) => (Sub(64|32|16|8) x y)

(Xor(64|32|16|8) (Const(64|32|16|8) [-1]) x) => (Com(64|32|16|8) x)

(Sub(64|32|16|8) (Neg(64|32|16|8) x) (Com(64|32|16|8) x)) => (Const(64|32|16|8) [1])
(Sub(64|32|16|8) (Com(64|32|16|8) x) (Neg(64|32|16|8) x)) => (Const(64|32|16|8) [-1])
(Add(64|32|16|8) (Com(64|32|16|8) x)                x)  => (Const(64|32|16|8) [-1])

// ^(x-1) == ^x+1 == -x
(Add(64|32|16|8) (Const(64|32|16|8) [1]) (Com(64|32|16|8) x)) => (Neg(64|32|16|8) x)
(Com(64|32|16|8) (Add(64|32|16|8) (Const(64|32|16|8) [-1]) x)) => (Neg(64|32|16|8) x)

// -(-x) == x
(Neg(64|32|16|8) (Neg(64|32|16|8) x)) => x

// -^x == x+1
(Neg(64|32|16|8) <t> (Com(64|32|16|8) x)) => (Add(64|32|16|8) (Const(64|32|16|8) <t> [1]) x)

(And(64|32|16|8) x (And(64|32|16|8) x y)) => (And(64|32|16|8) x y)
(Or(64|32|16|8) x (Or(64|32|16|8) x y)) => (Or(64|32|16|8) x y)
```

```
(Xor(64|32|16|8) x (Xor(64|32|16|8) x y)) => y

// Unsigned comparisons to zero.
(Less(64U|32U|16U|8U)
 _ (Const(64|32|16|8) [0])) => (ConstBool [false])
(Leq(64U|32U|16U|8U) (Const(64|32|16|8) [0]) _)  => (ConstBool [true])

// Ands clear bits. Ors set bits.
// If a subsequent Or will set all the bits
// that an And cleared, we can skip the And.
// This happens in bitmasking code like:
//   x &^= 3 << shift // clear two old bits
//   x  |= v << shift // set two new bits
// when shift is a small constant and v ends up a constant 3.
(Or8  (And8  x (Const8  [c2])) (Const8  <t> [c1])) && ^(c1 | c2) == 0 => (Or8  (Const8  <t> [c1]) x)
(Or16 (And16 x (Const16 [c2])) (Const16 <t> [c1])) && ^(c1 | c2) == 0 => (Or16 (Const16 <t> [c1]) x)
(Or32 (And32 x (Const32 [c2])) (Const32 <t> [c1])) && ^(c1 | c2) == 0 => (Or32 (Const32 <t> [c1]) x)
(Or64 (And64 x (Const64 [c2])) (Const64 <t> [c1])) && ^(c1 | c2) == 0 => (Or64 (Const64 <t> [c1]) x)

(Trunc64to8  (And64 (Const64 [y]) x)) && y&0xFF == 0xFF => (Trunc64to8 x)
(Trunc64to16 (And64 (Const64 [y]) x)) && y&0xFFFF == 0xFFFF => (Trunc64to16 x)
(Trunc64to32
 (And64 (Const64 [y]) x)) && y&0xFFFFFFFF == 0xFFFFFFFF => (Trunc64to32 x)
(Trunc32to8  (And32 (Const32 [y]) x)) && y&0xFF == 0xFF => (Trunc32to8 x)
(Trunc32to16 (And32 (Const32 [y]) x)) && y&0xFFFF == 0xFFFF => (Trunc32to16 x)
(Trunc16to8  (And16 (Const16 [y]) x)) && y&0xFF == 0xFF => (Trunc16to8 x)

(ZeroExt8to64  (Trunc64to8  x:(Rsh64Ux64 _ (Const64 [s])))) && s >= 56 => x
(ZeroExt16to64 (Trunc64to16 x:(Rsh64Ux64 _ (Const64 [s])))) && s >= 48 => x
(ZeroExt32to64 (Trunc64to32 x:(Rsh64Ux64 _ (Const64 [s])))) && s >= 32 => x
(ZeroExt8to32  (Trunc32to8  x:(Rsh32Ux64 _ (Const64 [s])))) && s >= 24 => x
(ZeroExt16to32 (Trunc32to16 x:(Rsh32Ux64 _ (Const64 [s])))) && s >= 16 => x
(ZeroExt8to16  (Trunc16to8  x:(Rsh16Ux64 _ (Const64 [s])))) && s >= 8 => x

(SignExt8to64  (Trunc64to8  x:(Rsh64x64 _ (Const64 [s])))) && s >= 56 => x
(SignExt16to64 (Trunc64to16 x:(Rsh64x64 _ (Const64 [s])))) && s >= 48 => x
(SignExt32to64 (Trunc64to32 x:(Rsh64x64 _ (Const64 [s])))) && s >= 32 => x
(SignExt8to32
  (Trunc32to8  x:(Rsh32x64 _ (Const64 [s])))) && s >= 24 => x
(SignExt16to32 (Trunc32to16 x:(Rsh32x64 _ (Const64 [s])))) && s >= 16 => x
(SignExt8to16  (Trunc16to8  x:(Rsh16x64 _ (Const64 [s])))) && s >= 8 => x

(Slicemask (Const32 [x])) && x > 0 => (Const32 [-1])
(Slicemask (Const32 [0]))          => (Const32 [0])
(Slicemask (Const64 [x])) && x > 0 => (Const64 [-1])
(Slicemask (Const64 [0]))          => (Const64 [0])

// simplifications often used for lengths.  e.g. len(s[i:i+5])==5
```

```
(Sub(64|32|16|8) (Add(64|32|16|8) x y) x) => y
(Sub(64|32|16|8) (Add(64|32|16|8) x y) y) => x
(Sub(64|32|16|8) (Sub(64|32|16|8) x y) x) => (Neg(64|32|16|8) y)
(Sub(64|32|16|8) x (Add(64|32|16|8) x y)) => (Neg(64|32|16|8) y)
(Add(64|32|16|8) x (Sub(64|32|16|8) y x)) => y
(Add(64|32|16|8) x (Add(64|32|16|8) y (Sub(64|32|16|8) z x))) => (Add(64|32|16|8) y z)

// basic phi simplifications
(Phi (Const8  [c]) (Const8  [c])) => (Const8  [c])
(Phi (Const16 [c]) (Const16 [c])) => (Const16 [c])
(Phi (Const32
 [c]) (Const32 [c])) => (Const32 [c])
(Phi (Const64 [c]) (Const64 [c])) => (Const64 [c])

// slice and interface comparisons
// The frontend ensures that we can only compare against nil,
// so we need only compare the first word (interface type or slice ptr).
(EqInter x y)  => (EqPtr  (ITab x) (ITab y))
(NeqInter x y) => (NeqPtr (ITab x) (ITab y))
(EqSlice x y)  => (EqPtr  (SlicePtr x) (SlicePtr y))
(NeqSlice x y) => (NeqPtr (SlicePtr x) (SlicePtr y))

// Load of store of same address, with compatibly typed value and same size
(Load <t1> p1 (Store {t2} p2 x _))
 && isSamePtr(p1, p2)
 && t1.Compare(x.Type) == types.CMPeq
 && t1.Size() == t2.Size()
 => x
(Load <t1> p1 (Store {t2} p2 _ (Store {t3} p3 x _)))
 && isSamePtr(p1, p3)
 && t1.Compare(x.Type) == types.CMPeq
 && t1.Size() == t2.Size()
 && disjoint(p3, t3.Size(), p2, t2.Size())
 => x
(Load <t1> p1 (Store {t2} p2 _ (Store {t3} p3 _ (Store {t4} p4 x _))))
 && isSamePtr(p1, p4)
 && t1.Compare(x.Type) == types.CMPeq
 && t1.Size() == t2.Size()
 &&
 disjoint(p4, t4.Size(), p2, t2.Size())
 && disjoint(p4, t4.Size(), p3, t3.Size())
 => x
(Load <t1> p1 (Store {t2} p2 _ (Store {t3} p3 _ (Store {t4} p4 _ (Store {t5} p5 x _)))))
 && isSamePtr(p1, p5)
 && t1.Compare(x.Type) == types.CMPeq
 && t1.Size() == t2.Size()
 && disjoint(p5, t5.Size(), p2, t2.Size())
 && disjoint(p5, t5.Size(), p3, t3.Size())
```

```
 && disjoint(p5, t5.Size(), p4, t4.Size())
 => x

// Pass constants through math.Float{32,64}bits and math.Float{32,64}frombits
      (Load <t1> p1 (Store {t2} p2 (Const64  [x]) _)) && isSamePtr(p1,p2) && sizeof(t2) == 8 && is64BitFloat(t1)
&& !math.IsNaN(math.Float64frombits(uint64(x))) => (Const64F [math.Float64frombits(uint64(x))])
      (Load <t1> p1 (Store {t2} p2 (Const32  [x]) _)) && isSamePtr(p1,p2) && sizeof(t2) == 4 && is32BitFloat(t1)
&& !math.IsNaN(float64(math.Float32frombits(uint32(x)))) => (Const32F [math.Float32frombits(uint32(x))])
(Load <t1> p1 (Store {t2} p2 (Const64F [x]) _)) && isSamePtr(p1,p2) && sizeof(t2)
 == 8 && is64BitInt(t1)   => (Const64  [int64(math.Float64bits(x))])
(Load <t1> p1 (Store {t2} p2 (Const32F [x]) _)) && isSamePtr(p1,p2) && sizeof(t2) == 4 && is32BitInt(t1)   =>
(Const32  [int32(math.Float32bits(x))])

// Float Loads up to Zeros so they can be constant folded.
(Load <t1> op:(OffPtr [o1] p1)
 (Store {t2} p2 _
  mem:(Zero [n] p3 _)))
 && o1 >= 0 && o1+t1.Size() <= n && isSamePtr(p1, p3)
 && fe.CanSSA(t1)
 && disjoint(op, t1.Size(), p2, t2.Size())
 => @mem.Block (Load <t1> (OffPtr <op.Type> [o1] p3) mem)
(Load <t1> op:(OffPtr [o1] p1)
 (Store {t2} p2 _
  (Store {t3} p3 _
   mem:(Zero [n] p4 _))))
 && o1 >= 0 && o1+t1.Size() <= n && isSamePtr(p1, p4)
 && fe.CanSSA(t1)
 && disjoint(op, t1.Size(), p2, t2.Size())
 && disjoint(op, t1.Size(), p3, t3.Size())
 => @mem.Block (Load <t1> (OffPtr <op.Type> [o1] p4) mem)
(Load <t1> op:(OffPtr [o1] p1)
 (Store {t2} p2 _
  (Store {t3} p3 _
   (Store {t4} p4 _
    mem:(Zero [n] p5 _)))))
 && o1 >= 0 && o1+t1.Size() <= n && isSamePtr(p1,
 p5)
 && fe.CanSSA(t1)
 && disjoint(op, t1.Size(), p2, t2.Size())
 && disjoint(op, t1.Size(), p3, t3.Size())
 && disjoint(op, t1.Size(), p4, t4.Size())
 => @mem.Block (Load <t1> (OffPtr <op.Type> [o1] p5) mem)
(Load <t1> op:(OffPtr [o1] p1)
 (Store {t2} p2 _
  (Store {t3} p3 _
   (Store {t4} p4 _
    (Store {t5} p5 _
     mem:(Zero [n] p6 _))))))
```

```
 && o1 >= 0 && o1+t1.Size() <= n && isSamePtr(p1, p6)
 && fe.CanSSA(t1)
 && disjoint(op, t1.Size(), p2, t2.Size())
 && disjoint(op, t1.Size(), p3, t3.Size())
 && disjoint(op, t1.Size(), p4, t4.Size())
 && disjoint(op, t1.Size(), p5, t5.Size())
 => @mem.Block (Load <t1> (OffPtr <op.Type> [o1] p6) mem)

// Zero to Load forwarding.
(Load <t1> (OffPtr [o] p1) (Zero [n] p2 _))
 && t1.IsBoolean()
 && isSamePtr(p1, p2)
 && n >= o + 1
 => (ConstBool [false])
(Load <t1> (OffPtr [o] p1) (Zero [n] p2 _))
 && is8BitInt(t1)
 && isSamePtr(p1, p2)
 && n >= o + 1
 => (Const8 [0])
(Load <t1> (OffPtr [o] p1) (Zero [n] p2 _))
 && is16BitInt(t1)
 && isSamePtr(p1,
 p2)
 && n >= o + 2
 => (Const16 [0])
(Load <t1> (OffPtr [o] p1) (Zero [n] p2 _))
 && is32BitInt(t1)
 && isSamePtr(p1, p2)
 && n >= o + 4
 => (Const32 [0])
(Load <t1> (OffPtr [o] p1) (Zero [n] p2 _))
 && is64BitInt(t1)
 && isSamePtr(p1, p2)
 && n >= o + 8
 => (Const64 [0])
(Load <t1> (OffPtr [o] p1) (Zero [n] p2 _))
 && is32BitFloat(t1)
 && isSamePtr(p1, p2)
 && n >= o + 4
 => (Const32F [0])
(Load <t1> (OffPtr [o] p1) (Zero [n] p2 _))
 && is64BitFloat(t1)
 && isSamePtr(p1, p2)
 && n >= o + 8
 => (Const64F [0])

// Eliminate stores of values that have just been loaded from the same location.
// We also handle the common case where there are some intermediate stores.
```

```
(Store {t1} p1 (Load <t2> p2 mem) mem)
 && isSamePtr(p1, p2)
 && t2.Size() == t1.Size()
 => mem
(Store {t1} p1 (Load <t2> p2 oldmem) mem:(Store {t3} p3 _ oldmem))
 && isSamePtr(p1, p2)
 && t2.Size() == t1.Size()
 && disjoint(p1, t1.Size(), p3, t3.Size())
 => mem
(Store {t1} p1 (Load <t2> p2 oldmem) mem:(Store {t3} p3 _ (Store
 {t4} p4 _ oldmem)))
 && isSamePtr(p1, p2)
 && t2.Size() == t1.Size()
 && disjoint(p1, t1.Size(), p3, t3.Size())
 && disjoint(p1, t1.Size(), p4, t4.Size())
 => mem
(Store {t1} p1 (Load <t2> p2 oldmem) mem:(Store {t3} p3 _ (Store {t4} p4 _ (Store {t5} p5 _ oldmem))))
 && isSamePtr(p1, p2)
 && t2.Size() == t1.Size()
 && disjoint(p1, t1.Size(), p3, t3.Size())
 && disjoint(p1, t1.Size(), p4, t4.Size())
 && disjoint(p1, t1.Size(), p5, t5.Size())
 => mem

// Don't Store zeros to cleared variables.
(Store {t} (OffPtr [o] p1) x mem:(Zero [n] p2 _))
 && isConstZero(x)
 && o >= 0 && t.Size() + o <= n && isSamePtr(p1, p2)
 => mem
(Store {t1} op:(OffPtr [o1] p1) x mem:(Store {t2} p2 _ (Zero [n] p3 _)))
 && isConstZero(x)
 && o1 >= 0 && t1.Size() + o1 <= n && isSamePtr(p1, p3)
 && disjoint(op, t1.Size(), p2, t2.Size())
 => mem
(Store {t1} op:(OffPtr [o1] p1) x mem:(Store {t2} p2 _ (Store {t3} p3 _ (Zero [n] p4 _))))
 && isConstZero(x)
 && o1 >= 0 && t1.Size() + o1 <= n && isSamePtr(p1, p4)
 && disjoint(op,
 t1.Size(), p2, t2.Size())
 && disjoint(op, t1.Size(), p3, t3.Size())
 => mem
(Store {t1} op:(OffPtr [o1] p1) x mem:(Store {t2} p2 _ (Store {t3} p3 _ (Store {t4} p4 _ (Zero [n] p5 _)))))
 && isConstZero(x)
 && o1 >= 0 && t1.Size() + o1 <= n && isSamePtr(p1, p5)
 && disjoint(op, t1.Size(), p2, t2.Size())
 && disjoint(op, t1.Size(), p3, t3.Size())
 && disjoint(op, t1.Size(), p4, t4.Size())
 => mem
```

```
// Collapse OffPtr
(OffPtr (OffPtr p [y]) [x]) => (OffPtr p [x+y])
(OffPtr p [0]) && v.Type.Compare(p.Type) == types.CMPeq => p

// indexing operations
// Note: bounds check has already been done
(PtrIndex <t> ptr idx) && config.PtrSize == 4 && is32Bit(t.Elem().Size()) => (AddPtr ptr (Mul32 <typ.Int> idx
(Const32 <typ.Int> [int32(t.Elem().Size())]))
(PtrIndex <t> ptr idx) && config.PtrSize == 8 => (AddPtr ptr (Mul64 <typ.Int> idx (Const64 <typ.Int>
[t.Elem().Size()]))

// struct operations
(StructSelect (StructMake1 x)) => x
(StructSelect [0] (StructMake2 x _)) => x
(StructSelect
 [1] (StructMake2 _ x)) => x
(StructSelect [0] (StructMake3 x _ _)) => x
(StructSelect [1] (StructMake3 _ x _)) => x
(StructSelect [2] (StructMake3 _ _ x)) => x
(StructSelect [0] (StructMake4 x _ _ _)) => x
(StructSelect [1] (StructMake4 _ x _ _)) => x
(StructSelect [2] (StructMake4 _ _ x _)) => x
(StructSelect [3] (StructMake4 _ _ _ x)) => x

(Load <t> _ _) && t.IsStruct() && t.NumFields() == 0 && fe.CanSSA(t) =>
 (StructMake0)
(Load <t> ptr mem) && t.IsStruct() && t.NumFields() == 1 && fe.CanSSA(t) =>
 (StructMake1
   (Load <t.FieldType(0)> (OffPtr <t.FieldType(0).PtrTo()> [0] ptr) mem))
(Load <t> ptr mem) && t.IsStruct() && t.NumFields() == 2 && fe.CanSSA(t) =>
 (StructMake2
   (Load <t.FieldType(0)> (OffPtr <t.FieldType(0).PtrTo()> [0]           ptr) mem)
   (Load <t.FieldType(1)> (OffPtr <t.FieldType(1).PtrTo()> [t.FieldOff(1)] ptr) mem))
(Load <t> ptr mem) && t.IsStruct() && t.NumFields() == 3 && fe.CanSSA(t) =>
 (StructMake3
   (Load <t.FieldType(0)> (OffPtr <t.FieldType(0).PtrTo()>
 [0]           ptr) mem)
   (Load <t.FieldType(1)> (OffPtr <t.FieldType(1).PtrTo()> [t.FieldOff(1)] ptr) mem)
   (Load <t.FieldType(2)> (OffPtr <t.FieldType(2).PtrTo()> [t.FieldOff(2)] ptr) mem))
(Load <t> ptr mem) && t.IsStruct() && t.NumFields() == 4 && fe.CanSSA(t) =>
 (StructMake4
   (Load <t.FieldType(0)> (OffPtr <t.FieldType(0).PtrTo()> [0]           ptr) mem)
   (Load <t.FieldType(1)> (OffPtr <t.FieldType(1).PtrTo()> [t.FieldOff(1)] ptr) mem)
   (Load <t.FieldType(2)> (OffPtr <t.FieldType(2).PtrTo()> [t.FieldOff(2)] ptr) mem)
   (Load <t.FieldType(3)> (OffPtr <t.FieldType(3).PtrTo()> [t.FieldOff(3)] ptr) mem))

(StructSelect [i] x:(Load <t> ptr mem)) && !fe.CanSSA(t) =>
```

```
 @x.Block (Load <v.Type> (OffPtr <v.Type.PtrTo()> [t.FieldOff(int(i))] ptr) mem)

(Store _ (StructMake0) mem) => mem
(Store dst (StructMake1 <t> f0) mem) =>
 (Store {t.FieldType(0)} (OffPtr <t.FieldType(0).PtrTo()> [0] dst) f0 mem)
(Store dst (StructMake2 <t> f0 f1) mem) =>
 (Store {t.FieldType(1)}
    (OffPtr <t.FieldType(1).PtrTo()> [t.FieldOff(1)] dst)
   f1
   (Store {t.FieldType(0)}
     (OffPtr <t.FieldType(0).PtrTo()> [0] dst)
       f0 mem))
(Store dst (StructMake3 <t> f0 f1 f2) mem) =>
 (Store {t.FieldType(2)}
   (OffPtr <t.FieldType(2).PtrTo()> [t.FieldOff(2)] dst)
   f2
   (Store {t.FieldType(1)}
     (OffPtr <t.FieldType(1).PtrTo()> [t.FieldOff(1)] dst)
     f1
     (Store {t.FieldType(0)}
       (OffPtr <t.FieldType(0).PtrTo()> [0] dst)
         f0 mem)))
(Store dst (StructMake4 <t> f0 f1 f2 f3) mem) =>
 (Store {t.FieldType(3)}
   (OffPtr <t.FieldType(3).PtrTo()> [t.FieldOff(3)] dst)
   f3
   (Store {t.FieldType(2)}
     (OffPtr <t.FieldType(2).PtrTo()> [t.FieldOff(2)] dst)
     f2
     (Store {t.FieldType(1)}
       (OffPtr <t.FieldType(1).PtrTo()> [t.FieldOff(1)] dst)
       f1
       (Store {t.FieldType(0)}
         (OffPtr <t.FieldType(0).PtrTo()> [0] dst)
           f0 mem))))

// Putting struct{*byte} and similar into direct
 interfaces.
(IMake _typ (StructMake1 val)) => (IMake _typ val)
(StructSelect [0] (IData x)) => (IData x)

// un-SSAable values use mem->mem copies
(Store {t} dst (Load src mem) mem) && !fe.CanSSA(t) =>
 (Move {t} [t.Size()] dst src mem)
(Store {t} dst (Load src mem) (VarDef {x} mem)) && !fe.CanSSA(t) =>
 (Move {t} [t.Size()] dst src (VarDef {x} mem))

// array ops
```

```
(ArraySelect (ArrayMake1 x)) => x

(Load <t> _ _) && t.IsArray() && t.NumElem() == 0 =>
 (ArrayMake0)

(Load <t> ptr mem) && t.IsArray() && t.NumElem() == 1 && fe.CanSSA(t) =>
 (ArrayMake1 (Load <t.Elem()> ptr mem))

(Store _ (ArrayMake0) mem) => mem
(Store dst (ArrayMake1 e) mem) => (Store {e.Type} dst e mem)

// Putting [1]*byte and similar into direct interfaces.
(IMake _typ (ArrayMake1 val)) => (IMake _typ val)
(ArraySelect [0] (IData x)) => (IData x)

// string ops
// Decomposing StringMake and lowering of StringPtr and StringLen
// happens in a later pass, dec, so that these operations are available
// to other passes
 for optimizations.
(StringPtr (StringMake (Addr <t> {s} base) _)) => (Addr <t> {s} base)
(StringLen (StringMake _ (Const64 <t> [c]))) => (Const64 <t> [c])
(ConstString {str}) && config.PtrSize == 4 && str == "" =>
 (StringMake (ConstNil) (Const32 <typ.Int> [0]))
(ConstString {str}) && config.PtrSize == 8 && str == "" =>
 (StringMake (ConstNil) (Const64 <typ.Int> [0]))
(ConstString {str}) && config.PtrSize == 4 && str != "" =>
 (StringMake
   (Addr <typ.BytePtr> {fe.StringData(str)}
     (SB))
   (Const32 <typ.Int> [int32(len(str))]))
(ConstString {str}) && config.PtrSize == 8 && str != "" =>
 (StringMake
   (Addr <typ.BytePtr> {fe.StringData(str)}
     (SB))
   (Const64 <typ.Int> [int64(len(str))]))

// slice ops
// Only a few slice rules are provided here.  See dec.rules for
// a more comprehensive set.
(SliceLen (SliceMake _ (Const64 <t> [c]) _)) => (Const64 <t> [c])
(SliceCap (SliceMake _ _ (Const64 <t> [c]))) => (Const64 <t> [c])
(SliceLen (SliceMake _ (Const32 <t> [c])
 _)) => (Const32 <t> [c])
(SliceCap (SliceMake _ _ (Const32 <t> [c]))) => (Const32 <t> [c])
(SlicePtr (SliceMake (SlicePtr x) _ _)) => (SlicePtr x)
(SliceLen (SliceMake _ (SliceLen x) _)) => (SliceLen x)
(SliceCap (SliceMake _ _ (SliceCap x))) => (SliceCap x)
```

```
(SliceCap (SliceMake _ _ (SliceLen x))) => (SliceLen x)
(ConstSlice) && config.PtrSize == 4 =>
 (SliceMake
   (ConstNil <v.Type.Elem().PtrTo()>)
   (Const32 <typ.Int> [0])
   (Const32 <typ.Int> [0]))
(ConstSlice) && config.PtrSize == 8 =>
 (SliceMake
   (ConstNil <v.Type.Elem().PtrTo()>)
   (Const64 <typ.Int> [0])
   (Const64 <typ.Int> [0]))

// interface ops
(ConstInterface) =>
 (IMake
   (ConstNil <typ.Uintptr>)
   (ConstNil <typ.BytePtr>))

(NilCheck (GetG mem) mem) => mem

(If (Not cond) yes no) => (If cond no yes)
(If (ConstBool [c]) yes no) && c => (First yes no)
(If (ConstBool [c]) yes no) && !c => (First no yes)

// Get rid of Convert ops for pointer arithmetic on unsafe.Pointer.
(Convert (Add(64|32) (Convert ptr
 mem) off) mem) => (AddPtr ptr off)
(Convert (Convert ptr mem) mem) => ptr

// strength reduction of divide by a constant.
// See ../magic.go for a detailed description of these algorithms.

// Unsigned divide by power of 2.  Strength reduce to a shift.
(Div8u  n (Const8  [c])) && isPowerOfTwo8(c)  => (Rsh8Ux64  n (Const64 <typ.UInt64> [log8(c)]))
(Div16u n (Const16 [c])) && isPowerOfTwo16(c) => (Rsh16Ux64 n (Const64 <typ.UInt64> [log16(c)]))
(Div32u n (Const32 [c])) && isPowerOfTwo32(c) => (Rsh32Ux64 n (Const64 <typ.UInt64> [log32(c)]))
(Div64u n (Const64 [c])) && isPowerOfTwo64(c) => (Rsh64Ux64 n (Const64 <typ.UInt64> [log64(c)]))
(Div64u n (Const64 [-1<<63]))                 => (Rsh64Ux64 n (Const64 <typ.UInt64> [63]))

// Signed non-negative divide by power of 2.
(Div8  n (Const8  [c])) && isNonNegative(n) && isPowerOfTwo8(c)  => (Rsh8Ux64  n (Const64 <typ.UInt64>
[log8(c)]))
(Div16 n (Const16 [c])) && isNonNegative(n) && isPowerOfTwo16(c) => (Rsh16Ux64 n (Const64 <typ.UInt64>
[log16(c)]))
(Div32
 n (Const32 [c])) && isNonNegative(n) && isPowerOfTwo32(c) => (Rsh32Ux64 n (Const64 <typ.UInt64>
[log32(c)]))
(Div64 n (Const64 [c])) && isNonNegative(n) && isPowerOfTwo64(c) => (Rsh64Ux64 n (Const64 <typ.UInt64>
```

```
[log64(c)]))
(Div64 n (Const64 [-1<<63])) && isNonNegative(n)               => (Const64 [0])

// Unsigned divide, not a power of 2.  Strength reduce to a multiply.
// For 8-bit divides, we just do a direct 9-bit by 8-bit multiply.
(Div8u x (Const8 [c])) && umagicOK8(c) =>
 (Trunc32to8
  (Rsh32Ux64 <typ.UInt32>
   (Mul32 <typ.UInt32>
    (Const32 <typ.UInt32> [int32(1<<8+umagic8(c).m)])
    (ZeroExt8to32 x))
   (Const64 <typ.UInt64> [8+umagic8(c).s])))

// For 16-bit divides on 64-bit machines, we do a direct 17-bit by 16-bit multiply.
(Div16u x (Const16 [c])) && umagicOK16(c) && config.RegSize == 8 =>
 (Trunc64to16
  (Rsh64Ux64 <typ.UInt64>
   (Mul64 <typ.UInt64>
    (Const64 <typ.UInt64> [int64(1<<16+umagic16(c).m)])
    (ZeroExt16to64
 x))
   (Const64 <typ.UInt64> [16+umagic16(c).s])))

// For 16-bit divides on 32-bit machines
(Div16u x (Const16 [c])) && umagicOK16(c) && config.RegSize == 4 && umagic16(c).m&1 == 0 =>
 (Trunc32to16
  (Rsh32Ux64 <typ.UInt32>
   (Mul32 <typ.UInt32>
    (Const32 <typ.UInt32> [int32(1<<15+umagic16(c).m/2)])
    (ZeroExt16to32 x))
   (Const64 <typ.UInt64> [16+umagic16(c).s-1])))
(Div16u x (Const16 [c])) && umagicOK16(c) && config.RegSize == 4 && c&1 == 0 =>
 (Trunc32to16
  (Rsh32Ux64 <typ.UInt32>
   (Mul32 <typ.UInt32>
    (Const32 <typ.UInt32> [int32(1<<15+(umagic16(c).m+1)/2)])
    (Rsh32Ux64 <typ.UInt32> (ZeroExt16to32 x) (Const64 <typ.UInt64> [1])))
   (Const64 <typ.UInt64> [16+umagic16(c).s-2])))
(Div16u x (Const16 [c])) && umagicOK16(c) && config.RegSize == 4 && config.useAvg =>
 (Trunc32to16
  (Rsh32Ux64 <typ.UInt32>
   (Avg32u
    (Lsh32x64 <typ.UInt32> (ZeroExt16to32 x) (Const64 <typ.UInt64> [16]))
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(umagic16(c).m)])
     (ZeroExt16to32 x)))
   (Const64 <typ.UInt64> [16+umagic16(c).s-1])))
```

```
// For 32-bit divides on 32-bit machines
(Div32u x (Const32 [c])) && umagicOK32(c) && config.RegSize == 4 && umagic32(c).m&1 == 0 &&
config.useHmul =>
 (Rsh32Ux64 <typ.UInt32>
  (Hmul32u <typ.UInt32>
   (Const32 <typ.UInt32> [int32(1<<31+umagic32(c).m/2)])
   x)
  (Const64 <typ.UInt64> [umagic32(c).s-1]))
(Div32u x (Const32 [c])) && umagicOK32(c) && config.RegSize == 4 && c&1 == 0 && config.useHmul =>
 (Rsh32Ux64 <typ.UInt32>
  (Hmul32u <typ.UInt32>
   (Const32 <typ.UInt32> [int32(1<<31+(umagic32(c).m+1)/2)])
   (Rsh32Ux64 <typ.UInt32> x (Const64 <typ.UInt64> [1])))
  (Const64 <typ.UInt64> [umagic32(c).s-2]))
(Div32u x (Const32 [c])) && umagicOK32(c) && config.RegSize == 4 && config.useAvg && config.useHmul =>
 (Rsh32Ux64 <typ.UInt32>
  (Avg32u
   x
   (Hmul32u <typ.UInt32>
    (Const32 <typ.UInt32> [int32(umagic32(c).m)])
    x))
  (Const64 <typ.UInt64> [umagic32(c).s-1]))

// For 32-bit divides on 64-bit machines
// We'll use a regular (non-hi) multiply for this case.
(Div32u x (Const32 [c])) && umagicOK32(c) && config.RegSize == 8 && umagic32(c).m&1 == 0 =>
 (Trunc64to32
  (Rsh64Ux64 <typ.UInt64>
   (Mul64 <typ.UInt64>
    (Const64 <typ.UInt64> [int64(1<<31+umagic32(c).m/2)])
    (ZeroExt32to64 x))
   (Const64 <typ.UInt64> [32+umagic32(c).s-1])))
(Div32u x (Const32 [c])) && umagicOK32(c) && config.RegSize == 8 && c&1 == 0 =>
 (Trunc64to32
  (Rsh64Ux64 <typ.UInt64>
   (Mul64 <typ.UInt64>
    (Const64 <typ.UInt64> [int64(1<<31+(umagic32(c).m+1)/2)])
    (Rsh64Ux64 <typ.UInt64> (ZeroExt32to64 x) (Const64 <typ.UInt64> [1])))
   (Const64 <typ.UInt64> [32+umagic32(c).s-2])))
(Div32u x (Const32 [c])) && umagicOK32(c) && config.RegSize == 8 && config.useAvg =>
 (Trunc64to32
  (Rsh64Ux64 <typ.UInt64>
   (Avg64u
    (Lsh64x64 <typ.UInt64> (ZeroExt32to64
 x) (Const64 <typ.UInt64> [32]))
    (Mul64 <typ.UInt64>
     (Const64 <typ.UInt32> [int64(umagic32(c).m)])
     (ZeroExt32to64 x)))
```

```
    (Const64 <typ.UInt64> [32+umagic32(c).s-1])))

// For unsigned 64-bit divides on 32-bit machines,
// if the constant fits in 16 bits (so that the last term
// fits in 32 bits), convert to three 32-bit divides by a constant.
//
// If 1<<32 = Q * c + R
// and    x = hi << 32 + lo
//
// Then x = (hi/c*c + hi%c) << 32 + lo
//        = hi/c*c<<32 + hi%c<<32 + lo
//        = hi/c*c<<32 + (hi%c)*(Q*c+R) + lo/c*c + lo%c
//        = hi/c*c<<32 + (hi%c)*Q*c + lo/c*c + (hi%c*R+lo%c)
// and x / c = (hi/c)<<32 + (hi%c)*Q + lo/c + (hi%c*R+lo%c)/c
(Div64u x (Const64 [c])) && c > 0 && c <= 0xFFFF && umagicOK32(int32(c)) && config.RegSize == 4 &&
config.useHmul =>
 (Add64
  (Add64 <typ.UInt64>
   (Add64 <typ.UInt64>
    (Lsh64x64 <typ.UInt64>
     (ZeroExt32to64
      (Div32u <typ.UInt32>
       (Trunc64to32 <typ.UInt32> (Rsh64Ux64
 <typ.UInt64> x (Const64 <typ.UInt64> [32])))
       (Const32 <typ.UInt32> [int32(c)])))
     (Const64 <typ.UInt64> [32]))
    (ZeroExt32to64 (Div32u <typ.UInt32> (Trunc64to32 <typ.UInt32> x) (Const32 <typ.UInt32> [int32(c)]))))
   (Mul64 <typ.UInt64>
    (ZeroExt32to64 <typ.UInt64>
     (Mod32u <typ.UInt32>
      (Trunc64to32 <typ.UInt32> (Rsh64Ux64 <typ.UInt64> x (Const64 <typ.UInt64> [32])))
      (Const32 <typ.UInt32> [int32(c)])))
    (Const64 <typ.UInt64> [int64((1<<32)/c)])))
   (ZeroExt32to64
    (Div32u <typ.UInt32>
     (Add32 <typ.UInt32>
      (Mod32u <typ.UInt32> (Trunc64to32 <typ.UInt32> x) (Const32 <typ.UInt32> [int32(c)]))
      (Mul32 <typ.UInt32>
       (Mod32u <typ.UInt32>
        (Trunc64to32 <typ.UInt32> (Rsh64Ux64 <typ.UInt64> x (Const64 <typ.UInt64> [32])))
        (Const32 <typ.UInt32> [int32(c)]))
       (Const32 <typ.UInt32> [int32((1<<32)%c)])))

  (Const32 <typ.UInt32> [int32(c)])))

// For 64-bit divides on 64-bit machines
// (64-bit divides on 32-bit machines are lowered to a runtime call by the walk pass.)
(Div64u x (Const64 [c])) && umagicOK64(c) && config.RegSize == 8 && umagic64(c).m&1 == 0 &&
```

```
config.useHmul =>
 (Rsh64Ux64 <typ.UInt64>
   (Hmul64u <typ.UInt64>
     (Const64 <typ.UInt64> [int64(1<<63+umagic64(c).m/2)])
     x)
   (Const64 <typ.UInt64> [umagic64(c).s-1]))
(Div64u x (Const64 [c])) && umagicOK64(c) && config.RegSize == 8 && c&1 == 0 && config.useHmul =>
 (Rsh64Ux64 <typ.UInt64>
   (Hmul64u <typ.UInt64>
     (Const64 <typ.UInt64> [int64(1<<63+(umagic64(c).m+1)/2)])
     (Rsh64Ux64 <typ.UInt64> x (Const64 <typ.UInt64> [1])))
   (Const64 <typ.UInt64> [umagic64(c).s-2]))
(Div64u x (Const64 [c])) && umagicOK64(c) && config.RegSize == 8 && config.useAvg && config.useHmul =>
 (Rsh64Ux64 <typ.UInt64>
   (Avg64u
     x
     (Hmul64u <typ.UInt64>
       (Const64 <typ.UInt64> [int64(umagic64(c).m)])

      x))
   (Const64 <typ.UInt64> [umagic64(c).s-1]))

// Signed divide by a negative constant.  Rewrite to divide by a positive constant.
(Div8  <t> n (Const8  [c])) && c < 0 && c != -1<<7  => (Neg8  (Div8  <t> n (Const8  <t> [-c])))
(Div16 <t> n (Const16 [c])) && c < 0 && c != -1<<15 => (Neg16 (Div16 <t> n (Const16 <t> [-c])))
(Div32 <t> n (Const32 [c])) && c < 0 && c != -1<<31 => (Neg32 (Div32 <t> n (Const32 <t> [-c])))
(Div64 <t> n (Const64 [c])) && c < 0 && c != -1<<63 => (Neg64 (Div64 <t> n (Const64 <t> [-c])))

// Dividing by the most-negative number.  Result is always 0 except
// if the input is also the most-negative number.
// We can detect that using the sign bit of x & -x.
(Div8  <t> x (Const8  [-1<<7 ])) => (Rsh8Ux64  (And8  <t> x (Neg8  <t> x)) (Const64 <typ.UInt64> [7 ]))
(Div16 <t> x (Const16 [-1<<15])) => (Rsh16Ux64 (And16 <t> x (Neg16 <t> x)) (Const64 <typ.UInt64> [15]))
(Div32 <t> x (Const32 [-1<<31])) => (Rsh32Ux64 (And32 <t> x (Neg32 <t> x)) (Const64 <typ.UInt64>
 [31]))
(Div64 <t> x (Const64 [-1<<63])) => (Rsh64Ux64 (And64 <t> x (Neg64 <t> x)) (Const64 <typ.UInt64> [63]))

// Signed divide by power of 2.
// n / c =       n >> log(c) if n >= 0
//       = (n+c-1) >> log(c) if n < 0
// We conditionally add c-1 by adding n>>63>>(64-log(c)) (first shift signed, second shift unsigned).
(Div8  <t> n (Const8  [c])) && isPowerOfTwo8(c) =>
 (Rsh8x64
   (Add8  <t> n (Rsh8Ux64  <t> (Rsh8x64  <t> n (Const64 <typ.UInt64> [ 7])) (Const64 <typ.UInt64> [int64( 8-
log8(c))])))
   (Const64 <typ.UInt64> [int64(log8(c))]))
(Div16 <t> n (Const16 [c])) && isPowerOfTwo16(c) =>
 (Rsh16x64
```

```
  (Add16 <t> n (Rsh16Ux64 <t> (Rsh16x64 <t> n (Const64 <typ.UInt64> [15])) (Const64 <typ.UInt64> [int64(16-log16(c))])))
  (Const64 <typ.UInt64> [int64(log16(c))]))
(Div32 <t> n (Const32 [c])) && isPowerOfTwo32(c) =>
 (Rsh32x64
  (Add32 <t> n (Rsh32Ux64 <t> (Rsh32x64 <t> n (Const64 <typ.UInt64> [31])) (Const64 <typ.UInt64> [int64(32-log32(c))])))
  (Const64 <typ.UInt64> [int64(log32(c))]))
(Div64
 <t> n (Const64 [c])) && isPowerOfTwo64(c) =>
 (Rsh64x64
  (Add64 <t> n (Rsh64Ux64 <t> (Rsh64x64 <t> n (Const64 <typ.UInt64> [63])) (Const64 <typ.UInt64> [int64(64-log64(c))])))
  (Const64 <typ.UInt64> [int64(log64(c))]))

// Signed divide, not a power of 2.  Strength reduce to a multiply.
(Div8 <t> x (Const8 [c])) && smagicOK8(c) =>
 (Sub8 <t>
  (Rsh32x64 <t>
   (Mul32 <typ.UInt32>
    (Const32 <typ.UInt32> [int32(smagic8(c).m)])
    (SignExt8to32 x))
   (Const64 <typ.UInt64> [8+smagic8(c).s]))
  (Rsh32x64 <t>
   (SignExt8to32 x)
   (Const64 <typ.UInt64> [31])))
(Div16 <t> x (Const16 [c])) && smagicOK16(c) =>
 (Sub16 <t>
  (Rsh32x64 <t>
   (Mul32 <typ.UInt32>
    (Const32 <typ.UInt32> [int32(smagic16(c).m)])
    (SignExt16to32 x))
   (Const64 <typ.UInt64> [16+smagic16(c).s]))
  (Rsh32x64 <t>
   (SignExt16to32 x)
   (Const64 <typ.UInt64> [31])))
(Div32 <t> x (Const32 [c])) && smagicOK32(c) && config.RegSize
 == 8 =>
 (Sub32 <t>
  (Rsh64x64 <t>
   (Mul64 <typ.UInt64>
    (Const64 <typ.UInt64> [int64(smagic32(c).m)])
    (SignExt32to64 x))
   (Const64 <typ.UInt64> [32+smagic32(c).s]))
  (Rsh64x64 <t>
   (SignExt32to64 x)
   (Const64 <typ.UInt64> [63])))
(Div32 <t> x (Const32 [c])) && smagicOK32(c) && config.RegSize == 4 && smagic32(c).m&1 == 0 &&
```

```
config.useHmul =>
 (Sub32 <t>
   (Rsh32x64 <t>
     (Hmul32 <t>
       (Const32 <typ.UInt32> [int32(smagic32(c).m/2)])
       x)
     (Const64 <typ.UInt64> [smagic32(c).s-1]))
   (Rsh32x64 <t>
     x
     (Const64 <typ.UInt64> [31])))
(Div32 <t> x (Const32 [c])) && smagicOK32(c) && config.RegSize == 4 && smagic32(c).m&1 != 0 &&
config.useHmul =>
 (Sub32 <t>
   (Rsh32x64 <t>
     (Add32 <t>
       (Hmul32 <t>
         (Const32 <typ.UInt32> [int32(smagic32(c).m)])
         x)
       x)
     (Const64 <typ.UInt64> [smagic32(c).s]))
   (Rsh32x64 <t>
     x
     (Const64 <typ.UInt64> [31])))
(Div64 <t> x (Const64
 [c])) && smagicOK64(c) && smagic64(c).m&1 == 0 && config.useHmul =>
 (Sub64 <t>
   (Rsh64x64 <t>
     (Hmul64 <t>
       (Const64 <typ.UInt64> [int64(smagic64(c).m/2)])
       x)
     (Const64 <typ.UInt64> [smagic64(c).s-1]))
   (Rsh64x64 <t>
     x
     (Const64 <typ.UInt64> [63])))
(Div64 <t> x (Const64 [c])) && smagicOK64(c) && smagic64(c).m&1 != 0 && config.useHmul =>
 (Sub64 <t>
   (Rsh64x64 <t>
     (Add64 <t>
       (Hmul64 <t>
         (Const64 <typ.UInt64> [int64(smagic64(c).m)])
         x)
       x)
     (Const64 <typ.UInt64> [smagic64(c).s]))
   (Rsh64x64 <t>
     x
     (Const64 <typ.UInt64> [63])))

// Unsigned mod by power of 2 constant.
```

```
(Mod8u  <t> n (Const8  [c])) && isPowerOfTwo8(c)  => (And8  n (Const8  <t> [c-1]))
(Mod16u <t> n (Const16 [c])) && isPowerOfTwo16(c) => (And16 n (Const16 <t> [c-1]))
(Mod32u <t> n (Const32 [c])) && isPowerOfTwo32(c) => (And32 n (Const32 <t> [c-1]))
(Mod64u <t> n (Const64 [c])) && isPowerOfTwo64(c) => (And64 n (Const64
 <t> [c-1]))
(Mod64u <t> n (Const64 [-1<<63]))                 => (And64 n (Const64 <t> [1<<63-1]))

// Signed non-negative mod by power of 2 constant.
(Mod8  <t> n (Const8  [c])) && isNonNegative(n) && isPowerOfTwo8(c)  => (And8  n (Const8  <t> [c-1]))
(Mod16 <t> n (Const16 [c])) && isNonNegative(n) && isPowerOfTwo16(c) => (And16 n (Const16 <t> [c-1]))
(Mod32 <t> n (Const32 [c])) && isNonNegative(n) && isPowerOfTwo32(c) => (And32 n (Const32 <t> [c-1]))
(Mod64 <t> n (Const64 [c])) && isNonNegative(n) && isPowerOfTwo64(c) => (And64 n (Const64 <t> [c-1]))
(Mod64 n (Const64 [-1<<63])) && isNonNegative(n)                    => n

// Signed mod by negative constant.
(Mod8  <t> n (Const8  [c])) && c < 0 && c != -1<<7  => (Mod8  <t> n (Const8  <t> [-c]))
(Mod16 <t> n (Const16 [c])) && c < 0 && c != -1<<15 => (Mod16 <t> n (Const16 <t> [-c]))
(Mod32 <t> n (Const32 [c])) && c < 0 && c != -1<<31 => (Mod32 <t> n (Const32 <t> [-c]))
(Mod64 <t> n (Const64 [c])) && c < 0 && c != -1<<63 => (Mod64 <t>
 n (Const64 <t> [-c]))

// All other mods by constants, do A%B = A-(A/B*B).
// This implements % with two * and a bunch of ancillary ops.
// One of the * is free if the user's code also computes A/B.
(Mod8   <t> x (Const8  [c])) && x.Op != OpConst8  && (c > 0 || c == -1<<7)
 => (Sub8  x (Mul8  <t> (Div8   <t> x (Const8  <t> [c])) (Const8  <t> [c])))
(Mod16  <t> x (Const16 [c])) && x.Op != OpConst16 && (c > 0 || c == -1<<15)
 => (Sub16 x (Mul16 <t> (Div16  <t> x (Const16 <t> [c])) (Const16 <t> [c])))
(Mod32  <t> x (Const32 [c])) && x.Op != OpConst32 && (c > 0 || c == -1<<31)
 => (Sub32 x (Mul32 <t> (Div32  <t> x (Const32 <t> [c])) (Const32 <t> [c])))
(Mod64  <t> x (Const64 [c])) && x.Op != OpConst64 && (c > 0 || c == -1<<63)
 => (Sub64 x (Mul64 <t> (Div64  <t> x (Const64 <t> [c])) (Const64 <t> [c])))
(Mod8u  <t> x (Const8  [c])) && x.Op != OpConst8  && c > 0 && umagicOK8( c)
 => (Sub8  x (Mul8  <t> (Div8u  <t> x (Const8  <t> [c])) (Const8  <t> [c])))
(Mod16u <t> x (Const16 [c])) &&
 x.Op != OpConst16 && c > 0 && umagicOK16(c)
 => (Sub16 x (Mul16 <t> (Div16u <t> x (Const16 <t> [c])) (Const16 <t> [c])))
(Mod32u <t> x (Const32 [c])) && x.Op != OpConst32 && c > 0 && umagicOK32(c)
 => (Sub32 x (Mul32 <t> (Div32u <t> x (Const32 <t> [c])) (Const32 <t> [c])))
(Mod64u <t> x (Const64 [c])) && x.Op != OpConst64 && c > 0 && umagicOK64(c)
 => (Sub64 x (Mul64 <t> (Div64u <t> x (Const64 <t> [c])) (Const64 <t> [c])))

// For architectures without rotates on less than 32-bits, promote these checks to 32-bit.
(Eq8 (Mod8u x (Const8  [c])) (Const8 [0])) && x.Op != OpConst8 && udivisibleOK8(c) &&
!hasSmallRotate(config) =>
 (Eq32 (Mod32u <typ.UInt32> (ZeroExt8to32 <typ.UInt32> x) (Const32 <typ.UInt32> [int32(uint8(c))])) (Const32
<typ.UInt32> [0]))
(Eq16 (Mod16u x (Const16  [c])) (Const16 [0])) && x.Op != OpConst16 && udivisibleOK16(c) &&
```

```
!hasSmallRotate(config) =>
 (Eq32 (Mod32u <typ.UInt32> (ZeroExt16to32 <typ.UInt32> x) (Const32 <typ.UInt32> [int32(uint16(c))]))
(Const32 <typ.UInt32>
 [0]))
(Eq8 (Mod8 x (Const8  [c])) (Const8 [0])) && x.Op != OpConst8 && sdivisibleOK8(c) &&
!hasSmallRotate(config) =>
 (Eq32 (Mod32 <typ.Int32> (SignExt8to32 <typ.Int32> x) (Const32 <typ.Int32> [int32(c)])) (Const32 <typ.Int32>
[0]))
(Eq16 (Mod16 x (Const16  [c])) (Const16 [0])) && x.Op != OpConst16 && sdivisibleOK16(c) &&
!hasSmallRotate(config) =>
 (Eq32 (Mod32 <typ.Int32> (SignExt16to32 <typ.Int32> x) (Const32 <typ.Int32> [int32(c)])) (Const32 <typ.Int32>
[0]))

// Divisibility checks x%c == 0 convert to multiply and rotate.
// Note, x%c == 0 is rewritten as x == c*(x/c) during the opt pass
// where (x/c) is performed using multiplication with magic constants.
// To rewrite x%c == 0 requires pattern matching the rewritten expression
// and checking that the division by the same constant wasn't already calculated.
// This check is made by counting uses of the magic constant multiplication.
// Note that if there were an intermediate opt pass, this rule could be applied
// directly
 on the Div op and magic division rewrites could be delayed to late opt.

// Unsigned divisibility checks convert to multiply and rotate.
(Eq8 x (Mul8 (Const8 [c])
 (Trunc32to8
   (Rsh32Ux64
     mul:(Mul32
       (Const32 [m])
       (ZeroExt8to32 x))
     (Const64 [s])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(1<<8+umagic8(c).m) && s == 8+umagic8(c).s
 && x.Op != OpConst8 && udivisibleOK8(c)
=> (Leq8U
   (RotateLeft8 <typ.UInt8>
    (Mul8 <typ.UInt8>
     (Const8 <typ.UInt8> [int8(udivisible8(c).m)])
     x)
    (Const8 <typ.UInt8> [int8(8-udivisible8(c).k)])
    )
   (Const8 <typ.UInt8> [int8(udivisible8(c).max)])
  )

(Eq16 x (Mul16 (Const16 [c])
 (Trunc64to16
```

```
  (Rsh64Ux64
    mul:(Mul64
      (Const64 [m])
      (ZeroExt16to64 x))
    (Const64 [s])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(1<<16+umagic16(c).m) && s == 16+umagic16(c).s
 && x.Op != OpConst16 && udivisibleOK16(c)
=> (Leq16U
  (RotateLeft16
 <typ.UInt16>
   (Mul16 <typ.UInt16>
    (Const16 <typ.UInt16> [int16(udivisible16(c).m)])
    x)
   (Const16 <typ.UInt16> [int16(16-udivisible16(c).k)])
   )
  (Const16 <typ.UInt16> [int16(udivisible16(c).max)])
 )

(Eq16 x (Mul16 (Const16 [c])
 (Trunc32to16
  (Rsh32Ux64
    mul:(Mul32
      (Const32 [m])
      (ZeroExt16to32 x))
    (Const64 [s])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(1<<15+umagic16(c).m/2) && s == 16+umagic16(c).s-1
 && x.Op != OpConst16 && udivisibleOK16(c)
=> (Leq16U
  (RotateLeft16 <typ.UInt16>
   (Mul16 <typ.UInt16>
    (Const16 <typ.UInt16> [int16(udivisible16(c).m)])
    x)
   (Const16 <typ.UInt16> [int16(16-udivisible16(c).k)])
   )
  (Const16 <typ.UInt16> [int16(udivisible16(c).max)])
 )

(Eq16 x (Mul16 (Const16 [c])
 (Trunc32to16
  (Rsh32Ux64
    mul:(Mul32
      (Const32 [m])
```

```
      (Rsh32Ux64 (ZeroExt16to32 x) (Const64 [1])))
    (Const64 [s])))
 )
)
 && v.Block.Func.pass.name
 != "opt" && mul.Uses == 1
 && m == int32(1<<15+(umagic16(c).m+1)/2) && s == 16+umagic16(c).s-2
 && x.Op != OpConst16 && udivisibleOK16(c)
=> (Leq16U
  (RotateLeft16 <typ.UInt16>
   (Mul16 <typ.UInt16>
    (Const16 <typ.UInt16> [int16(udivisible16(c).m)])
    x)
   (Const16 <typ.UInt16> [int16(16-udivisible16(c).k)])
   )
  (Const16 <typ.UInt16> [int16(udivisible16(c).max)])
 )

(Eq16 x (Mul16 (Const16 [c])
 (Trunc32to16
  (Rsh32Ux64
   (Avg32u
    (Lsh32x64 (ZeroExt16to32 x) (Const64 [16]))
    mul:(Mul32
     (Const32 [m])
     (ZeroExt16to32 x)))
   (Const64 [s])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(umagic16(c).m) && s == 16+umagic16(c).s-1
 && x.Op != OpConst16 && udivisibleOK16(c)
=> (Leq16U
  (RotateLeft16 <typ.UInt16>
   (Mul16 <typ.UInt16>
    (Const16 <typ.UInt16> [int16(udivisible16(c).m)])
    x)
   (Const16 <typ.UInt16> [int16(16-udivisible16(c).k)])
   )
  (Const16 <typ.UInt16>
 [int16(udivisible16(c).max)])
 )

(Eq32 x (Mul32 (Const32 [c])
 (Rsh32Ux64
  mul:(Hmul32u
   (Const32 [m])
   x)
```

```
  (Const64 [s]))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(1<<31+umagic32(c).m/2) && s == umagic32(c).s-1
 && x.Op != OpConst32 && udivisibleOK32(c)
=> (Leq32U
   (RotateLeft32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(udivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(32-udivisible32(c).k)])
    )
   (Const32 <typ.UInt32> [int32(udivisible32(c).max)])
  )

(Eq32 x (Mul32 (Const32 [c])
 (Rsh32Ux64
   mul:(Hmul32u
     (Const32 <typ.UInt32> [m])
     (Rsh32Ux64 x (Const64 [1])))
   (Const64 [s]))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(1<<31+(umagic32(c).m+1)/2) && s == umagic32(c).s-2
 && x.Op != OpConst32 && udivisibleOK32(c)
=> (Leq32U
   (RotateLeft32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(udivisible32(c).m)])
     x)
    (Const32
 <typ.UInt32> [int32(32-udivisible32(c).k)])
    )
   (Const32 <typ.UInt32> [int32(udivisible32(c).max)])
  )

(Eq32 x (Mul32 (Const32 [c])
 (Rsh32Ux64
   (Avg32u
     x
     mul:(Hmul32u
       (Const32 [m])
       x))
   (Const64 [s]))
 )
)
```

```
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(umagic32(c).m) && s == umagic32(c).s-1
 && x.Op != OpConst32 && udivisibleOK32(c)
=> (Leq32U
   (RotateLeft32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(udivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(32-udivisible32(c).k)])
    )
   (Const32 <typ.UInt32> [int32(udivisible32(c).max)])
  )

(Eq32 x (Mul32 (Const32 [c])
 (Trunc64to32
   (Rsh64Ux64
     mul:(Mul64
       (Const64 [m])
       (ZeroExt32to64 x))
     (Const64 [s])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(1<<31+umagic32(c).m/2) && s == 32+umagic32(c).s-1
 && x.Op != OpConst32 && udivisibleOK32(c)
=> (Leq32U
   (RotateLeft32
 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(udivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(32-udivisible32(c).k)])
    )
   (Const32 <typ.UInt32> [int32(udivisible32(c).max)])
  )

(Eq32 x (Mul32 (Const32 [c])
 (Trunc64to32
   (Rsh64Ux64
     mul:(Mul64
       (Const64 [m])
       (Rsh64Ux64 (ZeroExt32to64 x) (Const64 [1])))
     (Const64 [s])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(1<<31+(umagic32(c).m+1)/2) && s == 32+umagic32(c).s-2
 && x.Op != OpConst32 && udivisibleOK32(c)
```

```
=> (Leq32U
   (RotateLeft32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(udivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(32-udivisible32(c).k)])
    )
   (Const32 <typ.UInt32> [int32(udivisible32(c).max)])
  )

(Eq32 x (Mul32 (Const32 [c])
 (Trunc64to32
   (Rsh64Ux64
     (Avg64u
       (Lsh64x64 (ZeroExt32to64 x) (Const64 [32]))
       mul:(Mul64
         (Const64 [m])

      (ZeroExt32to64 x)))
     (Const64 [s])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(umagic32(c).m) && s == 32+umagic32(c).s-1
 && x.Op != OpConst32 && udivisibleOK32(c)
=> (Leq32U
   (RotateLeft32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(udivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(32-udivisible32(c).k)])
    )
   (Const32 <typ.UInt32> [int32(udivisible32(c).max)])
  )

(Eq64 x (Mul64 (Const64 [c])
 (Rsh64Ux64
  mul:(Hmul64u
   (Const64 [m])
   x)
  (Const64 [s]))
 )
) && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(1<<63+umagic64(c).m/2) && s == umagic64(c).s-1
 && x.Op != OpConst64 && udivisibleOK64(c)
=> (Leq64U
   (RotateLeft64 <typ.UInt64>
    (Mul64 <typ.UInt64>
```

```
    (Const64 <typ.UInt64> [int64(udivisible64(c).m)])
    x)
   (Const64 <typ.UInt64> [64-udivisible64(c).k])
   )
  (Const64 <typ.UInt64> [int64(udivisible64(c).max)])
 )
(Eq64 x (Mul64 (Const64 [c])
 (Rsh64Ux64
  mul:(Hmul64u
   (Const64
 [m])
   (Rsh64Ux64 x (Const64 [1])))
  (Const64 [s]))
 )
) && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(1<<63+(umagic64(c).m+1)/2) && s == umagic64(c).s-2
 && x.Op != OpConst64 && udivisibleOK64(c)
=> (Leq64U
   (RotateLeft64 <typ.UInt64>
    (Mul64 <typ.UInt64>
     (Const64 <typ.UInt64> [int64(udivisible64(c).m)])
     x)
    (Const64 <typ.UInt64> [64-udivisible64(c).k])
    )
   (Const64 <typ.UInt64> [int64(udivisible64(c).max)])
  )
(Eq64 x (Mul64 (Const64 [c])
 (Rsh64Ux64
  (Avg64u
   x
   mul:(Hmul64u
    (Const64 [m])
    x))
  (Const64 [s]))
 )
) && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(umagic64(c).m) && s == umagic64(c).s-1
 && x.Op != OpConst64 && udivisibleOK64(c)
=> (Leq64U
   (RotateLeft64 <typ.UInt64>
    (Mul64 <typ.UInt64>
     (Const64 <typ.UInt64> [int64(udivisible64(c).m)])
     x)
    (Const64 <typ.UInt64> [64-udivisible64(c).k])
    )
   (Const64 <typ.UInt64> [int64(udivisible64(c).max)])
  )
```

```
//
 Signed divisibility checks convert to multiply, add and rotate.
(Eq8 x (Mul8 (Const8 [c])
 (Sub8
  (Rsh32x64
   mul:(Mul32
    (Const32 [m])
    (SignExt8to32 x))
   (Const64 [s]))
  (Rsh32x64
   (SignExt8to32 x)
   (Const64 [31])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(smagic8(c).m) && s == 8+smagic8(c).s
 && x.Op != OpConst8 && sdivisibleOK8(c)
=> (Leq8U
  (RotateLeft8 <typ.UInt8>
   (Add8 <typ.UInt8>
    (Mul8 <typ.UInt8>
     (Const8 <typ.UInt8> [int8(sdivisible8(c).m)])
     x)
    (Const8 <typ.UInt8> [int8(sdivisible8(c).a)])
   )
   (Const8 <typ.UInt8> [int8(8-sdivisible8(c).k)])
  )
  (Const8 <typ.UInt8> [int8(sdivisible8(c).max)])
 )

(Eq16 x (Mul16 (Const16 [c])
 (Sub16
  (Rsh32x64
   mul:(Mul32
    (Const32 [m])
    (SignExt16to32 x))
   (Const64 [s]))
  (Rsh32x64
   (SignExt16to32 x)
   (Const64 [31])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
  && m == int32(smagic16(c).m) && s == 16+smagic16(c).s
 && x.Op != OpConst16 && sdivisibleOK16(c)
=> (Leq16U
  (RotateLeft16 <typ.UInt16>
   (Add16 <typ.UInt16>
```

```
    (Mul16 <typ.UInt16>
     (Const16 <typ.UInt16> [int16(sdivisible16(c).m)])
     x)
    (Const16 <typ.UInt16> [int16(sdivisible16(c).a)])
   )
   (Const16 <typ.UInt16> [int16(16-sdivisible16(c).k)])
  )
  (Const16 <typ.UInt16> [int16(sdivisible16(c).max)])
 )

(Eq32 x (Mul32 (Const32 [c])
 (Sub32
  (Rsh64x64
   mul:(Mul64
    (Const64 [m])
    (SignExt32to64 x))
   (Const64 [s]))
  (Rsh64x64
   (SignExt32to64 x)
   (Const64 [63])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(smagic32(c).m) && s == 32+smagic32(c).s
 && x.Op != OpConst32 && sdivisibleOK32(c)
=> (Leq32U
  (RotateLeft32 <typ.UInt32>
   (Add32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(sdivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(sdivisible32(c).a)])
   )
   (Const32
 <typ.UInt32> [int32(32-sdivisible32(c).k)])
  )
  (Const32 <typ.UInt32> [int32(sdivisible32(c).max)])
 )

(Eq32 x (Mul32 (Const32 [c])
 (Sub32
  (Rsh32x64
   mul:(Hmul32
    (Const32 [m])
    x)
   (Const64 [s]))
  (Rsh32x64
   x
```

```
    (Const64 [31])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(smagic32(c).m/2) && s == smagic32(c).s-1
 && x.Op != OpConst32 && sdivisibleOK32(c)
=> (Leq32U
  (RotateLeft32 <typ.UInt32>
   (Add32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(sdivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(sdivisible32(c).a)])
   )
   (Const32 <typ.UInt32> [int32(32-sdivisible32(c).k)])
  )
  (Const32 <typ.UInt32> [int32(sdivisible32(c).max)])
 )

(Eq32 x (Mul32 (Const32 [c])
 (Sub32
  (Rsh32x64
   (Add32
    mul:(Hmul32
     (Const32 [m])
     x)
    x)
   (Const64 [s]))
  (Rsh32x64
   x
   (Const64 [31])))
 )
)
  && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int32(smagic32(c).m) && s == smagic32(c).s
 && x.Op != OpConst32 && sdivisibleOK32(c)
=> (Leq32U
  (RotateLeft32 <typ.UInt32>
   (Add32 <typ.UInt32>
    (Mul32 <typ.UInt32>
     (Const32 <typ.UInt32> [int32(sdivisible32(c).m)])
     x)
    (Const32 <typ.UInt32> [int32(sdivisible32(c).a)])
   )
   (Const32 <typ.UInt32> [int32(32-sdivisible32(c).k)])
  )
  (Const32 <typ.UInt32> [int32(sdivisible32(c).max)])
 )
```

```
(Eq64 x (Mul64 (Const64 [c])
 (Sub64
  (Rsh64x64
   mul:(Hmul64
    (Const64 [m])
    x)
   (Const64 [s]))
  (Rsh64x64
   x
   (Const64 [63])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(smagic64(c).m/2) && s == smagic64(c).s-1
 && x.Op != OpConst64 && sdivisibleOK64(c)
=> (Leq64U
  (RotateLeft64 <typ.UInt64>
   (Add64 <typ.UInt64>
    (Mul64 <typ.UInt64>
     (Const64 <typ.UInt64> [int64(sdivisible64(c).m)])
     x)
    (Const64 <typ.UInt64>
 [int64(sdivisible64(c).a)])
   )
   (Const64 <typ.UInt64> [64-sdivisible64(c).k])
  )
  (Const64 <typ.UInt64> [int64(sdivisible64(c).max)])
 )

(Eq64 x (Mul64 (Const64 [c])
 (Sub64
  (Rsh64x64
   (Add64
    mul:(Hmul64
     (Const64 [m])
     x)
    x)
   (Const64 [s]))
  (Rsh64x64
   x
   (Const64 [63])))
 )
)
 && v.Block.Func.pass.name != "opt" && mul.Uses == 1
 && m == int64(smagic64(c).m) && s == smagic64(c).s
 && x.Op != OpConst64 && sdivisibleOK64(c)
=> (Leq64U
```

```
  (RotateLeft64 <typ.UInt64>
   (Add64 <typ.UInt64>
    (Mul64 <typ.UInt64>
     (Const64 <typ.UInt64> [int64(sdivisible64(c).m)])
     x)
    (Const64 <typ.UInt64> [int64(sdivisible64(c).a)])
   )
   (Const64 <typ.UInt64> [64-sdivisible64(c).k])
  )
  (Const64 <typ.UInt64> [int64(sdivisible64(c).max)])
 )

// Divisibility check for signed integers for power of two constant are simple mask.
// However, we must match against the rewritten n%c == 0 -> n - c*(n/c) ==
 0 -> n == c*(n/c)
// where n/c contains fixup code to handle signed n.
((Eq8|Neq8) n (Lsh8x64
 (Rsh8x64
   (Add8  <t> n (Rsh8Ux64  <t> (Rsh8x64  <t> n (Const64 <typ.UInt64> [ 7])) (Const64 <typ.UInt64> [kbar])))
   (Const64 <typ.UInt64> [k]))
 (Const64 <typ.UInt64> [k]))
) && k > 0 && k < 7 && kbar == 8 - k
 => ((Eq8|Neq8) (And8 <t> n (Const8 <t> [1<<uint(k)-1])) (Const8 <t> [0]))

((Eq16|Neq16) n (Lsh16x64
 (Rsh16x64
   (Add16 <t> n (Rsh16Ux64 <t> (Rsh16x64 <t> n (Const64 <typ.UInt64> [15])) (Const64 <typ.UInt64> [kbar])))
   (Const64 <typ.UInt64> [k]))
 (Const64 <typ.UInt64> [k]))
) && k > 0 && k < 15 && kbar == 16 - k
 => ((Eq16|Neq16) (And16 <t> n (Const16 <t> [1<<uint(k)-1])) (Const16 <t> [0]))

((Eq32|Neq32) n (Lsh32x64
 (Rsh32x64
   (Add32 <t> n (Rsh32Ux64 <t> (Rsh32x64 <t> n (Const64 <typ.UInt64> [31])) (Const64 <typ.UInt64> [kbar])))
   (Const64 <typ.UInt64> [k]))
 (Const64 <typ.UInt64> [k]))
) && k > 0 && k < 31 && kbar == 32 - k
 => ((Eq32|Neq32) (And32 <t> n (Const32
 <t> [1<<uint(k)-1])) (Const32 <t> [0]))

((Eq64|Neq64) n (Lsh64x64
 (Rsh64x64
   (Add64 <t> n (Rsh64Ux64 <t> (Rsh64x64 <t> n (Const64 <typ.UInt64> [63])) (Const64 <typ.UInt64> [kbar])))
   (Const64 <typ.UInt64> [k]))
 (Const64 <typ.UInt64> [k]))
) && k > 0 && k < 63 && kbar == 64 - k
 => ((Eq64|Neq64) (And64 <t> n (Const64 <t> [1<<uint(k)-1])) (Const64 <t> [0]))
```

```
(Eq(8|16|32|64)  s:(Sub(8|16|32|64) x y) (Const(8|16|32|64) [0])) && s.Uses == 1 => (Eq(8|16|32|64)  x y)
(Neq(8|16|32|64) s:(Sub(8|16|32|64) x y) (Const(8|16|32|64) [0])) && s.Uses == 1 => (Neq(8|16|32|64) x y)

// Optimize bitsets
(Eq8 (And8 <t> x (Const8 <t> [y])) (Const8 <t> [y])) && oneBit8(y)
 => (Neq8 (And8 <t> x (Const8 <t> [y])) (Const8 <t> [0]))
(Eq16 (And16 <t> x (Const16 <t> [y])) (Const16 <t> [y])) && oneBit16(y)
 => (Neq16 (And16 <t> x (Const16 <t> [y])) (Const16 <t> [0]))
(Eq32 (And32 <t> x (Const32 <t> [y])) (Const32 <t> [y])) && oneBit32(y)
 => (Neq32 (And32 <t> x (Const32 <t> [y])) (Const32 <t>
 [0]))
(Eq64 (And64 <t> x (Const64 <t> [y])) (Const64 <t> [y])) && oneBit64(y)
 => (Neq64 (And64 <t> x (Const64 <t> [y])) (Const64 <t> [0]))
(Neq8 (And8 <t> x (Const8 <t> [y])) (Const8 <t> [y])) && oneBit8(y)
 => (Eq8 (And8 <t> x (Const8 <t> [y])) (Const8 <t> [0]))
(Neq16 (And16 <t> x (Const16 <t> [y])) (Const16 <t> [y])) && oneBit16(y)
 => (Eq16 (And16 <t> x (Const16 <t> [y])) (Const16 <t> [0]))
(Neq32 (And32 <t> x (Const32 <t> [y])) (Const32 <t> [y])) && oneBit32(y)
 => (Eq32 (And32 <t> x (Const32 <t> [y])) (Const32 <t> [0]))
(Neq64 (And64 <t> x (Const64 <t> [y])) (Const64 <t> [y])) && oneBit64(y)
 => (Eq64 (And64 <t> x (Const64 <t> [y])) (Const64 <t> [0]))

// Reassociate expressions involving
// constants such that constants come first,
// exposing obvious constant-folding opportunities.
// Reassociate (op (op y C) x) to (op C (op x y)) or similar, where C
// is constant, which pushes constants to the outside
// of the expression. At that point, any constant-folding
// opportunities
 should be obvious.
// Note: don't include AddPtr here! In order to maintain the
// invariant that pointers must stay within the pointed-to object,
// we can't pull part of a pointer computation above the AddPtr.
// See issue 37881.
// Note: we don't need to handle any (x-C) cases because we already rewrite
// (x-C) to (x+(-C)).

// x + (C + z) -> C + (x + z)
(Add64 (Add64 i:(Const64 <t>) z) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (Add64 i (Add64 <t> z x))
(Add32 (Add32 i:(Const32 <t>) z) x) && (z.Op != OpConst32 && x.Op != OpConst32) => (Add32 i (Add32 <t> z x))
(Add16 (Add16 i:(Const16 <t>) z) x) && (z.Op != OpConst16 && x.Op != OpConst16) => (Add16 i (Add16 <t> z x))
(Add8  (Add8  i:(Const8  <t>) z) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Add8  i (Add8  <t> z x))

// x + (C - z) -> C + (x - z)
```

```
(Add64 (Sub64 i:(Const64 <t>) z) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (Add64 i (Sub64 <t> x z))
(Add32 (Sub32 i:(Const32 <t>) z) x) && (z.Op != OpConst32
 && x.Op != OpConst32) => (Add32 i (Sub32 <t> x z))
(Add16 (Sub16 i:(Const16 <t>) z) x) && (z.Op != OpConst16 && x.Op != OpConst16) => (Add16 i (Sub16 <t> x z))
(Add8  (Sub8  i:(Const8  <t>) z) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Add8  i (Sub8  <t> x z))

// x - (C - z) -> x + (z - C) -> (x + z) - C
(Sub64 x (Sub64 i:(Const64 <t>) z)) && (z.Op != OpConst64 && x.Op != OpConst64) => (Sub64 (Add64 <t> x z) i)
(Sub32 x (Sub32 i:(Const32 <t>) z)) && (z.Op != OpConst32 && x.Op != OpConst32) => (Sub32 (Add32 <t> x z) i)
(Sub16 x (Sub16 i:(Const16 <t>) z)) && (z.Op != OpConst16 && x.Op != OpConst16) => (Sub16 (Add16 <t> x z) i)
(Sub8  x (Sub8  i:(Const8  <t>) z)) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Sub8  (Add8  <t> x z) i)

// x - (z + C) -> x + (-z - C) -> (x - z) - C
(Sub64 x (Add64 z i:(Const64 <t>))) && (z.Op != OpConst64 && x.Op != OpConst64) => (Sub64 (Sub64 <t> x z) i)
(Sub32 x (Add32 z i:(Const32 <t>))) && (z.Op != OpConst32 && x.Op != OpConst32) => (Sub32 (Sub32
 <t> x z) i)
(Sub16 x (Add16 z i:(Const16 <t>))) && (z.Op != OpConst16 && x.Op != OpConst16) => (Sub16 (Sub16 <t> x z) i)
(Sub8  x (Add8  z i:(Const8  <t>))) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Sub8 (Sub8  <t> x z) i)

// (C - z) - x -> C - (z + x)
(Sub64 (Sub64 i:(Const64 <t>) z) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (Sub64 i (Add64 <t> z x))
(Sub32 (Sub32 i:(Const32 <t>) z) x) && (z.Op != OpConst32 && x.Op != OpConst32) => (Sub32 i (Add32 <t> z x))
(Sub16 (Sub16 i:(Const16 <t>) z) x) && (z.Op != OpConst16 && x.Op != OpConst16) => (Sub16 i (Add16 <t> z x))
(Sub8  (Sub8  i:(Const8  <t>) z) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Sub8  i (Add8  <t> z x))

// (z + C) -x -> C + (z - x)
(Sub64 (Add64 z i:(Const64 <t>)) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (Add64 i (Sub64 <t> z x))
(Sub32 (Add32 z i:(Const32 <t>)) x) && (z.Op != OpConst32 && x.Op != OpConst32) => (Add32 i (Sub32 <t> z x))
(Sub16 (Add16 z i:(Const16 <t>)) x) && (z.Op != OpConst16
 && x.Op != OpConst16) => (Add16 i (Sub16 <t> z x))
(Sub8  (Add8  z i:(Const8  <t>)) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Add8  i (Sub8  <t> z x))

// x & (C & z) -> C & (x & z)
(And64 (And64 i:(Const64 <t>) z) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (And64 i (And64 <t> z x))
(And32 (And32 i:(Const32 <t>) z) x) && (z.Op != OpConst32 && x.Op != OpConst32) => (And32 i (And32 <t> z
```

```
x))
(And16 (And16 i:(Const16 <t>) z) x) && (z.Op != OpConst16 && x.Op != OpConst16) => (And16 i (And16 <t> z x))
(And8  (And8  i:(Const8  <t>) z) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (And8  i (And8  <t> z x))

// x | (C | z) -> C | (x | z)
(Or64 (Or64 i:(Const64 <t>) z) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (Or64 i (Or64 <t> z x))
(Or32 (Or32 i:(Const32 <t>) z) x) && (z.Op != OpConst32 && x.Op != OpConst32) => (Or32 i (Or32 <t> z x))
(Or16 (Or16 i:(Const16 <t>) z) x) && (z.Op != OpConst16 && x.Op != OpConst16) => (Or16 i (Or16 <t> z x))
(Or8  (Or8  i:(Const8
  <t>) z) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Or8  i (Or8  <t> z x))

// x ^ (C ^ z) -> C ^ (x ^ z)
(Xor64 (Xor64 i:(Const64 <t>) z) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (Xor64 i (Xor64 <t> z x))
(Xor32 (Xor32 i:(Const32 <t>) z) x) && (z.Op != OpConst32 && x.Op != OpConst32) => (Xor32 i (Xor32 <t> z x))
(Xor16 (Xor16 i:(Const16 <t>) z) x) && (z.Op != OpConst16 && x.Op != OpConst16) => (Xor16 i (Xor16 <t> z x))
(Xor8  (Xor8  i:(Const8  <t>) z) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Xor8  i (Xor8  <t> z x))

// x * (D * z) = D * (x * z)
(Mul64 (Mul64 i:(Const64 <t>) z) x) && (z.Op != OpConst64 && x.Op != OpConst64) => (Mul64 i (Mul64 <t> x z))
(Mul32 (Mul32 i:(Const32 <t>) z) x) && (z.Op != OpConst32 && x.Op != OpConst32) => (Mul32 i (Mul32 <t> x z))
(Mul16 (Mul16 i:(Const16 <t>) z) x) && (z.Op != OpConst16 && x.Op != OpConst16) => (Mul16 i (Mul16 <t> x z))
(Mul8  (Mul8  i:(Const8  <t>) z) x) && (z.Op != OpConst8  && x.Op != OpConst8)  => (Mul8
 i (Mul8  <t> x z))

// C + (D + x) -> (C + D) + x
(Add64 (Const64 <t> [c]) (Add64 (Const64 <t> [d]) x)) => (Add64 (Const64 <t> [c+d]) x)
(Add32 (Const32 <t> [c]) (Add32 (Const32 <t> [d]) x)) => (Add32 (Const32 <t> [c+d]) x)
(Add16 (Const16 <t> [c]) (Add16 (Const16 <t> [d]) x)) => (Add16 (Const16 <t> [c+d]) x)
(Add8  (Const8  <t> [c]) (Add8  (Const8  <t> [d]) x)) => (Add8  (Const8  <t> [c+d]) x)

// C + (D - x) -> (C + D) - x
(Add64 (Const64 <t> [c]) (Sub64 (Const64 <t> [d]) x)) => (Sub64 (Const64 <t> [c+d]) x)
(Add32 (Const32 <t> [c]) (Sub32 (Const32 <t> [d]) x)) => (Sub32 (Const32 <t> [c+d]) x)
(Add16 (Const16 <t> [c]) (Sub16 (Const16 <t> [d]) x)) => (Sub16 (Const16 <t> [c+d]) x)
(Add8  (Const8  <t> [c]) (Sub8  (Const8  <t> [d]) x)) => (Sub8  (Const8  <t> [c+d]) x)

// C - (D - x) -> (C - D) + x
(Sub64 (Const64 <t> [c]) (Sub64 (Const64 <t> [d]) x)) => (Add64 (Const64 <t> [c-d]) x)
(Sub32 (Const32 <t> [c]) (Sub32 (Const32 <t> [d]) x)) => (Add32 (Const32 <t> [c-d]) x)
(Sub16 (Const16 <t>
```

```
 [c]) (Sub16 (Const16 <t> [d]) x)) => (Add16 (Const16 <t> [c-d]) x)
(Sub8  (Const8  <t> [c]) (Sub8  (Const8  <t> [d]) x)) => (Add8  (Const8  <t> [c-d]) x)

// C - (D + x) -> (C - D) - x
(Sub64 (Const64 <t> [c]) (Add64 (Const64 <t> [d]) x)) => (Sub64 (Const64 <t> [c-d]) x)
(Sub32 (Const32 <t> [c]) (Add32 (Const32 <t> [d]) x)) => (Sub32 (Const32 <t> [c-d]) x)
(Sub16 (Const16 <t> [c]) (Add16 (Const16 <t> [d]) x)) => (Sub16 (Const16 <t> [c-d]) x)
(Sub8  (Const8  <t> [c]) (Add8  (Const8  <t> [d]) x)) => (Sub8  (Const8  <t> [c-d]) x)

// C & (D & x) -> (C & D) & x
(And64 (Const64 <t> [c]) (And64 (Const64 <t> [d]) x)) => (And64 (Const64 <t> [c&d]) x)
(And32 (Const32 <t> [c]) (And32 (Const32 <t> [d]) x)) => (And32 (Const32 <t> [c&d]) x)
(And16 (Const16 <t> [c]) (And16 (Const16 <t> [d]) x)) => (And16 (Const16 <t> [c&d]) x)
(And8  (Const8  <t> [c]) (And8  (Const8  <t> [d]) x)) => (And8  (Const8  <t> [c&d]) x)

// C | (D | x) -> (C | D) | x
(Or64 (Const64 <t> [c]) (Or64 (Const64 <t> [d]) x)) =>
 (Or64 (Const64 <t> [c|d]) x)
(Or32 (Const32 <t> [c]) (Or32 (Const32 <t> [d]) x)) => (Or32 (Const32 <t> [c|d]) x)
(Or16 (Const16 <t> [c]) (Or16 (Const16 <t> [d]) x)) => (Or16 (Const16 <t> [c|d]) x)
(Or8  (Const8  <t> [c]) (Or8  (Const8  <t> [d]) x)) => (Or8  (Const8  <t> [c|d]) x)

// C ^ (D ^ x) -> (C ^ D) ^ x
(Xor64 (Const64 <t> [c]) (Xor64 (Const64 <t> [d]) x)) => (Xor64 (Const64 <t> [c^d]) x)
(Xor32 (Const32 <t> [c]) (Xor32 (Const32 <t> [d]) x)) => (Xor32 (Const32 <t> [c^d]) x)
(Xor16 (Const16 <t> [c]) (Xor16 (Const16 <t> [d]) x)) => (Xor16 (Const16 <t> [c^d]) x)
(Xor8  (Const8  <t> [c]) (Xor8  (Const8  <t> [d]) x)) => (Xor8  (Const8  <t> [c^d]) x)

// C * (D * x) = (C * D) * x
(Mul64 (Const64 <t> [c]) (Mul64 (Const64 <t> [d]) x)) => (Mul64 (Const64 <t> [c*d]) x)
(Mul32 (Const32 <t> [c]) (Mul32 (Const32 <t> [d]) x)) => (Mul32 (Const32 <t> [c*d]) x)
(Mul16 (Const16 <t> [c]) (Mul16 (Const16 <t> [d]) x)) => (Mul16 (Const16 <t> [c*d]) x)
(Mul8  (Const8  <t> [c]) (Mul8  (Const8  <t> [d])
 x)) => (Mul8  (Const8  <t> [c*d]) x)

// floating point optimizations
(Mul(32|64)F x (Const(32|64)F [1])) => x
(Mul32F x (Const32F [-1])) => (Neg32F x)
(Mul64F x (Const64F [-1])) => (Neg64F x)
(Mul32F x (Const32F [2])) => (Add32F x x)
(Mul64F x (Const64F [2])) => (Add64F x x)

(Div32F x (Const32F <t> [c])) && reciprocalExact32(c) => (Mul32F x (Const32F <t> [1/c]))
(Div64F x (Const64F <t> [c])) && reciprocalExact64(c) => (Mul64F x (Const64F <t> [1/c]))

// rewrite single-precision sqrt expression "float32(math.Sqrt(float64(x)))"
(Cvt64Fto32F sqrt0:(Sqrt (Cvt32Fto64F x))) && sqrt0.Uses==1 => (Sqrt32 x)
```

```
(Sqrt (Const64F [c])) && !math.IsNaN(math.Sqrt(c)) => (Const64F [math.Sqrt(c)])

// for rewriting results of some late-expanded rewrites (below)
(SelectN [0] (MakeResult x ___)) => x
(SelectN [1] (MakeResult x y ___)) => y
(SelectN [2] (MakeResult x y z ___)) => z

// for late-expanded calls, recognize newobject and remove zeroing and nilchecks
(Zero (SelectN [0] call:(StaticLECall _ _))
 mem:(SelectN [1] call))
 && isSameCall(call.Aux, "runtime.newobject")
 => mem

(Store (SelectN [0] call:(StaticLECall _ _)) x mem:(SelectN [1] call))
 && isConstZero(x)
 && isSameCall(call.Aux, "runtime.newobject")
 => mem

(Store (OffPtr (SelectN [0] call:(StaticLECall _ _))) x mem:(SelectN [1] call))
 && isConstZero(x)
 && isSameCall(call.Aux, "runtime.newobject")
 => mem

(NilCheck (SelectN [0] call:(StaticLECall _ _)) _)
 && isSameCall(call.Aux, "runtime.newobject")
 && warnRule(fe.Debug_checknil(), v, "removed nil check")
 => (Invalid)

(NilCheck (OffPtr (SelectN [0] call:(StaticLECall _ _))) _)
 && isSameCall(call.Aux, "runtime.newobject")
 && warnRule(fe.Debug_checknil(), v, "removed nil check")
 => (Invalid)

// for late-expanded calls, recognize memequal applied to a single constant byte
// Support is limited by 1, 2, 4, 8 byte sizes
(StaticLECall {callAux} sptr (Addr {scon} (SB)) (Const64 [1]) mem)
 && isSameCall(callAux, "runtime.memequal")
 && symIsRO(scon)
 => (MakeResult
 (Eq8 (Load <typ.Int8> sptr mem) (Const8 <typ.Int8> [int8(read8(scon,0))])) mem)

(StaticLECall {callAux} sptr (Addr {scon} (SB)) (Const64 [2]) mem)
 && isSameCall(callAux, "runtime.memequal")
 && symIsRO(scon)
 && canLoadUnaligned(config)
 => (MakeResult (Eq16 (Load <typ.Int16> sptr mem) (Const16 <typ.Int16>
[int16(read16(scon,0,config.ctxt.Arch.ByteOrder))])) mem)
```

```
(StaticLECall {callAux} sptr (Addr {scon} (SB)) (Const64 [4]) mem)
 && isSameCall(callAux, "runtime.memequal")
 && symIsRO(scon)
 && canLoadUnaligned(config)
 => (MakeResult (Eq32 (Load <typ.Int32> sptr mem) (Const32 <typ.Int32>
[int32(read32(scon,0,config.ctxt.Arch.ByteOrder))])) mem)

(StaticLECall {callAux} sptr (Addr {scon} (SB)) (Const64 [8]) mem)
 && isSameCall(callAux, "runtime.memequal")
 && symIsRO(scon)
 && canLoadUnaligned(config) && config.PtrSize == 8
 => (MakeResult (Eq64 (Load <typ.Int64> sptr mem) (Const64 <typ.Int64>
[int64(read64(scon,0,config.ctxt.Arch.ByteOrder))])) mem)

// Evaluate constant
 address comparisons.
(EqPtr  x x) => (ConstBool [true])
(NeqPtr x x) => (ConstBool [false])
(EqPtr  (Addr {x} _) (Addr {y} _)) => (ConstBool [x == y])
(EqPtr  (Addr {x} _) (OffPtr [o] (Addr {y} _))) => (ConstBool [x == y && o == 0])
(EqPtr  (OffPtr [o1] (Addr {x} _)) (OffPtr [o2] (Addr {y} _))) => (ConstBool [x == y && o1 == o2])
(NeqPtr (Addr {x} _) (Addr {y} _)) => (ConstBool [x != y])
(NeqPtr (Addr {x} _) (OffPtr [o] (Addr {y} _))) => (ConstBool [x != y || o != 0])
(NeqPtr (OffPtr [o1] (Addr {x} _)) (OffPtr [o2] (Addr {y} _))) => (ConstBool [x != y || o1 != o2])
(EqPtr  (LocalAddr {x} _ _) (LocalAddr {y} _ _)) => (ConstBool [x == y])
(EqPtr  (LocalAddr {x} _ _) (OffPtr [o] (LocalAddr {y} _ _))) => (ConstBool [x == y && o == 0])
(EqPtr  (OffPtr [o1] (LocalAddr {x} _ _)) (OffPtr [o2] (LocalAddr {y} _ _))) => (ConstBool [x == y && o1 == o2])
(NeqPtr (LocalAddr {x} _ _) (LocalAddr {y} _ _)) => (ConstBool [x != y])
(NeqPtr (LocalAddr {x} _ _) (OffPtr [o] (LocalAddr {y} _ _))) => (ConstBool
 [x != y || o != 0])
(NeqPtr (OffPtr [o1] (LocalAddr {x} _ _)) (OffPtr [o2] (LocalAddr {y} _ _))) => (ConstBool [x != y || o1 != o2])
(EqPtr  (OffPtr [o1] p1) p2) && isSamePtr(p1, p2) => (ConstBool [o1 == 0])
(NeqPtr (OffPtr [o1] p1) p2) && isSamePtr(p1, p2) => (ConstBool [o1 != 0])
(EqPtr  (OffPtr [o1] p1) (OffPtr [o2] p2)) && isSamePtr(p1, p2) => (ConstBool [o1 == o2])
(NeqPtr (OffPtr [o1] p1) (OffPtr [o2] p2)) && isSamePtr(p1, p2) => (ConstBool [o1 != o2])
(EqPtr  (Const(32|64) [c]) (Const(32|64) [d])) => (ConstBool [c == d])
(NeqPtr (Const(32|64) [c]) (Const(32|64) [d])) => (ConstBool [c != d])

(EqPtr  (LocalAddr _ _) (Addr _)) => (ConstBool [false])
(EqPtr  (OffPtr (LocalAddr _ _)) (Addr _)) => (ConstBool [false])
(EqPtr  (LocalAddr _ _) (OffPtr (Addr _))) => (ConstBool [false])
(EqPtr  (OffPtr (LocalAddr _ _)) (OffPtr (Addr _))) => (ConstBool [false])
(NeqPtr (LocalAddr _ _) (Addr _)) => (ConstBool [true])
(NeqPtr (OffPtr (LocalAddr _ _)) (Addr _)) => (ConstBool [true])
(NeqPtr
 (LocalAddr _ _) (OffPtr (Addr _))) => (ConstBool [true])
(NeqPtr (OffPtr (LocalAddr _ _)) (OffPtr (Addr _))) => (ConstBool [true])
```

```
// Simplify address comparisons.
(EqPtr  (AddPtr p1 o1) p2) && isSamePtr(p1, p2) => (Not (IsNonNil o1))
(NeqPtr (AddPtr p1 o1) p2) && isSamePtr(p1, p2) => (IsNonNil o1)
(EqPtr  (Const(32|64) [0]) p) => (Not (IsNonNil p))
(NeqPtr (Const(32|64) [0]) p) => (IsNonNil p)
(EqPtr  (ConstNil) p) => (Not (IsNonNil p))
(NeqPtr (ConstNil) p) => (IsNonNil p)

// Evaluate constant user nil checks.
(IsNonNil (ConstNil)) => (ConstBool [false])
(IsNonNil (Const(32|64) [c])) => (ConstBool [c != 0])
(IsNonNil (Addr _)) => (ConstBool [true])
(IsNonNil (LocalAddr _ _)) => (ConstBool [true])

// Inline small or disjoint runtime.memmove calls with constant length.
// See the comment in op Move in genericOps.go for discussion of the type.
//
// Note that we've lost any knowledge of the type and alignment requirements
// of the source and destination. We only know the size,
 and that the type
// contains no pointers.
// The type of the move is not necessarily v.Args[0].Type().Elem()!
// See issue 55122 for details.
//
// Because expand calls runs after prove, constants useful to this pattern may not appear.
// Both versions need to exist; the memory and register variants.
//
// Match post-expansion calls, memory version.
(SelectN [0] call:(StaticCall {sym} s1:(Store _ (Const(64|32) [sz]) s2:(Store  _ src s3:(Store {t} _ dst mem)))))
 && sz >= 0
 && isSameCall(sym, "runtime.memmove")
 && s1.Uses == 1 && s2.Uses == 1 && s3.Uses == 1
 && isInlinableMemmove(dst, src, int64(sz), config)
 && clobber(s1, s2, s3, call)
 => (Move {types.Types[types.TUINT8]} [int64(sz)] dst src mem)

// Match post-expansion calls, register version.
(SelectN [0] call:(StaticCall {sym} dst src (Const(64|32) [sz]) mem))
 && sz >= 0
 && call.Uses == 1 // this will exclude all calls with results
 && isSameCall(sym, "runtime.memmove")
 && isInlinableMemmove(dst, src, int64(sz), config)
 &&
 clobber(call)
 => (Move {types.Types[types.TUINT8]} [int64(sz)] dst src mem)

// Match pre-expansion calls.
(SelectN [0] call:(StaticLECall {sym} dst src (Const(64|32) [sz]) mem))
```

```
 && sz >= 0
 && call.Uses == 1 // this will exclude all calls with results
 && isSameCall(sym, "runtime.memmove")
 && isInlinableMemmove(dst, src, int64(sz), config)
 && clobber(call)
 => (Move {types.Types[types.TUINT8]} [int64(sz)] dst src mem)

// De-virtualize late-expanded interface calls into late-expanded static calls.
// Note that (ITab (IMake)) doesn't get rewritten until after the first opt pass,
// so this rule should trigger reliably.
// devirtLECall removes the first argument, adds the devirtualized symbol to the AuxCall, and changes the opcode
(InterLECall [argsize] {auxCall} (Load (OffPtr [off] (ITab (IMake (Addr {itab} (SB)) _))) _) ___) &&
devirtLESym(v, auxCall, itab, off) !=
  nil => devirtLECall(v, devirtLESym(v, auxCall, itab, off))

// Move and Zero optimizations.
// Move source and
 destination may overlap.

// Convert Moves into Zeros when the source is known to be zeros.
(Move {t} [n] dst1 src mem:(Zero {t} [n] dst2 _)) && isSamePtr(src, dst2)
 => (Zero {t} [n] dst1 mem)
(Move {t} [n] dst1 src mem:(VarDef (Zero {t} [n] dst0 _))) && isSamePtr(src, dst0)
 => (Zero {t} [n] dst1 mem)
(Move {t} [n] dst (Addr {sym} (SB)) mem) && symIsROZero(sym) => (Zero {t} [n] dst mem)

// Don't Store to variables that are about to be overwritten by Move/Zero.
(Zero {t1} [n] p1 store:(Store {t2} (OffPtr [o2] p2) _ mem))
 && isSamePtr(p1, p2) && store.Uses == 1
 && n >= o2 + t2.Size()
 && clobber(store)
 => (Zero {t1} [n] p1 mem)
(Move {t1} [n] dst1 src1 store:(Store {t2} op:(OffPtr [o2] dst2) _ mem))
 && isSamePtr(dst1, dst2) && store.Uses == 1
 && n >= o2 + t2.Size()
 && disjoint(src1, n, op, t2.Size())
 && clobber(store)
 => (Move {t1} [n] dst1 src1 mem)

// Don't Move to variables that are immediately completely overwritten.
(Zero {t} [n] dst1 move:(Move {t} [n] dst2 _ mem))
 &&
 move.Uses == 1
 && isSamePtr(dst1, dst2)
 && clobber(move)
 => (Zero {t} [n] dst1 mem)
(Move {t} [n] dst1 src1 move:(Move {t} [n] dst2 _ mem))
 && move.Uses == 1
```

```
 && isSamePtr(dst1, dst2) && disjoint(src1, n, dst2, n)
 && clobber(move)
 => (Move {t} [n] dst1 src1 mem)
(Zero {t} [n] dst1 vardef:(VarDef {x} move:(Move {t} [n] dst2 _ mem)))
 && move.Uses == 1 && vardef.Uses == 1
 && isSamePtr(dst1, dst2)
 && clobber(move, vardef)
 => (Zero {t} [n] dst1 (VarDef {x} mem))
(Move {t} [n] dst1 src1 vardef:(VarDef {x} move:(Move {t} [n] dst2 _ mem)))
 && move.Uses == 1 && vardef.Uses == 1
 && isSamePtr(dst1, dst2) && disjoint(src1, n, dst2, n)
 && clobber(move, vardef)
 => (Move {t} [n] dst1 src1 (VarDef {x} mem))
(Store {t1} op1:(OffPtr [o1] p1) d1
 m2:(Store {t2} op2:(OffPtr [0] p2) d2
  m3:(Move [n] p3 _ mem)))
 && m2.Uses == 1 && m3.Uses == 1
 && o1 == t2.Size()
 && n == t2.Size() + t1.Size()
 && isSamePtr(p1, p2) && isSamePtr(p2, p3)
 && clobber(m2, m3)
 => (Store {t1} op1 d1 (Store {t2}
 op2 d2 mem))
(Store {t1} op1:(OffPtr [o1] p1) d1
 m2:(Store {t2} op2:(OffPtr [o2] p2) d2
  m3:(Store {t3} op3:(OffPtr [0] p3) d3
   m4:(Move [n] p4 _ mem))))
 && m2.Uses == 1 && m3.Uses == 1 && m4.Uses == 1
 && o2 == t3.Size()
 && o1-o2 == t2.Size()
 && n == t3.Size() + t2.Size() + t1.Size()
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4)
 && clobber(m2, m3, m4)
 => (Store {t1} op1 d1 (Store {t2} op2 d2 (Store {t3} op3 d3 mem)))
(Store {t1} op1:(OffPtr [o1] p1) d1
 m2:(Store {t2} op2:(OffPtr [o2] p2) d2
  m3:(Store {t3} op3:(OffPtr [o3] p3) d3
   m4:(Store {t4} op4:(OffPtr [0] p4) d4
    m5:(Move [n] p5 _ mem)))))
 && m2.Uses == 1 && m3.Uses == 1 && m4.Uses == 1 && m5.Uses == 1
 && o3 == t4.Size()
 && o2-o3 == t3.Size()
 && o1-o2 == t2.Size()
 && n == t4.Size() + t3.Size() + t2.Size() + t1.Size()
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5)
 && clobber(m2, m3, m4, m5)
 => (Store {t1} op1 d1 (Store {t2} op2 d2 (Store {t3} op3 d3 (Store
```

```
 {t4} op4 d4 mem))))

// Don't Zero variables that are immediately completely overwritten
// before being accessed.
(Move {t} [n] dst1 src1 zero:(Zero {t} [n] dst2 mem))
 && zero.Uses == 1
 && isSamePtr(dst1, dst2) && disjoint(src1, n, dst2, n)
 && clobber(zero)
 => (Move {t} [n] dst1 src1 mem)
(Move {t} [n] dst1 src1 vardef:(VarDef {x} zero:(Zero {t} [n] dst2 mem)))
 && zero.Uses == 1 && vardef.Uses == 1
 && isSamePtr(dst1, dst2) && disjoint(src1, n, dst2, n)
 && clobber(zero, vardef)
 => (Move {t} [n] dst1 src1 (VarDef {x} mem))
(Store {t1} op1:(OffPtr [o1] p1) d1
 m2:(Store {t2} op2:(OffPtr [0] p2) d2
  m3:(Zero [n] p3 mem)))
 && m2.Uses == 1 && m3.Uses == 1
 && o1 == t2.Size()
 && n == t2.Size() + t1.Size()
 && isSamePtr(p1, p2) && isSamePtr(p2, p3)
 && clobber(m2, m3)
 => (Store {t1} op1 d1 (Store {t2} op2 d2 mem))
(Store {t1} op1:(OffPtr [o1] p1) d1
 m2:(Store {t2} op2:(OffPtr [o2] p2) d2
  m3:(Store {t3} op3:(OffPtr [0] p3) d3
   m4:(Zero [n] p4 mem))))
 && m2.Uses == 1 &&
 m3.Uses == 1 && m4.Uses == 1
 && o2 == t3.Size()
 && o1-o2 == t2.Size()
 && n == t3.Size() + t2.Size() + t1.Size()
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4)
 && clobber(m2, m3, m4)
 => (Store {t1} op1 d1 (Store {t2} op2 d2 (Store {t3} op3 d3 mem)))
(Store {t1} op1:(OffPtr [o1] p1) d1
 m2:(Store {t2} op2:(OffPtr [o2] p2) d2
  m3:(Store {t3} op3:(OffPtr [o3] p3) d3
   m4:(Store {t4} op4:(OffPtr [0] p4) d4
    m5:(Zero [n] p5 mem)))))
 && m2.Uses == 1 && m3.Uses == 1 && m4.Uses == 1 && m5.Uses == 1
 && o3 == t4.Size()
 && o2-o3 == t3.Size()
 && o1-o2 == t2.Size()
 && n == t4.Size() + t3.Size() + t2.Size() + t1.Size()
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5)
 && clobber(m2, m3, m4, m5)
 => (Store {t1} op1 d1 (Store {t2} op2 d2 (Store {t3} op3 d3 (Store {t4} op4 d4 mem))))
```

```
// Don't Move from memory if the values are likely to already be
// in registers.
(Move {t1} [n] dst p1
 mem:(Store {t2} op2:(OffPtr <tt2> [o2] p2) d1
  (Store
 {t3} op3:(OffPtr <tt3> [0] p3) d2 _)))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && o2 == t3.Size()
 && n == t2.Size() + t3.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [0] dst) d2 mem))
(Move {t1} [n] dst p1
 mem:(Store {t2} op2:(OffPtr <tt2> [o2] p2) d1
  (Store {t3} op3:(OffPtr <tt3> [o3] p3) d2
   (Store {t4} op4:(OffPtr <tt4> [0] p4) d3 _))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b, t4)
 && o3 == t4.Size()
 && o2-o3 == t3.Size()
 && n == t2.Size() + t3.Size() + t4.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [0] dst) d3 mem)))
(Move {t1} [n]
 dst p1
 mem:(Store {t2} op2:(OffPtr <tt2> [o2] p2) d1
  (Store {t3} op3:(OffPtr <tt3> [o3] p3) d2
   (Store {t4} op4:(OffPtr <tt4> [o4] p4) d3
    (Store {t5} op5:(OffPtr <tt5> [0] p5) d4 _)))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && t5.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b, t4)
 && registerizable(b, t5)
```

```
 && o4 == t5.Size()
 && o3-o4 == t4.Size()
 && o2-o3 == t3.Size()
 && n == t2.Size() + t3.Size() + t4.Size() + t5.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [o4] dst) d3
    (Store {t5} (OffPtr <tt5> [0] dst) d4 mem))))

// Same thing but with VarDef in the middle.
(Move {t1} [n] dst p1
 mem:(VarDef
  (Store {t2} op2:(OffPtr <tt2> [o2] p2) d1
   (Store {t3} op3:(OffPtr <tt3> [0] p3) d2
 _))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && o2 == t3.Size()
 && n == t2.Size() + t3.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [0] dst) d2 mem))
(Move {t1} [n] dst p1
 mem:(VarDef
  (Store {t2} op2:(OffPtr <tt2> [o2] p2) d1
   (Store {t3} op3:(OffPtr <tt3> [o3] p3) d2
    (Store {t4} op4:(OffPtr <tt4> [0] p4) d3 _)))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b, t4)
 && o3 == t4.Size()
 && o2-o3 == t3.Size()
 && n == t2.Size() + t3.Size() + t4.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [0] dst) d3 mem)))
(Move {t1} [n] dst p1
 mem:(VarDef
  (Store
 {t2} op2:(OffPtr <tt2> [o2] p2) d1
   (Store {t3} op3:(OffPtr <tt3> [o3] p3) d2
    (Store {t4} op4:(OffPtr <tt4> [o4] p4) d3
```

```
    (Store {t5} op5:(OffPtr <tt5> [0] p5) d4 _))))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && t5.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b, t4)
 && registerizable(b, t5)
 && o4 == t5.Size()
 && o3-o4 == t4.Size()
 && o2-o3 == t3.Size()
 && n == t2.Size() + t3.Size() + t4.Size() + t5.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [o4] dst) d3
    (Store {t5} (OffPtr <tt5> [0] dst) d4 mem))))

// Prefer to Zero and Store than to Move.
(Move {t1} [n] dst p1
 mem:(Store {t2} op2:(OffPtr <tt2> [o2] p2) d1
  (Zero {t3} [n] p3 _)))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3)
 &&
 t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && n >= o2 + t2.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Zero {t1} [n] dst mem))
(Move {t1} [n] dst p1
 mem:(Store {t2} (OffPtr <tt2> [o2] p2) d1
  (Store {t3} (OffPtr <tt3> [o3] p3) d2
   (Zero {t4} [n] p4 _))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && n >= o2 + t2.Size()
 && n >= o3 + t3.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Zero {t1} [n] dst mem)))
(Move {t1} [n] dst p1
 mem:(Store {t2} (OffPtr <tt2> [o2] p2) d1
```

```
 (Store {t3} (OffPtr <tt3> [o3] p3) d2
  (Store {t4} (OffPtr <tt4> [o4] p4) d3
   (Zero {t5} [n] p5 _)))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5)
 && t2.Alignment() <= t1.Alignment()
 &&
 t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && t5.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b, t4)
 && n >= o2 + t2.Size()
 && n >= o3 + t3.Size()
 && n >= o4 + t4.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [o4] dst) d3
    (Zero {t1} [n] dst mem))))
(Move {t1} [n] dst p1
 mem:(Store {t2} (OffPtr <tt2> [o2] p2) d1
  (Store {t3} (OffPtr <tt3> [o3] p3) d2
   (Store {t4} (OffPtr <tt4> [o4] p4) d3
    (Store {t5} (OffPtr <tt5> [o5] p5) d4
     (Zero {t6} [n] p6 _))))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5) && isSamePtr(p5, p6)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && t5.Alignment() <= t1.Alignment()
 && t6.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b,
 t4)
 && registerizable(b, t5)
 && n >= o2 + t2.Size()
 && n >= o3 + t3.Size()
 && n >= o4 + t4.Size()
 && n >= o5 + t5.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [o4] dst) d3
    (Store {t5} (OffPtr <tt5> [o5] dst) d4
     (Zero {t1} [n] dst mem)))))
(Move {t1} [n] dst p1
 mem:(VarDef
  (Store {t2} op2:(OffPtr <tt2> [o2] p2) d1
```

```
  (Zero {t3} [n] p3 _))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && n >= o2 + t2.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Zero {t1} [n] dst mem))
(Move {t1} [n] dst p1
 mem:(VarDef
  (Store {t2} (OffPtr <tt2> [o2] p2) d1
   (Store {t3} (OffPtr <tt3> [o3] p3) d2
    (Zero {t4} [n] p4 _)))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 &&
 registerizable(b, t2)
 && registerizable(b, t3)
 && n >= o2 + t2.Size()
 && n >= o3 + t3.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Zero {t1} [n] dst mem)))
(Move {t1} [n] dst p1
 mem:(VarDef
  (Store {t2} (OffPtr <tt2> [o2] p2) d1
   (Store {t3} (OffPtr <tt3> [o3] p3) d2
    (Store {t4} (OffPtr <tt4> [o4] p4) d3
     (Zero {t5} [n] p5 _))))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && t5.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b, t4)
 && n >= o2 + t2.Size()
 && n >= o3 + t3.Size()
 && n >= o4 + t4.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [o4] dst) d3
    (Zero {t1} [n] dst mem))))
(Move {t1} [n] dst p1
 mem:(VarDef
```

```
 (Store {t2} (OffPtr
<tt2> [o2] p2) d1
  (Store {t3} (OffPtr <tt3> [o3] p3) d2
   (Store {t4} (OffPtr <tt4> [o4] p4) d3
    (Store {t5} (OffPtr <tt5> [o5] p5) d4
     (Zero {t6} [n] p6 _)))))))
 && isSamePtr(p1, p2) && isSamePtr(p2, p3) && isSamePtr(p3, p4) && isSamePtr(p4, p5) && isSamePtr(p5, p6)
 && t2.Alignment() <= t1.Alignment()
 && t3.Alignment() <= t1.Alignment()
 && t4.Alignment() <= t1.Alignment()
 && t5.Alignment() <= t1.Alignment()
 && t6.Alignment() <= t1.Alignment()
 && registerizable(b, t2)
 && registerizable(b, t3)
 && registerizable(b, t4)
 && registerizable(b, t5)
 && n >= o2 + t2.Size()
 && n >= o3 + t3.Size()
 && n >= o4 + t4.Size()
 && n >= o5 + t5.Size()
 => (Store {t2} (OffPtr <tt2> [o2] dst) d1
  (Store {t3} (OffPtr <tt3> [o3] dst) d2
   (Store {t4} (OffPtr <tt4> [o4] dst) d3
    (Store {t5} (OffPtr <tt5> [o5] dst) d4
     (Zero {t1} [n] dst mem)))))

(SelectN [0] call:(StaticLECall {sym} a x)) && needRaceCleanup(sym, call) && clobber(call) => x
(SelectN [0] call:(StaticLECall
 {sym} x)) && needRaceCleanup(sym, call) && clobber(call) => x

// Collapse moving A -> B -> C into just A -> C.
// Later passes (deadstore, elim unread auto) will remove the A -> B move, if possible.
// This happens most commonly when B is an autotmp inserted earlier
// during compilation to ensure correctness.
// Take care that overlapping moves are preserved.
// Restrict this optimization to the stack, to avoid duplicating loads from the heap;
// see CL 145208 for discussion.
(Move {t1} [s] dst tmp1 midmem:(Move {t2} [s] tmp2 src _))
 && t1.Compare(t2) == types.CMPeq
 && isSamePtr(tmp1, tmp2)
 && isStackPtr(src) && !isVolatile(src)
 && disjoint(src, s, tmp2, s)
 && (disjoint(src, s, dst, s) || isInlinableMemmove(dst, src, s, config))
 => (Move {t1} [s] dst src midmem)

// Same, but for large types that require VarDefs.
(Move {t1} [s] dst tmp1 midmem:(VarDef (Move {t2} [s] tmp2 src _)))
 && t1.Compare(t2) == types.CMPeq
```

```
 && isSamePtr(tmp1, tmp2)
 && isStackPtr(src) && !isVolatile(src)
 &&
 disjoint(src, s, tmp2, s)
 && (disjoint(src, s, dst, s) || isInlinableMemmove(dst, src, s, config))
 => (Move {t1} [s] dst src midmem)

// Don't zero the same bits twice.
(Zero {t} [s] dst1 zero:(Zero {t} [s] dst2 _)) && isSamePtr(dst1, dst2) => zero
(Zero {t} [s] dst1 vardef:(VarDef (Zero {t} [s] dst2 _))) && isSamePtr(dst1, dst2) => vardef

// Elide self-moves. This only happens rarely (e.g test/fixedbugs/bug277.go).
// However, this rule is needed to prevent the previous rule from looping forever in such cases.
(Move dst src mem) && isSamePtr(dst, src) => mem
```

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/generic.rules
No license file was found, but licenses were detected in source scan.

```
// Copyright 2016 The Go Authors. All rights reserved.
```

Found in path(s):
* /compile-zip/compile/internal/amd64/ssa.go
* /compile-zip/compile/internal/syntax/printer.go
* /compile-zip/compile/internal/ssa/cse_test.go
* /compile-zip/compile/internal/ssa/sizeof_test.go
* /compile-zip/compile/internal/syntax/dumper_test.go
* /compile-zip/compile/internal/ssa/rewrite_test.go
* /compile-zip/compile/internal/mips/galign.go
* /compile-zip/compile/internal/ssa/lca.go
* /compile-zip/compile/internal/arm64/ssa.go
* /compile-zip/compile/internal/test/testdata/phi_test.go
* /compile-zip/compile/internal/riscv64/galign.go
* /compile-zip/compile/internal/typecheck/builtin_test.go
* /compile-zip/compile/internal/ssa/lca_test.go
* /compile-zip/compile/internal/s390x/ssa.go
* /compile-zip/compile/internal/test/testdata/flowgraph_generator1.go
* /compile-zip/compile/internal/syntax/tokens.go
* /compile-zip/compile/internal/test/fixedbugs_test.go
*
 /compile-zip/compile/internal/importer/testdata/issue15920.go
* /compile-zip/compile/internal/syntax/printer_test.go
* /compile-zip/compile/internal/types/alg.go
* /compile-zip/compile/internal/ssa/gen/ARM64Ops.go
* /compile-zip/compile/internal/ssa/gen/386Ops.go
* /compile-zip/compile/internal/noder/lex_test.go
* /compile-zip/compile/internal/importer/testdata/p.go
* /compile-zip/compile/internal/ssa/writebarrier.go

* /compile-zip/compile/internal/ssa/likelyadjust.go
* /compile-zip/compile/internal/riscv64/ggen.go
* /compile-zip/compile/internal/test/iface_test.go
* /compile-zip/compile/internal/ssa/gen/PPC64Ops.go
* /compile-zip/compile/internal/ssa/loopreschedchecks.go
* /compile-zip/compile/internal/importer/testdata/versions/test.go
* /compile-zip/compile/internal/ssa/stackframe.go
* /compile-zip/compile/internal/types2/testdata/check/conversions1.go
* /compile-zip/compile/internal/ssa/magic.go
* /compile-zip/compile/internal/types2/testdata/check/decls4.go
* /compile-zip/compile/internal/syntax/dumper.go
*
 /compile-zip/compile/internal/s390x/galign.go
* /compile-zip/compile/internal/syntax/parser.go
* /compile-zip/compile/internal/riscv64/ssa.go
* /compile-zip/compile/internal/test/testdata/namedReturn_test.go
* /compile-zip/compile/internal/ssa/copyelim_test.go
* /compile-zip/compile/internal/noder/noder.go
* /compile-zip/compile/internal/test/testdata/gen/arithConstGen.go
* /compile-zip/compile/internal/ssa/shortcircuit_test.go
* /compile-zip/compile/internal/ssa/gen/dec64Ops.go
* /compile-zip/compile/internal/ir/sizeof_test.go
* /compile-zip/compile/internal/ssa/gen/ARMOps.go
* /compile-zip/compile/internal/importer/testdata/a.go
* /compile-zip/compile/internal/mips/ggen.go
* /compile-zip/compile/internal/ppc64/ssa.go
* /compile-zip/compile/internal/ssa/checkbce.go
* /compile-zip/compile/internal/typecheck/mkbuiltin.go
* /compile-zip/compile/internal/syntax/scanner.go
* /compile-zip/compile/internal/test/float_test.go
* /compile-zip/compile/internal/ssa/trim.go
*
 /compile-zip/compile/internal/syntax/source.go
* /compile-zip/compile/internal/s390x/ggen.go
* /compile-zip/compile/internal/test/testdata/sqrtConst_test.go
* /compile-zip/compile/internal/mips64/ssa.go
* /compile-zip/compile/internal/types2/object_test.go
* /compile-zip/compile/internal/importer/testdata/b.go
* /compile-zip/compile/internal/ssa/gen/RISCV64Ops.go
* /compile-zip/compile/internal/ssa/phiopt.go
* /compile-zip/compile/internal/ssa/shortcircuit.go
* /compile-zip/compile/internal/arm/ssa.go
* /compile-zip/compile/internal/ssa/gen/MIPS64Ops.go
* /compile-zip/compile/internal/riscv64/gsubr.go
* /compile-zip/compile/internal/test/testdata/dupLoad_test.go
* /compile-zip/compile/internal/syntax/nodes.go
* /compile-zip/compile/internal/test/shift_test.go
* /compile-zip/compile/internal/gc/trace.go

* /compile-zip/compile/internal/mips/ssa.go
* /compile-zip/compile/internal/ssa/prove.go
* /compile-zip/compile/internal/ssa/gen/MIPSOps.go
* /compile-zip/compile/internal/reflectdata/alg.go
*
 /compile-zip/compile/internal/test/testdata/gen/constFoldGen.go
* /compile-zip/compile/internal/syntax/scanner_test.go
* /compile-zip/compile/internal/dwarfgen/scope_test.go
* /compile-zip/compile/internal/ssa/gen/S390XOps.go
* /compile-zip/compile/internal/test/divconst_test.go
* /compile-zip/compile/internal/types2/sizes_test.go
* /compile-zip/compile/internal/syntax/syntax.go
* /compile-zip/compile/internal/ssagen/phi.go
* /compile-zip/compile/internal/ssa/writebarrier_test.go
* /compile-zip/compile/internal/x86/ssa.go
* /compile-zip/compile/internal/syntax/parser_test.go
* /compile-zip/compile/internal/base/timings.go
* /compile-zip/compile/internal/ssa/zcse.go
No license file was found, but licenses were detected in source scan.

```
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// Optimizations TODO:
// * Use SLTI and SLTIU for comparisons to constants, instead of SLT/SLTU with constants in registers
// * Use the zero register instead of moving 0 into a register.
// * Add rules to avoid generating a temp bool value for (If (SLT[U] ...) ...).
// * Arrange for non-trivial Zero and Move lowerings to use aligned loads and stores.
// * Avoid using Neq32 for writeBarrier.enabled checks.

// Lowering arithmetic
(Add64 ...) => (ADD ...)
(AddPtr ...) => (ADD ...)
(Add32 ...) => (ADD ...)
(Add16 ...) => (ADD ...)
(Add8 ...) => (ADD ...)
(Add32F ...) => (FADDS ...)
(Add64F ...) => (FADDD ...)

(Sub64 ...) => (SUB ...)
(SubPtr ...) => (SUB ...)
(Sub32 ...) => (SUB ...)
(Sub16 ...) => (SUB ...)
(Sub8 ...) => (SUB ...)
(Sub32F ...) => (FSUBS ...)
(Sub64F
```

```
 ...) => (FSUBD ...)

(Mul64 ...) => (MUL  ...)
(Mul64uhilo ...) => (LoweredMuluhilo ...)
(Mul64uover ...) => (LoweredMuluover ...)
(Mul32 ...) => (MULW ...)
(Mul16 x y) => (MULW (SignExt16to32 x) (SignExt16to32 y))
(Mul8 x y)  => (MULW (SignExt8to32 x)  (SignExt8to32 y))
(Mul32F ...) => (FMULS ...)
(Mul64F ...) => (FMULD ...)

(Div32F ...) => (FDIVS ...)
(Div64F ...) => (FDIVD ...)

(Div64 x y [false])  => (DIV x y)
(Div64u ...) => (DIVU ...)
(Div32 x y [false])  => (DIVW x y)
(Div32u ...) => (DIVUW ...)
(Div16 x y [false])  => (DIVW  (SignExt16to32 x) (SignExt16to32 y))
(Div16u x y) => (DIVUW (ZeroExt16to32 x) (ZeroExt16to32 y))
(Div8 x y)   => (DIVW  (SignExt8to32 x)  (SignExt8to32 y))
(Div8u x y)  => (DIVUW (ZeroExt8to32 x)  (ZeroExt8to32 y))

(Hmul64 ...)  => (MULH  ...)
(Hmul64u ...) => (MULHU ...)
(Hmul32 x y)  => (SRAI [32] (MUL  (SignExt32to64 x) (SignExt32to64 y)))
(Hmul32u x y) => (SRLI [32] (MUL  (ZeroExt32to64 x) (ZeroExt32to64 y)))

// (x + y) / 2 => (x / 2) + (y /
 2) + (x & y & 1)
(Avg64u <t> x y) => (ADD (ADD <t> (SRLI <t> [1] x) (SRLI <t> [1] y)) (ANDI <t> [1] (AND <t> x y)))

(Mod64 x y [false])  => (REM x y)
(Mod64u ...) => (REMU  ...)
(Mod32 x y [false])  => (REMW x y)
(Mod32u ...) => (REMUW ...)
(Mod16 x y [false])  => (REMW  (SignExt16to32 x) (SignExt16to32 y))
(Mod16u x y) => (REMUW (ZeroExt16to32 x) (ZeroExt16to32 y))
(Mod8 x y)   => (REMW  (SignExt8to32  x) (SignExt8to32  y))
(Mod8u x y)  => (REMUW (ZeroExt8to32  x) (ZeroExt8to32  y))

(And64 ...) => (AND ...)
(And32 ...) => (AND ...)
(And16 ...) => (AND ...)
(And8  ...) => (AND ...)

(Or64 ...) => (OR ...)
(Or32 ...) => (OR ...)
```

```
(Or16 ...) => (OR ...)
(Or8  ...) => (OR ...)

(Xor64 ...) => (XOR ...)
(Xor32 ...) => (XOR ...)
(Xor16 ...) => (XOR ...)
(Xor8  ...) => (XOR ...)

(Neg64  ...) => (NEG ...)
(Neg32  ...) => (NEG ...)
(Neg16  ...) => (NEG ...)
(Neg8   ...) => (NEG ...)
(Neg32F ...) => (FNEGS ...)
(Neg64F ...) => (FNEGD ...)

(Com64 ...) => (NOT ...)
(Com32 ...) => (NOT ...)
(Com16
 ...) => (NOT ...)
(Com8  ...) => (NOT ...)

(Sqrt ...) => (FSQRTD ...)
(Sqrt32 ...) => (FSQRTS ...)

(Copysign ...) => (FSGNJD ...)

(Abs ...) => (FABSD ...)

(FMA ...) => (FMADDD ...)

// Sign and zero extension.

(SignExt8to16  ...) => (MOVBreg ...)
(SignExt8to32  ...) => (MOVBreg ...)
(SignExt8to64  ...) => (MOVBreg ...)
(SignExt16to32 ...) => (MOVHreg ...)
(SignExt16to64 ...) => (MOVHreg ...)
(SignExt32to64 ...) => (MOVWreg ...)

(ZeroExt8to16  ...) => (MOVBUreg ...)
(ZeroExt8to32  ...) => (MOVBUreg ...)
(ZeroExt8to64  ...) => (MOVBUreg ...)
(ZeroExt16to32 ...) => (MOVHUreg ...)
(ZeroExt16to64 ...) => (MOVHUreg ...)
(ZeroExt32to64 ...) => (MOVWUreg ...)

(Cvt32to32F ...) => (FCVTSW ...)
(Cvt32to64F ...) => (FCVTDW ...)
```

```
(Cvt64to32F ...) => (FCVTSL ...)
(Cvt64to64F ...) => (FCVTDL ...)

(Cvt32Fto32 ...) => (FCVTWS ...)
(Cvt32Fto64 ...) => (FCVTLS ...)
(Cvt64Fto32 ...) => (FCVTWD ...)
(Cvt64Fto64 ...) => (FCVTLD ...)

(Cvt32Fto64F ...) => (FCVTDS ...)
(Cvt64Fto32F ...) => (FCVTSD
 ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round32F ...) => (Copy ...)
(Round64F ...) => (Copy ...)

// From genericOps.go:
// "0 if arg0 == 0, -1 if arg0 > 0, undef if arg0<0"
//
// Like other arches, we compute ~((x-1) >> 63), with arithmetic right shift.
// For positive x, bit 63 of x-1 is always 0, so the result is -1.
// For zero x, bit 63 of x-1 is 1, so the result is 0.
//
(Slicemask <t> x) => (NOT (SRAI <t> [63] (ADDI <t> [-1] x)))

// Truncations
// We ignore the unused high parts of registers, so truncates are just copies.
(Trunc16to8  ...) => (Copy ...)
(Trunc32to8  ...) => (Copy ...)
(Trunc32to16 ...) => (Copy ...)
(Trunc64to8  ...) => (Copy ...)
(Trunc64to16 ...) => (Copy ...)
(Trunc64to32 ...) => (Copy ...)

// Shifts

// SLL only considers the bottom 6 bits of y. If y > 64, the result should
// always be 0.
//
// Breaking down the operation:
//
// (SLL x y) generates x << (y & 63).
//
// If y < 64, this is the value we want. Otherwise, we want zero.
//
// So, we AND with
```

```
 -1 * uint64(y < 64), which is 0xfffff... if y < 64 and 0 otherwise.
(Lsh8x8   <t> x y) => (AND (SLL <t> x y) (Neg8  <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Lsh8x16  <t> x y) => (AND (SLL <t> x y) (Neg8  <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Lsh8x32  <t> x y) => (AND (SLL <t> x y) (Neg8  <t> (SLTIU <t> [64] (ZeroExt32to64 y))))
(Lsh8x64  <t> x y) => (AND (SLL <t> x y) (Neg8  <t> (SLTIU <t> [64] y)))
(Lsh16x8  <t> x y) => (AND (SLL <t> x y) (Neg16 <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Lsh16x16 <t> x y) => (AND (SLL <t> x y) (Neg16 <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Lsh16x32 <t> x y) => (AND (SLL <t> x y) (Neg16 <t> (SLTIU <t> [64] (ZeroExt32to64 y))))
(Lsh16x64 <t> x y) => (AND (SLL <t> x y) (Neg16 <t> (SLTIU <t> [64] y)))
(Lsh32x8  <t> x y) => (AND (SLL <t> x y) (Neg32 <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Lsh32x16 <t> x y) => (AND (SLL <t> x y) (Neg32 <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Lsh32x32 <t> x y) => (AND (SLL <t> x y) (Neg32 <t> (SLTIU <t> [64] (ZeroExt32to64
 y))))
(Lsh32x64 <t> x y) => (AND (SLL <t> x y) (Neg32 <t> (SLTIU <t> [64] y)))
(Lsh64x8  <t> x y) => (AND (SLL <t> x y) (Neg64 <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Lsh64x16 <t> x y) => (AND (SLL <t> x y) (Neg64 <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Lsh64x32 <t> x y) => (AND (SLL <t> x y) (Neg64 <t> (SLTIU <t> [64] (ZeroExt32to64 y))))
(Lsh64x64 <t> x y) => (AND (SLL <t> x y) (Neg64 <t> (SLTIU <t> [64] y)))

// SRL only considers the bottom 6 bits of y. If y > 64, the result should
// always be 0. See Lsh above for a detailed description.
(Rsh8Ux8   <t> x y) => (AND (SRL <t> (ZeroExt8to64  x) y) (Neg8  <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Rsh8Ux16  <t> x y) => (AND (SRL <t> (ZeroExt8to64  x) y) (Neg8  <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Rsh8Ux32  <t> x y) => (AND (SRL <t> (ZeroExt8to64  x) y) (Neg8  <t> (SLTIU <t> [64] (ZeroExt32to64 y))))
(Rsh8Ux64  <t> x y) => (AND (SRL <t> (ZeroExt8to64  x) y) (Neg8  <t> (SLTIU <t> [64] y)))
(Rsh16Ux8  <t> x y) => (AND
 (SRL <t> (ZeroExt16to64 x) y) (Neg16 <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Rsh16Ux16 <t> x y) => (AND (SRL <t> (ZeroExt16to64 x) y) (Neg16 <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Rsh16Ux32 <t> x y) => (AND (SRL <t> (ZeroExt16to64 x) y) (Neg16 <t> (SLTIU <t> [64] (ZeroExt32to64 y))))
(Rsh16Ux64 <t> x y) => (AND (SRL <t> (ZeroExt16to64 x) y) (Neg16 <t> (SLTIU <t> [64] y)))
(Rsh32Ux8  <t> x y) => (AND (SRL <t> (ZeroExt32to64 x) y) (Neg32 <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Rsh32Ux16 <t> x y) => (AND (SRL <t> (ZeroExt32to64 x) y) (Neg32 <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Rsh32Ux32 <t> x y) => (AND (SRL <t> (ZeroExt32to64 x) y) (Neg32 <t> (SLTIU <t> [64] (ZeroExt32to64 y))))
(Rsh32Ux64 <t> x y) => (AND (SRL <t> (ZeroExt32to64 x) y) (Neg32 <t> (SLTIU <t> [64] y)))
(Rsh64Ux8  <t> x y) => (AND (SRL <t> x              y) (Neg64 <t> (SLTIU <t> [64] (ZeroExt8to64  y))))
(Rsh64Ux16 <t> x y) => (AND (SRL <t> x              y) (Neg64 <t> (SLTIU <t> [64] (ZeroExt16to64 y))))
(Rsh64Ux32
 <t> x y) => (AND (SRL <t> x              y) (Neg64 <t> (SLTIU <t> [64] (ZeroExt32to64 y))))
(Rsh64Ux64 <t> x y) => (AND (SRL <t> x              y) (Neg64 <t> (SLTIU <t> [64] y)))

// SRA only considers the bottom 6 bits of y. If y > 64, the result should
// be either 0 or -1 based on the sign bit.
//
// We implement this by performing the max shift (-1) if y >= 64.
//
// We OR (uint64(y < 64) - 1) into y before passing it to SRA. This leaves
// us with -1 (0xffff...) if y >= 64.
//
```

```
// We don't need to sign-extend the OR result, as it will be at minimum 8 bits,
// more than the 6 bits SRA cares about.
(Rsh8x8   <t> x y) => (SRA <t> (SignExt8to64  x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt8to64  y)))))
(Rsh8x16  <t> x y) => (SRA <t> (SignExt8to64  x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt16to64 y)))))
(Rsh8x32  <t> x y) => (SRA <t> (SignExt8to64  x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt32to64 y)))))
(Rsh8x64
  <t> x y) => (SRA <t> (SignExt8to64  x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64] y))))
(Rsh16x8  <t> x y) => (SRA <t> (SignExt16to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt8to64  y)))))
(Rsh16x16 <t> x y) => (SRA <t> (SignExt16to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt16to64 y)))))
(Rsh16x32 <t> x y) => (SRA <t> (SignExt16to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt32to64 y)))))
(Rsh16x64 <t> x y) => (SRA <t> (SignExt16to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
y))))
(Rsh32x8  <t> x y) => (SRA <t> (SignExt32to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt8to64  y)))))
(Rsh32x16 <t> x y) => (SRA <t> (SignExt32to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt16to64 y)))))
(Rsh32x32 <t> x y) => (SRA <t> (SignExt32to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt32to64 y)))))
(Rsh32x64
 <t> x y) => (SRA <t> (SignExt32to64 x) (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64] y))))
(Rsh64x8  <t> x y) => (SRA <t> x              (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt8to64  y)))))
(Rsh64x16 <t> x y) => (SRA <t> x              (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt16to64 y)))))
(Rsh64x32 <t> x y) => (SRA <t> x              (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64]
(ZeroExt32to64 y)))))
(Rsh64x64 <t> x y) => (SRA <t> x              (OR <y.Type> y (ADDI <y.Type> [-1] (SLTIU <y.Type> [64] y))))

// Rotates.
(RotateLeft8  <t> x (MOVDconst [c])) => (Or8  (Lsh8x64  <t> x (MOVDconst [c&7]))  (Rsh8Ux64  <t> x
(MOVDconst [-c&7])))
(RotateLeft16 <t> x (MOVDconst [c])) => (Or16 (Lsh16x64 <t> x (MOVDconst [c&15])) (Rsh16Ux64 <t> x
(MOVDconst [-c&15])))
(RotateLeft32 <t> x (MOVDconst [c])) => (Or32 (Lsh32x64 <t> x (MOVDconst [c&31])) (Rsh32Ux64 <t> x
(MOVDconst [-c&31])))
(RotateLeft64 <t> x (MOVDconst [c]))
 => (Or64 (Lsh64x64 <t> x (MOVDconst [c&63])) (Rsh64Ux64 <t> x (MOVDconst [-c&63])))

(Less64  ...) => (SLT  ...)
(Less32  x y) => (SLT  (SignExt32to64 x) (SignExt32to64 y))
(Less16  x y) => (SLT  (SignExt16to64 x) (SignExt16to64 y))
(Less8   x y) => (SLT  (SignExt8to64  x) (SignExt8to64  y))
```

```
(Less64U ...) => (SLTU ...)
(Less32U x y) => (SLTU (ZeroExt32to64 x) (ZeroExt32to64 y))
(Less16U x y) => (SLTU (ZeroExt16to64 x) (ZeroExt16to64 y))
(Less8U  x y) => (SLTU (ZeroExt8to64  x) (ZeroExt8to64  y))
(Less64F ...) => (FLTD ...)
(Less32F ...) => (FLTS ...)

// Convert x <= y to !(y > x).
(Leq64  x y) => (Not (Less64  y x))
(Leq32  x y) => (Not (Less32  y x))
(Leq16  x y) => (Not (Less16  y x))
(Leq8   x y) => (Not (Less8   y x))
(Leq64U x y) => (Not (Less64U y x))
(Leq32U x y) => (Not (Less32U y x))
(Leq16U x y) => (Not (Less16U y x))
(Leq8U  x y) => (Not (Less8U  y x))
(Leq64F ...) => (FLED ...)
(Leq32F ...) => (FLES ...)

(EqPtr x y) => (SEQZ (SUB <typ.Uintptr> x y))
(Eq64  x y) => (SEQZ
 (SUB <x.Type> x y))
(Eq32  x y) => (SEQZ (SUB <x.Type> (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Eq16  x y) => (SEQZ (SUB <x.Type> (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Eq8   x y) => (SEQZ (SUB <x.Type> (ZeroExt8to64  x) (ZeroExt8to64  y)))
(Eq64F ...) => (FEQD ...)
(Eq32F ...) => (FEQS ...)

(NeqPtr x y) => (SNEZ (SUB <typ.Uintptr> x y))
(Neq64  x y) => (SNEZ (SUB <x.Type> x y))
(Neq32  x y) => (SNEZ (SUB <x.Type> (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Neq16  x y) => (SNEZ (SUB <x.Type> (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Neq8   x y) => (SNEZ (SUB <x.Type> (ZeroExt8to64  x) (ZeroExt8to64  y)))
(Neq64F ...) => (FNED ...)
(Neq32F ...) => (FNES ...)

// Loads
(Load <t> ptr mem) &&  t.IsBoolean()                => (MOVBUload ptr mem)
(Load <t> ptr mem) && ( is8BitInt(t) &&  isSigned(t)) => (MOVBload  ptr mem)
(Load <t> ptr mem) && ( is8BitInt(t) && !isSigned(t)) => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) &&  isSigned(t)) => (MOVHload  ptr mem)
(Load <t> ptr mem) &&
 (is16BitInt(t) && !isSigned(t)) => (MOVHUload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) &&  isSigned(t)) => (MOVWload  ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) && !isSigned(t)) => (MOVWUload ptr mem)
(Load <t> ptr mem) && (is64BitInt(t) || isPtr(t))     => (MOVDload  ptr mem)
(Load <t> ptr mem) &&  is32BitFloat(t)              => (FMOVWload ptr mem)
(Load <t> ptr mem) &&  is64BitFloat(t)              => (FMOVDload ptr mem)
```

```
// Stores
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVHstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && !is32BitFloat(val.Type) => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && !is64BitFloat(val.Type) => (MOVDstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 &&  is32BitFloat(val.Type) => (FMOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 &&  is64BitFloat(val.Type) => (FMOVDstore ptr val mem)

// We need to fold MOVaddr into
 the LD/MOVDstore ops so that the live variable analysis
// knows what variables are being read/written by the ops.
(MOVBUload [off1] {sym1} (MOVaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVBUload [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVBload  [off1] {sym1} (MOVaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVBload  [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVHUload [off1] {sym1} (MOVaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVHUload [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVHload  [off1] {sym1} (MOVaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVHload  [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVWUload [off1] {sym1} (MOVaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVWUload [off1+off2] {mergeSym(sym1,sym2)}
 base mem)
(MOVWload  [off1] {sym1} (MOVaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVWload  [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVDload  [off1] {sym1} (MOVaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVDload  [off1+off2] {mergeSym(sym1,sym2)} base mem)

(MOVBstore [off1] {sym1} (MOVaddr [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVBstore [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOVHstore [off1] {sym1} (MOVaddr [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVHstore [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOVWstore [off1] {sym1} (MOVaddr [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVWstore [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOVDstore [off1] {sym1} (MOVaddr [off2] {sym2}
 base) val mem) && is32Bit(int64(off1)+int64(off2)) && canMergeSym(sym1, sym2) =>
 (MOVDstore [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOVBstorezero [off1] {sym1} (MOVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
```

```
is32Bit(int64(off1)+int64(off2)) =>
 (MOVBstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHstorezero [off1] {sym1} (MOVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVHstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWstorezero [off1] {sym1} (MOVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVWstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVDstorezero [off1] {sym1} (MOVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVDstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)

(MOVBUload [off1] {sym} (ADDI [off2] base) mem) && is32Bit(int64(off1)+off2) =>
 (MOVBUload [off1+int32(off2)] {sym}
 base mem)
(MOVBload  [off1] {sym} (ADDI [off2] base) mem) && is32Bit(int64(off1)+off2) =>
 (MOVBload  [off1+int32(off2)] {sym} base mem)
(MOVHUload [off1] {sym} (ADDI [off2] base) mem) && is32Bit(int64(off1)+off2) =>
 (MOVHUload [off1+int32(off2)] {sym} base mem)
(MOVHload  [off1] {sym} (ADDI [off2] base) mem) && is32Bit(int64(off1)+off2) =>
 (MOVHload  [off1+int32(off2)] {sym} base mem)
(MOVWUload [off1] {sym} (ADDI [off2] base) mem) && is32Bit(int64(off1)+off2) =>
 (MOVWUload [off1+int32(off2)] {sym} base mem)
(MOVWload  [off1] {sym} (ADDI [off2] base) mem) && is32Bit(int64(off1)+off2) =>
 (MOVWload  [off1+int32(off2)] {sym} base mem)
(MOVDload  [off1] {sym} (ADDI [off2] base) mem) && is32Bit(int64(off1)+off2) =>
 (MOVDload  [off1+int32(off2)] {sym} base mem)

(MOVBstore [off1] {sym} (ADDI [off2] base) val mem) && is32Bit(int64(off1)+off2) =>
 (MOVBstore [off1+int32(off2)] {sym} base val mem)
(MOVHstore [off1] {sym} (ADDI [off2] base) val mem) && is32Bit(int64(off1)+off2) =>
 (MOVHstore
 [off1+int32(off2)] {sym} base val mem)
(MOVWstore [off1] {sym} (ADDI [off2] base) val mem) && is32Bit(int64(off1)+off2) =>
 (MOVWstore [off1+int32(off2)] {sym} base val mem)
(MOVDstore [off1] {sym} (ADDI [off2] base) val mem) && is32Bit(int64(off1)+off2) =>
 (MOVDstore [off1+int32(off2)] {sym} base val mem)
(MOVBstorezero [off1] {sym} (ADDI [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVBstorezero
[off1+int32(off2)] {sym} ptr mem)
(MOVHstorezero [off1] {sym} (ADDI [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVHstorezero
[off1+int32(off2)] {sym} ptr mem)
(MOVWstorezero [off1] {sym} (ADDI [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVWstorezero
[off1+int32(off2)] {sym} ptr mem)
(MOVDstorezero [off1] {sym} (ADDI [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVDstorezero
[off1+int32(off2)] {sym} ptr mem)

// Similarly, fold ADDI into MOVaddr to avoid confusing live variable analysis
// with OffPtr -> ADDI.
```

```
(ADDI [c] (MOVaddr [d] {s} x)) && is32Bit(c+int64(d))
 => (MOVaddr [int32(c)+d] {s} x)

// Small zeroing
(Zero [0] _ mem) => mem
(Zero [1] ptr mem) => (MOVBstore ptr (MOVDconst [0]) mem)
(Zero [2] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore ptr (MOVDconst [0]) mem)
(Zero [2] ptr mem) =>
 (MOVBstore [1] ptr (MOVDconst [0])
  (MOVBstore ptr (MOVDconst [0]) mem))
(Zero [4] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore ptr (MOVDconst [0]) mem)
(Zero [4] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] ptr (MOVDconst [0])
  (MOVHstore ptr (MOVDconst [0]) mem))
(Zero [4] ptr mem) =>
 (MOVBstore [3] ptr (MOVDconst [0])
  (MOVBstore [2] ptr (MOVDconst [0])
   (MOVBstore [1] ptr (MOVDconst [0])
    (MOVBstore ptr (MOVDconst [0]) mem))))
(Zero [8] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVDstore ptr (MOVDconst [0]) mem)
(Zero [8] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [4] ptr (MOVDconst [0])
  (MOVWstore ptr (MOVDconst [0]) mem))
(Zero [8] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [6] ptr (MOVDconst
 [0])
  (MOVHstore [4] ptr (MOVDconst [0])
   (MOVHstore [2] ptr (MOVDconst [0])
    (MOVHstore ptr (MOVDconst [0]) mem))))

(Zero [3] ptr mem) =>
 (MOVBstore [2] ptr (MOVDconst [0])
  (MOVBstore [1] ptr (MOVDconst [0])
   (MOVBstore ptr (MOVDconst [0]) mem)))
(Zero [6] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] ptr (MOVDconst [0])
  (MOVHstore [2] ptr (MOVDconst [0])
   (MOVHstore ptr (MOVDconst [0]) mem)))
(Zero [12] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8] ptr (MOVDconst [0])
  (MOVWstore [4] ptr (MOVDconst [0])
   (MOVWstore ptr (MOVDconst [0]) mem)))
(Zero [16] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVDstore [8] ptr (MOVDconst [0])
  (MOVDstore ptr (MOVDconst [0]) mem))
```

```
(Zero [24] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVDstore [16] ptr (MOVDconst [0])
  (MOVDstore [8] ptr (MOVDconst [0])
   (MOVDstore ptr (MOVDconst [0]) mem)))
(Zero [32] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVDstore [24] ptr (MOVDconst [0])
  (MOVDstore [16] ptr (MOVDconst
 [0])
   (MOVDstore [8] ptr (MOVDconst [0])
    (MOVDstore ptr (MOVDconst [0]) mem))))

// Medium 8-aligned zeroing uses a Duff's device
// 8 and 128 are magic constants, see runtime/mkduff.go
(Zero [s] {t} ptr mem)
 && s%8 == 0 && s <= 8*128
 && t.Alignment()%8 == 0 && !config.noDuffDevice =>
 (DUFFZERO [8 * (128 - s/8)] ptr mem)

// Generic zeroing uses a loop
(Zero [s] {t} ptr mem) =>
 (LoweredZero [t.Alignment()]
  ptr
  (ADD <ptr.Type> ptr (MOVDconst [s-moveSize(t.Alignment(), config)]))
  mem)

(Convert ...) => (MOVconvert ...)

// Checks
(IsNonNil ...) => (SNEZ ...)
(IsInBounds ...) => (Less64U ...)
(IsSliceInBounds ...) => (Leq64U ...)

// Trivial lowering
(NilCheck ...) => (LoweredNilCheck ...)
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)

// Write barrier.
(WB ...) => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds
 [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

// Small moves
(Move [0] _ _ mem) => mem
```

```
(Move [1] dst src mem) => (MOVBstore dst (MOVBload src mem) mem)
(Move [2] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore dst (MOVHload src mem) mem)
(Move [2] dst src mem) =>
 (MOVBstore [1] dst (MOVBload [1] src mem)
  (MOVBstore dst (MOVBload src mem) mem))
(Move [4] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore dst (MOVWload src mem) mem)
(Move [4] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] dst (MOVHload [2] src mem)
  (MOVHstore dst (MOVHload src mem) mem))
(Move [4] dst src mem) =>
 (MOVBstore [3] dst (MOVBload [3] src mem)
  (MOVBstore [2] dst (MOVBload [2] src mem)
   (MOVBstore [1] dst (MOVBload [1] src mem)
    (MOVBstore dst (MOVBload src mem) mem))))
(Move [8] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVDstore dst
 (MOVDload src mem) mem)
(Move [8] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [4] dst (MOVWload [4] src mem)
  (MOVWstore dst (MOVWload src mem) mem))
(Move [8] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [6] dst (MOVHload [6] src mem)
  (MOVHstore [4] dst (MOVHload [4] src mem)
   (MOVHstore [2] dst (MOVHload [2] src mem)
    (MOVHstore dst (MOVHload src mem) mem))))

(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBload [2] src mem)
  (MOVBstore [1] dst (MOVBload [1] src mem)
   (MOVBstore dst (MOVBload src mem) mem)))
(Move [6] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] dst (MOVHload [4] src mem)
  (MOVHstore [2] dst (MOVHload [2] src mem)
   (MOVHstore dst (MOVHload src mem) mem)))
(Move [12] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8] dst (MOVWload [8] src mem)
  (MOVWstore [4] dst (MOVWload [4] src mem)
   (MOVWstore dst (MOVWload src mem) mem)))
(Move [16] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVDstore [8] dst
 (MOVDload [8] src mem)
  (MOVDstore dst (MOVDload src mem) mem))
(Move [24] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVDstore [16] dst (MOVDload [16] src mem)
  (MOVDstore [8] dst (MOVDload [8] src mem)
   (MOVDstore dst (MOVDload src mem) mem)))
```

```
(Move [32] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVDstore [24] dst (MOVDload [24] src mem)
  (MOVDstore [16] dst (MOVDload [16] src mem)
   (MOVDstore [8] dst (MOVDload [8] src mem)
    (MOVDstore dst (MOVDload src mem) mem))))

// Medium 8-aligned move uses a Duff's device
// 16 and 128 are magic constants, see runtime/mkduff.go
(Move [s] {t} dst src mem)
 && s%8 == 0 && s <= 8*128 && t.Alignment()%8 == 0
 && !config.noDuffDevice && logLargeCopy(v, s) =>
 (DUFFCOPY [16 * (128 - s/8)] dst src mem)

// Generic move uses a loop
(Move [s] {t} dst src mem) && (s <= 16 || logLargeCopy(v, s)) =>
 (LoweredMove [t.Alignment()]
  dst
  src
  (ADDI <src.Type> [s-moveSize(t.Alignment(), config)] src)
  mem)

// Boolean ops; 0=false, 1=true
(AndB
 ...) => (AND ...)
(OrB  ...) => (OR  ...)
(EqB  x y) => (SEQZ (XOR <typ.Bool> x y))
(NeqB ...) => (XOR ...)
(Not  ...) => (SEQZ ...)

// Lowering pointer arithmetic
// TODO: Special handling for SP offsets, like ARM
(OffPtr [off] ptr:(SP)) && is32Bit(off) => (MOVaddr [int32(off)] ptr)
(OffPtr [off] ptr) && is32Bit(off) => (ADDI [off] ptr)
(OffPtr [off] ptr) => (ADD (MOVDconst [off]) ptr)

(Const8  [val]) => (MOVDconst [int64(val)])
(Const16 [val]) => (MOVDconst [int64(val)])
(Const32 [val]) => (MOVDconst [int64(val)])
(Const64 [val]) => (MOVDconst [int64(val)])
(Const32F [val]) => (FMVSX (MOVDconst [int64(math.Float32bits(val))]))
(Const64F [val]) => (FMVDX (MOVDconst [int64(math.Float64bits(val))]))
(ConstNil) => (MOVDconst [0])
(ConstBool [val]) => (MOVDconst [int64(b2i(val))])

(Addr {sym} base) => (MOVaddr {sym} [0] base)
(LocalAddr {sym} base _) => (MOVaddr {sym} base)

// Calls
```

```
(StaticCall  ...) => (CALLstatic  ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall   ...)
 => (CALLinter   ...)
(TailCall ...) => (CALLtail ...)

// Atomic Intrinsics
(AtomicLoad8   ...) => (LoweredAtomicLoad8  ...)
(AtomicLoad32  ...) => (LoweredAtomicLoad32 ...)
(AtomicLoad64  ...) => (LoweredAtomicLoad64 ...)
(AtomicLoadPtr ...) => (LoweredAtomicLoad64 ...)

(AtomicStore8       ...) => (LoweredAtomicStore8  ...)
(AtomicStore32      ...) => (LoweredAtomicStore32 ...)
(AtomicStore64      ...) => (LoweredAtomicStore64 ...)
(AtomicStorePtrNoWB ...) => (LoweredAtomicStore64 ...)

(AtomicAdd32 ...) => (LoweredAtomicAdd32 ...)
(AtomicAdd64 ...) => (LoweredAtomicAdd64 ...)

// AtomicAnd8(ptr,val) => LoweredAtomicAnd32(ptr&^3, ^((uint8(val) ^ 0xff) << ((ptr & 3) * 8)))
(AtomicAnd8 ptr val mem) =>
 (LoweredAtomicAnd32 (ANDI <typ.Uintptr> [^3] ptr)
  (NOT <typ.UInt32> (SLL <typ.UInt32> (XORI <typ.UInt32> [0xff] (ZeroExt8to32 val))
   (SLLI <typ.UInt64> [3] (ANDI <typ.UInt64> [3] ptr)))) mem)

(AtomicAnd32 ...) => (LoweredAtomicAnd32 ...)

(AtomicCompareAndSwap32 ptr old new mem) =>
 (LoweredAtomicCas32 ptr (SignExt32to64 old) new mem)
(AtomicCompareAndSwap64 ...) => (LoweredAtomicCas64 ...)

(AtomicExchange32 ...) => (LoweredAtomicExchange32 ...)
(AtomicExchange64 ...) => (LoweredAtomicExchange64 ...)

// AtomicOr8(ptr,val)  => LoweredAtomicOr32(ptr&^3, uint32(val)<<((ptr&3)*8))
(AtomicOr8 ptr val mem) =>
 (LoweredAtomicOr32 (ANDI <typ.Uintptr> [^3] ptr)
  (SLL <typ.UInt32> (ZeroExt8to32 val)
   (SLLI <typ.UInt64> [3] (ANDI <typ.UInt64> [3] ptr))) mem)

(AtomicOr32  ...) => (LoweredAtomicOr32  ...)

// Conditional branches
(If cond yes no) => (BNEZ (MOVBUreg <typ.UInt64> cond) yes no)

// Optimizations
```

```
// Absorb SEQZ/SNEZ into branch.
(BEQZ (SEQZ x) yes no) => (BNEZ x yes no)
(BEQZ (SNEZ x) yes no) => (BEQZ x yes no)
(BNEZ (SEQZ x) yes no) => (BEQZ x yes no)
(BNEZ (SNEZ x) yes no) => (BNEZ x yes no)

// Absorb NEG into branch when possible.
(BEQZ x:(NEG y) yes no) && x.Uses == 1 => (BEQZ y yes no)
(BNEZ x:(NEG y) yes no) && x.Uses == 1 => (BNEZ y yes no)

// Convert
 BEQZ/BNEZ into more optimal branch conditions.
(BEQZ (SUB x y) yes no) => (BEQ x y yes no)
(BNEZ (SUB x y) yes no) => (BNE x y yes no)
(BEQZ (SLT x y) yes no) => (BGE x y yes no)
(BNEZ (SLT x y) yes no) => (BLT x y yes no)
(BEQZ (SLTU x y) yes no) => (BGEU x y yes no)
(BNEZ (SLTU x y) yes no) => (BLTU x y yes no)

// Convert branch with zero to more optimal branch zero.
(BEQ (MOVDconst [0]) cond yes no) => (BEQZ cond yes no)
(BEQ cond (MOVDconst [0]) yes no) => (BEQZ cond yes no)
(BNE (MOVDconst [0]) cond yes no) => (BNEZ cond yes no)
(BNE cond (MOVDconst [0]) yes no) => (BNEZ cond yes no)
(BLT (MOVDconst [0]) cond yes no) => (BGTZ cond yes no)
(BLT cond (MOVDconst [0]) yes no) => (BLTZ cond yes no)
(BGE (MOVDconst [0]) cond yes no) => (BLEZ cond yes no)
(BGE cond (MOVDconst [0]) yes no) => (BGEZ cond yes no)

// Store zero
(MOVBstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVBstorezero [off] {sym} ptr mem)
(MOVHstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVHstorezero [off]
 {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVWstorezero [off] {sym} ptr mem)
(MOVDstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVDstorezero [off] {sym} ptr mem)

// Boolean ops are already extended.
(MOVBUreg x:((SEQZ|SNEZ) _)) => x
(MOVBUreg x:((SLT|SLTU) _ _)) => x

// Avoid sign/zero extension for consts.
(MOVBreg  (MOVDconst [c])) => (MOVDconst [int64(int8(c))])
(MOVHreg  (MOVDconst [c])) => (MOVDconst [int64(int16(c))])
(MOVWreg  (MOVDconst [c])) => (MOVDconst [int64(int32(c))])
(MOVBUreg (MOVDconst [c])) => (MOVDconst [int64(uint8(c))])
(MOVHUreg (MOVDconst [c])) => (MOVDconst [int64(uint16(c))])
(MOVWUreg (MOVDconst [c])) => (MOVDconst [int64(uint32(c))])
```

```
// Avoid sign/zero extension after properly typed load.
(MOVBreg  x:(MOVBload  _ _)) => (MOVDreg x)
(MOVHreg  x:(MOVBload  _ _)) => (MOVDreg x)
(MOVHreg  x:(MOVBUload _ _)) => (MOVDreg x)
(MOVHreg  x:(MOVHload  _ _)) => (MOVDreg x)
(MOVWreg  x:(MOVBload  _ _)) => (MOVDreg x)
(MOVWreg  x:(MOVBUload _
 _)) => (MOVDreg x)
(MOVWreg  x:(MOVHload  _ _)) => (MOVDreg x)
(MOVWreg  x:(MOVHUload _ _)) => (MOVDreg x)
(MOVWreg  x:(MOVWload  _ _)) => (MOVDreg x)
(MOVBUreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVHUreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVHUreg x:(MOVHUload _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVHUload _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVWUload _ _)) => (MOVDreg x)

// Fold double extensions.
(MOVBreg  x:(MOVBreg  _)) => (MOVDreg x)
(MOVHreg  x:(MOVBreg  _)) => (MOVDreg x)
(MOVHreg  x:(MOVBUreg _)) => (MOVDreg x)
(MOVHreg  x:(MOVHreg  _)) => (MOVDreg x)
(MOVWreg  x:(MOVBreg  _)) => (MOVDreg x)
(MOVWreg  x:(MOVBUreg _)) => (MOVDreg x)
(MOVWreg  x:(MOVHreg  _)) => (MOVDreg x)
(MOVWreg  x:(MOVWreg  _)) => (MOVDreg x)
(MOVBUreg x:(MOVBUreg _)) => (MOVDreg x)
(MOVHUreg x:(MOVBUreg _)) => (MOVDreg x)
(MOVHUreg x:(MOVHUreg _)) => (MOVDreg x)
(MOVWUreg x:(MOVBUreg _)) => (MOVDreg x)
(MOVWUreg x:(MOVHUreg _)) => (MOVDreg x)
(MOVWUreg x:(MOVWUreg _))
 => (MOVDreg x)

// Do not extend before store.
(MOVBstore [off] {sym} ptr (MOVBreg  x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHreg  x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVWreg  x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHreg  x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWreg  x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWreg  x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWUreg x) mem) =>
```

```
(MOVWstore [off] {sym} ptr x mem)

// Replace extend after load with alternate load where possible.
(MOVBreg  <t> x:(MOVBUload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block (MOVBload
<t> [off] {sym} ptr mem)
(MOVHreg  <t> x:(MOVHUload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVHload  <t> [off] {sym} ptr mem)
(MOVWreg  <t> x:(MOVWUload [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVWload  <t> [off] {sym} ptr mem)
(MOVBUreg <t> x:(MOVBload  [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVBUload <t> [off] {sym} ptr mem)
(MOVHUreg <t> x:(MOVHload  [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVHUload <t> [off] {sym} ptr mem)
(MOVWUreg <t> x:(MOVWload  [off] {sym} ptr mem)) && x.Uses == 1 && clobber(x) => @x.Block
(MOVWUload <t> [off] {sym} ptr mem)

// If a register move has only 1 use, just use the same register without emitting instruction
// MOVnop does not emit an instruction, only for
 ensuring the type.
(MOVDreg x) && x.Uses == 1 => (MOVDnop x)

// TODO: we should be able to get rid of MOVDnop all together.
// But for now, this is enough to get rid of lots of them.
(MOVDnop (MOVDconst [c])) => (MOVDconst [c])

// Fold constant into immediate instructions where possible.
(ADD (MOVDconst [val]) x) && is32Bit(val) => (ADDI [val] x)
(AND (MOVDconst [val]) x) && is32Bit(val) => (ANDI [val] x)
(OR  (MOVDconst [val]) x) && is32Bit(val) => (ORI  [val] x)
(XOR (MOVDconst [val]) x) && is32Bit(val) => (XORI [val] x)
(SLL x (MOVDconst [val])) => (SLLI [int64(val&63)] x)
(SRL x (MOVDconst [val])) => (SRLI [int64(val&63)] x)
(SRA x (MOVDconst [val])) => (SRAI [int64(val&63)] x)

// Convert subtraction of a const into ADDI with negative immediate, where possible.
(SUB x (MOVDconst [val])) && is32Bit(-val) => (ADDI [-val] x)

// Subtraction of zero.
(SUB  x (MOVDconst [0])) => x
(SUBW x (MOVDconst [0])) => (ADDIW [0] x)

// Subtraction from zero.
(SUB  (MOVDconst [0]) x) => (NEG x)
(SUBW
 (MOVDconst [0]) x) => (NEGW x)

// Addition of zero or two constants.
(ADDI [0] x) => x
```

```
(ADDI [x] (MOVDconst [y])) && is32Bit(x + y) => (MOVDconst [x + y])

// ANDI with all zeros, all ones or two constants.
(ANDI [0]  x) => (MOVDconst [0])
(ANDI [-1] x) => x
(ANDI [x] (MOVDconst [y])) => (MOVDconst [x & y])

// ORI with all zeroes, all ones or two constants.
(ORI [0]  x) => x
(ORI [-1] x) => (MOVDconst [-1])
(ORI [x] (MOVDconst [y])) => (MOVDconst [x | y])

// Negation of a constant.
(NEG  (MOVDconst [x])) => (MOVDconst [-x])
(NEGW (MOVDconst [x])) => (MOVDconst [int64(int32(-x))])

// Shift of a constant.
(SLLI [x] (MOVDconst [y])) && is32Bit(y << uint32(x)) => (MOVDconst [y << uint32(x)])
(SRLI [x] (MOVDconst [y])) => (MOVDconst [int64(uint64(y) >> uint32(x))])
(SRAI [x] (MOVDconst [y])) => (MOVDconst [int64(y) >> uint32(x)])

// SLTI/SLTIU with constants.
(SLTI  [x] (MOVDconst [y])) => (MOVDconst [b2i(int64(y) < int64(x))])
(SLTIU [x] (MOVDconst [y])) => (MOVDconst [b2i(uint64(y)
 < uint64(x))])

// Merge negation into fused multiply-add and multiply-subtract.
//
// Key:
//
//   [+ -](x * y) [+ -] z.
//    _ N         A S
//                D U
//                D B
//
// Note: multiplication commutativity handled by rule generator.
(F(MADD|NMADD|MSUB|NMSUB)D neg:(FNEGD x) y z) && neg.Uses == 1 =>
(F(NMADD|MADD|NMSUB|MSUB)D x y z)
(F(MADD|NMADD|MSUB|NMSUB)D x y neg:(FNEGD z)) && neg.Uses == 1 =>
(F(MSUB|NMSUB|MADD|NMADD)D x y z)

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/RISCV64.rules
No license file was found, but licenses were detected in source scan.

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```

// See the top of AMD64splitload.rules for discussion of these rules.

(CMP(L|W|B)load {sym} [off] ptr x mem) => (CMP(L|W|B) (MOV(L|W|B)load {sym} [off] ptr mem) x)

(CMPLconstload {sym} [vo] ptr mem) => (CMPLconst (MOVLload {sym} [vo.Off()] ptr mem) [vo.Val()])
(CMPWconstload {sym} [vo] ptr mem) => (CMPWconst (MOVWload {sym} [vo.Off()] ptr mem) [vo.Val16()])
(CMPBconstload {sym} [vo] ptr mem) => (CMPBconst (MOVBload {sym} [vo.Off()] ptr mem) [vo.Val8()])

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/386splitload.rules
No license file was found, but licenses were detected in source scan.

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(Add(Ptr|64|32|16|8) ...) => (ADD ...)
(Add(32F|64F) ...) => (FADD(S|D) ...)

(Sub(Ptr|64|32|16|8) ...) => (SUB ...)
(Sub(32F|64F) ...) => (FSUB(S|D) ...)

(Mul64 ...) => (MUL ...)
(Mul(32|16|8) ...) => (MULW ...)
(Mul(32F|64F) ...) => (FMUL(S|D) ...)

(Hmul64 ...) => (MULH ...)
(Hmul64u ...) => (UMULH ...)
(Hmul32 x y) => (SRAconst (MULL <typ.Int64> x y) [32])
(Hmul32u x y) => (SRAconst (UMULL <typ.UInt64> x y) [32])
(Mul64uhilo ...) => (LoweredMuluhilo ...)

(Div64 [false] x y) => (DIV x y)
(Div64u ...) => (UDIV ...)
(Div32 [false] x y) => (DIVW x y)
(Div32u ...) => (UDIVW ...)
(Div16 [false] x y) => (DIVW (SignExt16to32 x) (SignExt16to32 y))
(Div16u x y) => (UDIVW (ZeroExt16to32 x) (ZeroExt16to32 y))
(Div8 x y) => (DIVW (SignExt8to32 x) (SignExt8to32 y))
(Div8u
 x y) => (UDIVW (ZeroExt8to32 x) (ZeroExt8to32 y))
(Div32F ...) => (FDIVS ...)
(Div64F ...) => (FDIVD ...)

(Mod64 x y) => (MOD x y)
(Mod64u ...) => (UMOD ...)
(Mod32 x y) => (MODW x y)

```
(Mod32u ...) => (UMODW ...)
(Mod16 x y) => (MODW (SignExt16to32 x) (SignExt16to32 y))
(Mod16u x y) => (UMODW (ZeroExt16to32 x) (ZeroExt16to32 y))
(Mod8 x y) => (MODW (SignExt8to32 x) (SignExt8to32 y))
(Mod8u x y) => (UMODW (ZeroExt8to32 x) (ZeroExt8to32 y))

// (x + y) / 2 with x>=y    =>    (x - y) / 2 + y
(Avg64u <t> x y) => (ADD (SRLconst <t> (SUB <t> x y) [1]) y)

(And(64|32|16|8) ...) => (AND ...)
(Or(64|32|16|8) ...) => (OR ...)
(Xor(64|32|16|8) ...) => (XOR ...)

// unary ops
(Neg(64|32|16|8) ...) => (NEG ...)
(Neg(32F|64F) ...) => (FNEG(S|D) ...)
(Com(64|32|16|8) ...) => (MVN ...)

// math package intrinsics
(Abs ...) => (FABSD ...)
(Sqrt ...) => (FSQRTD ...)
(Ceil ...) => (FRINTPD ...)
(Floor ...) => (FRINTMD ...)
(Round ...) => (FRINTAD ...)
(RoundToEven ...) => (FRINTND ...)
(Trunc ...) =>
 (FRINTZD ...)
(FMA x y z) => (FMADDD z x y)

(Sqrt32 ...) => (FSQRTS ...)

// lowering rotates
(RotateLeft8 <t> x (MOVDconst [c])) => (Or8 (Lsh8x64 <t> x (MOVDconst [c&7])) (Rsh8Ux64 <t> x (MOVDconst [-c&7])))
(RotateLeft16 <t> x (MOVDconst [c])) => (Or16 (Lsh16x64 <t> x (MOVDconst [c&15])) (Rsh16Ux64 <t> x (MOVDconst [-c&15])))
(RotateLeft32 x y) => (RORW x (NEG <y.Type> y))
(RotateLeft64 x y) => (ROR x (NEG <y.Type> y))

(Ctz(64|32|16|8)NonZero ...) => (Ctz(64|32|32|32) ...)

(Ctz64 <t> x) => (CLZ (RBIT <t> x))
(Ctz32 <t> x) => (CLZW (RBITW <t> x))
(Ctz16 <t> x) => (CLZW <t> (RBITW <typ.UInt32> (ORconst <typ.UInt32> [0x10000] x)))
(Ctz8 <t> x) => (CLZW <t> (RBITW <typ.UInt32> (ORconst <typ.UInt32> [0x100] x)))

(PopCount64 <t> x) => (FMOVDfpgp <t> (VUADDLV <typ.Float64> (VCNT <typ.Float64> (FMOVDgpfp <typ.Float64> x))))
```

```
(PopCount32 <t> x) => (FMOVDfpgp <t> (VUADDLV <typ.Float64> (VCNT <typ.Float64> (FMOVDgpfp
<typ.Float64> (ZeroExt32to64 x)))))
(PopCount16 <t> x) => (FMOVDfpgp <t>
 (VUADDLV <typ.Float64> (VCNT <typ.Float64> (FMOVDgpfp <typ.Float64> (ZeroExt16to64 x)))))

// Load args directly into the register class where it will be used.
(FMOVDgpfp <t> (Arg [off] {sym})) => @b.Func.Entry (Arg <t> [off] {sym})
(FMOVDfpgp <t> (Arg [off] {sym})) => @b.Func.Entry (Arg <t> [off] {sym})

// Similarly for stores, if we see a store after FPR <=> GPR move, then redirect store to use the other register set.
(MOVDstore [off] {sym} ptr (FMOVDfpgp val) mem) => (FMOVDstore [off] {sym} ptr val mem)
(FMOVDstore [off] {sym} ptr (FMOVDgpfp val) mem) => (MOVDstore [off] {sym} ptr val mem)
(MOVWstore [off] {sym} ptr (FMOVSfpgp val) mem) => (FMOVSstore [off] {sym} ptr val mem)
(FMOVSstore [off] {sym} ptr (FMOVSgpfp val) mem) => (MOVWstore [off] {sym} ptr val mem)

// float <=> int register moves, with no conversion.
// These come up when compiling math.{Float64bits, Float64frombits, Float32bits, Float32frombits}.
(MOVDload [off] {sym} ptr (FMOVDstore [off] {sym} ptr val _)) => (FMOVDfpgp
 val)
(FMOVDload [off] {sym} ptr (MOVDstore [off] {sym} ptr val _)) => (FMOVDgpfp val)
(MOVWUload [off] {sym} ptr (FMOVSstore [off] {sym} ptr val _)) => (FMOVSfpgp val)
(FMOVSload [off] {sym} ptr (MOVWstore [off] {sym} ptr val _)) => (FMOVSgpfp val)

(BitLen64 x) => (SUB (MOVDconst [64]) (CLZ <typ.Int> x))
(BitLen32 x) => (SUB (MOVDconst [32]) (CLZW <typ.Int> x))

(Bswap64 ...) => (REV ...)
(Bswap32 ...) => (REVW ...)

(BitRev64 ...) => (RBIT ...)
(BitRev32 ...) => (RBITW ...)
(BitRev16 x) => (SRLconst [48] (RBIT <typ.UInt64> x))
(BitRev8 x) => (SRLconst [56] (RBIT <typ.UInt64> x))

// In fact, UMOD will be translated into UREM instruction, and UREM is originally translated into
// UDIV and MSUB instructions. But if there is already an identical UDIV instruction just before or
// after UREM (case like quo, rem := z/y, z%y), then the second UDIV instruction becomes redundant.
// The purpose of this rule is to have this extra UDIV instruction removed in CSE pass.
(UMOD <typ.UInt64>
 x y) => (MSUB <typ.UInt64> x y (UDIV <typ.UInt64> x y))
(UMODW <typ.UInt32> x y) => (MSUBW <typ.UInt32> x y (UDIVW <typ.UInt32> x y))

// 64-bit addition with carry.
(Select0 (Add64carry x y c)) => (Select0 <typ.UInt64> (ADCSflags x y (Select1 <types.TypeFlags>
(ADDSconstflags [-1] c))))
(Select1 (Add64carry x y c)) => (ADCzerocarry <typ.UInt64> (Select1 <types.TypeFlags> (ADCSflags x y (Select1
<types.TypeFlags> (ADDSconstflags [-1] c)))))
```

```
// 64-bit subtraction with borrowing.
(Select0 (Sub64borrow x y bo)) => (Select0 <typ.UInt64> (SBCSflags x y (Select1 <types.TypeFlags> (NEGSflags bo))))
(Select1 (Sub64borrow x y bo)) => (NEG <typ.UInt64> (NGCzerocarry <typ.UInt64> (Select1 <types.TypeFlags> (SBCSflags x y (Select1 <types.TypeFlags> (NEGSflags bo))))))

// boolean ops -- booleans are represented with 0=false, 1=true
(AndB ...) => (AND ...)
(OrB ...) => (OR ...)
(EqB x y) => (XOR (MOVDconst [1]) (XOR <typ.Bool> x y))
(NeqB ...) => (XOR ...)
(Not x) => (XOR (MOVDconst [1]) x)

// shifts
//
 hardware instruction uses only the low 6 bits of the shift
// we compare to 64 to ensure Go semantics for large shifts
// Rules about rotates with non-const shift are based on the following rules,
// if the following rules change, please also modify the rules based on them.
(Lsh64x64 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x y) (Const64 <t> [0]) (CMPconst [64] y))
(Lsh64x32 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Lsh64x16 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Lsh64x8  <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt8to64  y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64  y)))

(Lsh32x64 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x y) (Const64 <t> [0]) (CMPconst [64] y))
(Lsh32x32 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Lsh32x16
 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Lsh32x8  <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt8to64  y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64  y)))

(Lsh16x64 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x y) (Const64 <t> [0]) (CMPconst [64] y))
(Lsh16x32 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Lsh16x16 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Lsh16x8  <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt8to64  y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64  y)))

(Lsh8x64 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x y) (Const64 <t> [0]) (CMPconst [64] y))
(Lsh8x32 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Lsh8x16 <t> x y) => (CSEL
```

[OpARM64LessThanU] (SLL <t> x (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Lsh8x8 <t> x y) => (CSEL [OpARM64LessThanU] (SLL <t> x (ZeroExt8to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64 y)))

(Rsh64Ux64 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> x y) (Const64 <t> [0]) (CMPconst [64] y))
(Rsh64Ux32 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> x (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Rsh64Ux16 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> x (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Rsh64Ux8 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> x (ZeroExt8to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64 y)))

(Rsh32Ux64 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt32to64 x) y) (Const64 <t> [0]) (CMPconst [64] y))
(Rsh32Ux32 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt32to64 x) (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Rsh32Ux16
<t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt32to64 x) (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Rsh32Ux8 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt32to64 x) (ZeroExt8to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64 y)))

(Rsh16Ux64 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt16to64 x) y) (Const64 <t> [0]) (CMPconst [64] y))
(Rsh16Ux32 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt16to64 x) (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Rsh16Ux16 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt16to64 x) (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Rsh16Ux8 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt16to64 x) (ZeroExt8to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64 y)))

(Rsh8Ux64 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt8to64 x) y) (Const64 <t> [0]) (CMPconst [64] y))
(Rsh8Ux32 <t> x y) => (CSEL [OpARM64LessThanU]
(SRL <t> (ZeroExt8to64 x) (ZeroExt32to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt32to64 y)))
(Rsh8Ux16 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt8to64 x) (ZeroExt16to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt16to64 y)))
(Rsh8Ux8 <t> x y) => (CSEL [OpARM64LessThanU] (SRL <t> (ZeroExt8to64 x) (ZeroExt8to64 y)) (Const64 <t> [0]) (CMPconst [64] (ZeroExt8to64 y)))

(Rsh64x64 x y) => (SRA x (CSEL [OpARM64LessThanU] <y.Type> y (Const64 <y.Type> [63]) (CMPconst [64] y)))
(Rsh64x32 x y) => (SRA x (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt32to64 y) (Const64 <y.Type> [63]) (CMPconst [64] (ZeroExt32to64 y))))
(Rsh64x16 x y) => (SRA x (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt16to64 y) (Const64 <y.Type> [63]) (CMPconst [64] (ZeroExt16to64 y))))
(Rsh64x8 x y) => (SRA x (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt8to64 y) (Const64 <y.Type> [63]) (CMPconst [64] (ZeroExt8to64 y))))

```
(Rsh32x64 x y) => (SRA (SignExt32to64 x) (CSEL [OpARM64LessThanU] <y.Type> y (Const64 <y.Type>
 [63]) (CMPconst [64] y)))
(Rsh32x32 x y) => (SRA (SignExt32to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt32to64 y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt32to64 y))))
(Rsh32x16 x y) => (SRA (SignExt32to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt16to64 y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt16to64 y))))
(Rsh32x8  x y) => (SRA (SignExt32to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt8to64  y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt8to64  y))))

(Rsh16x64 x y) => (SRA (SignExt16to64 x) (CSEL [OpARM64LessThanU] <y.Type> y (Const64 <y.Type> [63])
(CMPconst [64] y)))
(Rsh16x32 x y) => (SRA (SignExt16to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt32to64 y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt32to64 y))))
(Rsh16x16 x y) => (SRA (SignExt16to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt16to64 y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt16to64 y))))
(Rsh16x8  x y) => (SRA (SignExt16to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt8to64
  y) (Const64 <y.Type> [63]) (CMPconst [64] (ZeroExt8to64  y))))

(Rsh8x64 x y) => (SRA (SignExt8to64 x) (CSEL [OpARM64LessThanU] <y.Type> y (Const64 <y.Type> [63])
(CMPconst [64] y)))
(Rsh8x32 x y) => (SRA (SignExt8to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt32to64 y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt32to64 y))))
(Rsh8x16 x y) => (SRA (SignExt8to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt16to64 y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt16to64 y))))
(Rsh8x8  x y) => (SRA (SignExt8to64 x) (CSEL [OpARM64LessThanU] <y.Type> (ZeroExt8to64  y) (Const64
<y.Type> [63]) (CMPconst [64] (ZeroExt8to64  y))))

// constants
(Const(64|32|16|8) [val]) => (MOVDconst [int64(val)])
(Const(32F|64F) [val]) => (FMOV(S|D)const [float64(val)])
(ConstNil) => (MOVDconst [0])
(ConstBool [t]) => (MOVDconst [b2i(t)])

(Slicemask <t> x) => (SRAconst (NEG <t> x) [63])

// truncations
// Because we ignore high parts of registers, truncates are just copies.
(Trunc16to8 ...) => (Copy
 ...)
(Trunc32to8 ...) => (Copy ...)
(Trunc32to16 ...) => (Copy ...)
(Trunc64to8 ...) => (Copy ...)
(Trunc64to16 ...) => (Copy ...)
(Trunc64to32 ...) => (Copy ...)

// Zero-/Sign-extensions
(ZeroExt8to16 ...) => (MOVBUreg ...)
```

```
(ZeroExt8to32 ...) => (MOVBUreg ...)
(ZeroExt16to32 ...) => (MOVHUreg ...)
(ZeroExt8to64 ...) => (MOVBUreg ...)
(ZeroExt16to64 ...) => (MOVHUreg ...)
(ZeroExt32to64 ...) => (MOVWUreg ...)

(SignExt8to16 ...) => (MOVBreg ...)
(SignExt8to32 ...) => (MOVBreg ...)
(SignExt16to32 ...) => (MOVHreg ...)
(SignExt8to64 ...) => (MOVBreg ...)
(SignExt16to64 ...) => (MOVHreg ...)
(SignExt32to64 ...) => (MOVWreg ...)

// float <=> int conversion
(Cvt32to32F ...) => (SCVTFWS ...)
(Cvt32to64F ...) => (SCVTFWD ...)
(Cvt64to32F ...) => (SCVTFS ...)
(Cvt64to64F ...) => (SCVTFD ...)
(Cvt32Uto32F ...) => (UCVTFWS ...)
(Cvt32Uto64F ...) => (UCVTFWD ...)
(Cvt64Uto32F ...) => (UCVTFS ...)
(Cvt64Uto64F ...) => (UCVTFD ...)
(Cvt32Fto32 ...) => (FCVTZSSW ...)
(Cvt64Fto32 ...) => (FCVTZSDW
 ...)
(Cvt32Fto64 ...) => (FCVTZSS ...)
(Cvt64Fto64 ...) => (FCVTZSD ...)
(Cvt32Fto32U ...) => (FCVTZUSW ...)
(Cvt64Fto32U ...) => (FCVTZUDW ...)
(Cvt32Fto64U ...) => (FCVTZUS ...)
(Cvt64Fto64U ...) => (FCVTZUD ...)
(Cvt32Fto64F ...) => (FCVTSD ...)
(Cvt64Fto32F ...) => (FCVTDS ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round32F ...) => (LoweredRound32F ...)
(Round64F ...) => (LoweredRound64F ...)

// comparisons
(Eq8 x y)  => (Equal (CMPW (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Eq16 x y) => (Equal (CMPW (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Eq32 x y) => (Equal (CMPW x y))
(Eq64 x y) => (Equal (CMP x y))
(EqPtr x y) => (Equal (CMP x y))
(Eq32F x y) => (Equal (FCMPS x y))
(Eq64F x y) => (Equal (FCMPD x y))
```

```
(Neq8 x y)  => (NotEqual (CMPW (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Neq16 x y) => (NotEqual (CMPW (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Neq32 x y) => (NotEqual (CMPW x y))
(Neq64 x y) => (NotEqual (CMP x y))
(NeqPtr x y) => (NotEqual (CMP x y))
(Neq32F x y) => (NotEqual (FCMPS x y))
(Neq64F
 x y) => (NotEqual (FCMPD x y))

(Less8 x y)  => (LessThan (CMPW (SignExt8to32 x) (SignExt8to32 y)))
(Less16 x y) => (LessThan (CMPW (SignExt16to32 x) (SignExt16to32 y)))
(Less32 x y) => (LessThan (CMPW x y))
(Less64 x y) => (LessThan (CMP x y))

// Set condition flags for floating-point comparisons "x < y"
// and "x <= y". Because if either or both of the operands are
// NaNs, all three of (x < y), (x == y) and (x > y) are false,
// and ARM Manual says FCMP instruction sets PSTATE.<N,Z,C,V>
// of this case to (0, 0, 1, 1).
(Less32F x y) => (LessThanF (FCMPS x y))
(Less64F x y) => (LessThanF (FCMPD x y))

// For an unsigned integer x, the following rules are useful when combining branch
// 0 <  x  =>  x != 0
// x <= 0  =>  x == 0
// x <  1  =>  x == 0
// 1 <= x  =>  x != 0
(Less(8U|16U|32U|64U) zero:(MOVDconst [0]) x) => (Neq(8|16|32|64) zero x)
(Leq(8U|16U|32U|64U) x zero:(MOVDconst [0]))  => (Eq(8|16|32|64) x zero)
(Less(8U|16U|32U|64U) x (MOVDconst [1])) => (Eq(8|16|32|64) x
 (MOVDconst [0]))
(Leq(8U|16U|32U|64U) (MOVDconst [1]) x)  => (Neq(8|16|32|64) (MOVDconst [0]) x)

(Less8U x y)  => (LessThanU (CMPW (ZeroExt8to32 x) (ZeroExt8to32 y)))
(Less16U x y) => (LessThanU (CMPW (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Less32U x y) => (LessThanU (CMPW x y))
(Less64U x y) => (LessThanU (CMP x y))

(Leq8 x y)  => (LessEqual (CMPW (SignExt8to32 x) (SignExt8to32 y)))
(Leq16 x y) => (LessEqual (CMPW (SignExt16to32 x) (SignExt16to32 y)))
(Leq32 x y) => (LessEqual (CMPW x y))
(Leq64 x y) => (LessEqual (CMP x y))

// Refer to the comments for op Less64F above.
(Leq32F x y) => (LessEqualF (FCMPS x y))
(Leq64F x y) => (LessEqualF (FCMPD x y))

(Leq8U x y)  => (LessEqualU (CMPW (ZeroExt8to32 x) (ZeroExt8to32 y)))
```

```
(Leq16U x y) => (LessEqualU (CMPW (ZeroExt16to32 x) (ZeroExt16to32 y)))
(Leq32U x y) => (LessEqualU (CMPW x y))
(Leq64U x y) => (LessEqualU (CMP x y))

// Optimize comparison between a floating-point value and 0.0 with "FCMP $(0.0), Fn"
(FCMPS x (FMOVSconst [0])) =>
 (FCMPS0 x)
(FCMPS (FMOVSconst [0]) x) => (InvertFlags (FCMPS0 x))
(FCMPD x (FMOVDconst [0])) => (FCMPD0 x)
(FCMPD (FMOVDconst [0]) x) => (InvertFlags (FCMPD0 x))

// CSEL needs a flag-generating argument. Synthesize a TSTW if necessary.
(CondSelect x y boolval) && flagArg(boolval) != nil => (CSEL [boolval.Op] x y flagArg(boolval))
(CondSelect x y boolval) && flagArg(boolval) == nil => (CSEL [OpARM64NotEqual] x y (TSTWconst [1]
boolval))

(OffPtr [off] ptr:(SP)) && is32Bit(off) => (MOVDaddr [int32(off)] ptr)
(OffPtr [off] ptr) => (ADDconst [off] ptr)

(Addr {sym} base) => (MOVDaddr {sym} base)
(LocalAddr {sym} base _) => (MOVDaddr {sym} base)

// loads
(Load <t> ptr mem) && t.IsBoolean() => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t)  && isSigned(t))  => (MOVBload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t)  && !isSigned(t)) => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && isSigned(t))  => (MOVHload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && !isSigned(t))
 => (MOVHUload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) && isSigned(t))  => (MOVWload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) && !isSigned(t)) => (MOVWUload ptr mem)
(Load <t> ptr mem) && (is64BitInt(t) || isPtr(t)) => (MOVDload ptr mem)
(Load <t> ptr mem) && is32BitFloat(t) => (FMOVSload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (FMOVDload ptr mem)

// stores
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVHstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && !is32BitFloat(val.Type) => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && !is64BitFloat(val.Type) => (MOVDstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && is32BitFloat(val.Type) => (FMOVSstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (FMOVDstore ptr val mem)

// zeroing
(Zero [0] _ mem) => mem
(Zero [1] ptr mem) => (MOVBstore ptr (MOVDconst [0]) mem)
(Zero
```

```
 [2] ptr mem) => (MOVHstore ptr (MOVDconst [0]) mem)
(Zero [4] ptr mem) => (MOVWstore ptr (MOVDconst [0]) mem)
(Zero [8] ptr mem) => (MOVDstore ptr (MOVDconst [0]) mem)

(Zero [3] ptr mem) =>
 (MOVBstore [2] ptr (MOVDconst [0])
  (MOVHstore ptr (MOVDconst [0]) mem))
(Zero [5] ptr mem) =>
 (MOVBstore [4] ptr (MOVDconst [0])
  (MOVWstore ptr (MOVDconst [0]) mem))
(Zero [6] ptr mem) =>
 (MOVHstore [4] ptr (MOVDconst [0])
  (MOVWstore ptr (MOVDconst [0]) mem))
(Zero [7] ptr mem) =>
 (MOVBstore [6] ptr (MOVDconst [0])
  (MOVHstore [4] ptr (MOVDconst [0])
   (MOVWstore ptr (MOVDconst [0]) mem)))
(Zero [9] ptr mem) =>
 (MOVBstore [8] ptr (MOVDconst [0])
  (MOVDstore ptr (MOVDconst [0]) mem))
(Zero [10] ptr mem) =>
 (MOVHstore [8] ptr (MOVDconst [0])
  (MOVDstore ptr (MOVDconst [0]) mem))
(Zero [11] ptr mem) =>
 (MOVBstore [10] ptr (MOVDconst [0])
  (MOVHstore [8] ptr (MOVDconst [0])
   (MOVDstore ptr (MOVDconst [0]) mem)))
(Zero [12] ptr mem) =>
 (MOVWstore [8] ptr (MOVDconst [0])
  (MOVDstore
 ptr (MOVDconst [0]) mem))
(Zero [13] ptr mem) =>
 (MOVBstore [12] ptr (MOVDconst [0])
  (MOVWstore [8] ptr (MOVDconst [0])
   (MOVDstore ptr (MOVDconst [0]) mem)))
(Zero [14] ptr mem) =>
 (MOVHstore [12] ptr (MOVDconst [0])
  (MOVWstore [8] ptr (MOVDconst [0])
   (MOVDstore ptr (MOVDconst [0]) mem)))
(Zero [15] ptr mem) =>
 (MOVBstore [14] ptr (MOVDconst [0])
  (MOVHstore [12] ptr (MOVDconst [0])
   (MOVWstore [8] ptr (MOVDconst [0])
    (MOVDstore ptr (MOVDconst [0]) mem))))
(Zero [16] ptr mem) =>
 (STP [0] ptr (MOVDconst [0]) (MOVDconst [0]) mem)

(Zero [32] ptr mem) =>
```

```
 (STP [16] ptr (MOVDconst [0]) (MOVDconst [0])
  (STP [0] ptr (MOVDconst [0]) (MOVDconst [0]) mem))

(Zero [48] ptr mem) =>
 (STP [32] ptr (MOVDconst [0]) (MOVDconst [0])
  (STP [16] ptr (MOVDconst [0]) (MOVDconst [0])
   (STP [0] ptr (MOVDconst [0]) (MOVDconst [0]) mem)))

(Zero [64] ptr mem) =>
 (STP [48] ptr (MOVDconst [0]) (MOVDconst [0])
  (STP [32] ptr (MOVDconst [0]) (MOVDconst [0])
   (STP [16] ptr (MOVDconst
 [0]) (MOVDconst [0])
    (STP [0] ptr (MOVDconst [0]) (MOVDconst [0]) mem))))

// strip off fractional word zeroing
(Zero [s] ptr mem) && s%16 != 0 && s%16 <= 8 && s > 16 =>
 (Zero [8]
  (OffPtr <ptr.Type> ptr [s-8])
  (Zero [s-s%16] ptr mem))
(Zero [s] ptr mem) && s%16 != 0 && s%16 > 8 && s > 16 =>
 (Zero [16]
  (OffPtr <ptr.Type> ptr [s-16])
  (Zero [s-s%16] ptr mem))

// medium zeroing uses a duff device
// 4, 16, and 64 are magic constants, see runtime/mkduff.go
(Zero [s] ptr mem)
 && s%16 == 0 && s > 64 && s <= 16*64
 && !config.noDuffDevice =>
 (DUFFZERO [4 * (64 - s/16)] ptr mem)

// large zeroing uses a loop
(Zero [s] ptr mem)
 && s%16 == 0 && (s > 16*64 || config.noDuffDevice) =>
 (LoweredZero
  ptr
  (ADDconst <ptr.Type> [s-16] ptr)
  mem)

// moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBUload src mem) mem)
(Move [2] dst src mem) => (MOVHstore dst (MOVHUload src mem) mem)
(Move [4] dst src mem) => (MOVWstore dst (MOVWUload src mem) mem)
(Move
 [8] dst src mem) => (MOVDstore dst (MOVDload src mem) mem)
```

```
(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBUload [2] src mem)
  (MOVHstore dst (MOVHUload src mem) mem))
(Move [5] dst src mem) =>
 (MOVBstore [4] dst (MOVBUload [4] src mem)
  (MOVWstore dst (MOVWUload src mem) mem))
(Move [6] dst src mem) =>
 (MOVHstore [4] dst (MOVHUload [4] src mem)
  (MOVWstore dst (MOVWUload src mem) mem))
(Move [7] dst src mem) =>
 (MOVBstore [6] dst (MOVBUload [6] src mem)
  (MOVHstore [4] dst (MOVHUload [4] src mem)
   (MOVWstore dst (MOVWUload src mem) mem)))
(Move [12] dst src mem) =>
 (MOVWstore [8] dst (MOVWUload [8] src mem)
  (MOVDstore dst (MOVDload src mem) mem))
(Move [16] dst src mem) =>
 (MOVDstore [8] dst (MOVDload [8] src mem)
  (MOVDstore dst (MOVDload src mem) mem))
(Move [24] dst src mem) =>
 (MOVDstore [16] dst (MOVDload [16] src mem)
  (MOVDstore [8] dst (MOVDload [8] src mem)
   (MOVDstore dst (MOVDload src mem) mem)))

// strip off fractional word move
(Move [s] dst src mem)
 && s%8 != 0 && s > 8 =>
 (Move [s%8]
  (OffPtr <dst.Type> dst [s-s%8])
  (OffPtr <src.Type> src [s-s%8])
  (Move [s-s%8] dst src mem))

// medium move uses a duff device
(Move [s] dst src mem)
 && s > 32 && s <= 16*64 && s%16 == 8
 && !config.noDuffDevice && logLargeCopy(v, s) =>
 (MOVDstore [int32(s-8)] dst (MOVDload [int32(s-8)] src mem)
  (DUFFCOPY <types.TypeMem> [8*(64-(s-8)/16)] dst src mem))
(Move [s] dst src mem)
 && s > 32 && s <= 16*64 && s%16 == 0
 && !config.noDuffDevice && logLargeCopy(v, s) =>
 (DUFFCOPY [8 * (64 - s/16)] dst src mem)
// 8 is the number of bytes to encode:
//
// LDP.P   16(R16), (R26, R27)
// STP.P   (R26, R27), 16(R17)
//
// 64 is number of these blocks. See runtime/duff_arm64.s:duffcopy
```

```
// large move uses a loop
(Move [s] dst src mem)
 && s > 24 && s%8 == 0 && logLargeCopy(v, s) =>
 (LoweredMove
  dst
  src
  (ADDconst <src.Type> src [s-8])
  mem)

// calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall ...)
 => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// checks
(NilCheck ...) => (LoweredNilCheck ...)
(IsNonNil ptr) => (NotEqual (CMPconst [0] ptr))
(IsInBounds idx len) => (LessThanU (CMP idx len))
(IsSliceInBounds idx len) => (LessEqualU (CMP idx len))

// pseudo-ops
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)

// Absorb pseudo-ops into blocks.
(If (Equal cc) yes no) => (EQ cc yes no)
(If (NotEqual cc) yes no) => (NE cc yes no)
(If (LessThan cc) yes no) => (LT cc yes no)
(If (LessThanU cc) yes no) => (ULT cc yes no)
(If (LessEqual cc) yes no) => (LE cc yes no)
(If (LessEqualU cc) yes no) => (ULE cc yes no)
(If (GreaterThan cc) yes no) => (GT cc yes no)
(If (GreaterThanU cc) yes no) => (UGT cc yes no)
(If (GreaterEqual cc) yes no) => (GE cc yes no)
(If (GreaterEqualU cc) yes no) => (UGE cc yes no)
(If (LessThanF cc) yes no) => (FLT cc yes no)
(If (LessEqualF cc) yes no) => (FLE cc yes no)
(If
 (GreaterThanF cc) yes no) => (FGT cc yes no)
(If (GreaterEqualF cc) yes no) => (FGE cc yes no)

(If cond yes no) => (TBNZ [0] cond yes no)

(JumpTable idx) => (JUMPTABLE {makeJumpTableSym(b)} idx (MOVDaddr <typ.Uintptr>
```

```
{makeJumpTableSym(b)} (SB)))

// atomic intrinsics
// Note: these ops do not accept offset.
(AtomicLoad8   ...) => (LDARB ...)
(AtomicLoad32  ...) => (LDARW ...)
(AtomicLoad64  ...) => (LDAR  ...)
(AtomicLoadPtr ...) => (LDAR  ...)

(AtomicStore8       ...) => (STLRB ...)
(AtomicStore32      ...) => (STLRW ...)
(AtomicStore64      ...) => (STLR  ...)
(AtomicStorePtrNoWB ...) => (STLR  ...)

(AtomicExchange(32|64)       ...) => (LoweredAtomicExchange(32|64) ...)
(AtomicAdd(32|64)            ...) => (LoweredAtomicAdd(32|64) ...)
(AtomicCompareAndSwap(32|64) ...) => (LoweredAtomicCas(32|64) ...)

(AtomicAdd(32|64)Variant           ...) => (LoweredAtomicAdd(32|64)Variant      ...)
(AtomicExchange(32|64)Variant      ...) => (LoweredAtomicExchange(32|64)Variant ...)
(AtomicCompareAndSwap(32|64)Variant
 ...) => (LoweredAtomicCas(32|64)Variant      ...)

// Currently the updated value is not used, but we need a register to temporarily hold it.
(AtomicAnd8  ptr val mem) => (Select1 (LoweredAtomicAnd8  ptr val mem))
(AtomicAnd32 ptr val mem) => (Select1 (LoweredAtomicAnd32 ptr val mem))
(AtomicOr8   ptr val mem) => (Select1 (LoweredAtomicOr8   ptr val mem))
(AtomicOr32  ptr val mem) => (Select1 (LoweredAtomicOr32  ptr val mem))

(AtomicAnd8Variant  ptr val mem) => (Select1 (LoweredAtomicAnd8Variant  ptr val mem))
(AtomicAnd32Variant ptr val mem) => (Select1 (LoweredAtomicAnd32Variant ptr val mem))
(AtomicOr8Variant   ptr val mem) => (Select1 (LoweredAtomicOr8Variant   ptr val mem))
(AtomicOr32Variant  ptr val mem) => (Select1 (LoweredAtomicOr32Variant  ptr val mem))

// Write barrier.
(WB ...) => (LoweredWB ...)

// Publication barrier (0xe is ST option)
(PubBarrier mem) => (DMB [0xe] mem)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA
 [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

// Optimizations

// Absorb boolean tests into block
```

```
(NZ (Equal cc) yes no) => (EQ cc yes no)
(NZ (NotEqual cc) yes no) => (NE cc yes no)
(NZ (LessThan cc) yes no) => (LT cc yes no)
(NZ (LessThanU cc) yes no) => (ULT cc yes no)
(NZ (LessEqual cc) yes no) => (LE cc yes no)
(NZ (LessEqualU cc) yes no) => (ULE cc yes no)
(NZ (GreaterThan cc) yes no) => (GT cc yes no)
(NZ (GreaterThanU cc) yes no) => (UGT cc yes no)
(NZ (GreaterEqual cc) yes no) => (GE cc yes no)
(NZ (GreaterEqualU cc) yes no) => (UGE cc yes no)
(NZ (LessThanF cc) yes no) => (FLT cc yes no)
(NZ (LessEqualF cc) yes no) => (FLE cc yes no)
(NZ (GreaterThanF cc) yes no) => (FGT cc yes no)
(NZ (GreaterEqualF cc) yes no) => (FGE cc yes no)

(TBNZ [0] (Equal cc) yes no) => (EQ cc yes no)
(TBNZ [0] (NotEqual cc) yes
 no) => (NE cc yes no)
(TBNZ [0] (LessThan cc) yes no) => (LT cc yes no)
(TBNZ [0] (LessThanU cc) yes no) => (ULT cc yes no)
(TBNZ [0] (LessEqual cc) yes no) => (LE cc yes no)
(TBNZ [0] (LessEqualU cc) yes no) => (ULE cc yes no)
(TBNZ [0] (GreaterThan cc) yes no) => (GT cc yes no)
(TBNZ [0] (GreaterThanU cc) yes no) => (UGT cc yes no)
(TBNZ [0] (GreaterEqual cc) yes no) => (GE cc yes no)
(TBNZ [0] (GreaterEqualU cc) yes no) => (UGE cc yes no)
(TBNZ [0] (LessThanF cc) yes no) => (FLT cc yes no)
(TBNZ [0] (LessEqualF cc) yes no) => (FLE cc yes no)
(TBNZ [0] (GreaterThanF cc) yes no) => (FGT cc yes no)
(TBNZ [0] (GreaterEqualF cc) yes no) => (FGE cc yes no)

(EQ (CMPWconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (EQ (TSTWconst [int32(c)] y) yes no)
(NE (CMPWconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (NE (TSTWconst [int32(c)] y) yes no)
(LT (CMPWconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (LT (TSTWconst [int32(c)] y) yes no)
(LE (CMPWconst [0] x:(ANDconst
 [c] y)) yes no) && x.Uses == 1 => (LE (TSTWconst [int32(c)] y) yes no)
(GT (CMPWconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (GT (TSTWconst [int32(c)] y) yes no)
(GE (CMPWconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (GE (TSTWconst [int32(c)] y) yes no)

(EQ (CMPconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (EQ (TST x y) yes no)
(NE (CMPconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (NE (TST x y) yes no)
(LT (CMPconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (LT (TST x y) yes no)
(LE (CMPconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (LE (TST x y) yes no)
(GT (CMPconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (GT (TST x y) yes no)
(GE (CMPconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (GE (TST x y) yes no)

(EQ (CMPWconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (EQ (TSTW x y) yes no)
(NE (CMPWconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (NE (TSTW x y) yes no)
```

(LT (CMPWconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (LT (TSTW x y) yes no)
(LE (CMPWconst
[0] z:(AND x y)) yes no) && z.Uses == 1 => (LE (TSTW x y) yes no)
(GT (CMPWconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (GT (TSTW x y) yes no)
(GE (CMPWconst [0] z:(AND x y)) yes no) && z.Uses == 1 => (GE (TSTW x y) yes no)

(EQ (CMPconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (EQ (TSTconst [c] y) yes no)
(NE (CMPconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (NE (TSTconst [c] y) yes no)
(LT (CMPconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (LT (TSTconst [c] y) yes no)
(LE (CMPconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (LE (TSTconst [c] y) yes no)
(GT (CMPconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (GT (TSTconst [c] y) yes no)
(GE (CMPconst [0] x:(ANDconst [c] y)) yes no) && x.Uses == 1 => (GE (TSTconst [c] y) yes no)

(EQ (CMPconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (EQ (CMNconst [c] y) yes no)
(NE (CMPconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (NE (CMNconst [c] y) yes no)
(LT (CMPconst [0]
x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (LTnoov (CMNconst [c] y) yes no)
(LE (CMPconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (LEnoov (CMNconst [c] y) yes no)
(GT (CMPconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (GTnoov (CMNconst [c] y) yes no)
(GE (CMPconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (GEnoov (CMNconst [c] y) yes no)

(EQ (CMPWconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (EQ (CMNWconst [int32(c)] y) yes no)
(NE (CMPWconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (NE (CMNWconst [int32(c)] y) yes no)
(LT (CMPWconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (LTnoov (CMNWconst [int32(c)] y) yes no)
(LE (CMPWconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (LEnoov (CMNWconst [int32(c)] y) yes no)
(GT (CMPWconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (GTnoov (CMNWconst [int32(c)] y) yes
no)
(GE (CMPWconst [0] x:(ADDconst [c] y)) yes no) && x.Uses == 1 => (GEnoov (CMNWconst [int32(c)] y) yes
no)

(EQ
(CMPconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (EQ (CMN x y) yes no)
(NE (CMPconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (NE (CMN x y) yes no)
(LT (CMPconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (LTnoov (CMN x y) yes no)
(LE (CMPconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (LEnoov (CMN x y) yes no)
(GT (CMPconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (GTnoov (CMN x y) yes no)
(GE (CMPconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (GEnoov (CMN x y) yes no)

(EQ (CMPWconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (EQ (CMNW x y) yes no)
(NE (CMPWconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (NE (CMNW x y) yes no)
(LT (CMPWconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (LTnoov (CMNW x y) yes no)
(LE (CMPWconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (LEnoov (CMNW x y) yes no)
(GT (CMPWconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (GTnoov (CMNW x y) yes no)
(GE (CMPWconst [0] z:(ADD x y)) yes no) && z.Uses == 1 => (GEnoov (CMNW x y) yes no)

// CMP(x,-y)
-> CMN(x,y) is only valid for unordered comparison, if y can be -1<<63
(EQ (CMP x z:(NEG y)) yes no) && z.Uses == 1 => (EQ (CMN x y) yes no)

```
(NE (CMP x z:(NEG y)) yes no) && z.Uses == 1 => (NE (CMN x y) yes no)

// CMPW(x,-y) -> CMNW(x,y) is only valid for unordered comparison, if y can be -1<<31
(EQ (CMPW x z:(NEG y)) yes no) && z.Uses == 1 => (EQ (CMNW x y) yes no)
(NE (CMPW x z:(NEG y)) yes no) && z.Uses == 1 => (NE (CMNW x y) yes no)

(EQ (CMPconst [0] x) yes no) => (Z x yes no)
(NE (CMPconst [0] x) yes no) => (NZ x yes no)
(EQ (CMPWconst [0] x) yes no) => (ZW x yes no)
(NE (CMPWconst [0] x) yes no) => (NZW x yes no)

(EQ (CMPconst [0]  z:(MADD a x y)) yes no) && z.Uses==1 => (EQ (CMN a (MUL <x.Type> x y)) yes no)
(NE (CMPconst [0]  z:(MADD a x y)) yes no) && z.Uses==1 => (NE (CMN a (MUL <x.Type> x y)) yes no)
(LT (CMPconst [0]  z:(MADD a x y)) yes no) && z.Uses==1 => (LTnoov (CMN a (MUL <x.Type> x y)) yes no)
(LE (CMPconst [0]  z:(MADD a x y)) yes no) && z.Uses==1 => (LEnoov
 (CMN a (MUL <x.Type> x y)) yes no)
(GT (CMPconst [0]  z:(MADD a x y)) yes no) && z.Uses==1 => (GTnoov (CMN a (MUL <x.Type> x y)) yes no)
(GE (CMPconst [0]  z:(MADD a x y)) yes no) && z.Uses==1 => (GEnoov (CMN a (MUL <x.Type> x y)) yes no)

(EQ (CMPconst [0]  z:(MSUB a x y)) yes no) && z.Uses==1 => (EQ (CMP a (MUL <x.Type> x y)) yes no)
(NE (CMPconst [0]  z:(MSUB a x y)) yes no) && z.Uses==1 => (NE (CMP a (MUL <x.Type> x y)) yes no)
(LE (CMPconst [0]  z:(MSUB a x y)) yes no) && z.Uses==1 => (LEnoov (CMP a (MUL <x.Type> x y)) yes no)
(LT (CMPconst [0]  z:(MSUB a x y)) yes no) && z.Uses==1 => (LTnoov (CMP a (MUL <x.Type> x y)) yes no)
(GE (CMPconst [0]  z:(MSUB a x y)) yes no) && z.Uses==1 => (GEnoov (CMP a (MUL <x.Type> x y)) yes no)
(GT (CMPconst [0]  z:(MSUB a x y)) yes no) && z.Uses==1 => (GTnoov (CMP a (MUL <x.Type> x y)) yes no)

(EQ (CMPWconst [0] z:(MADDW a x y)) yes no) && z.Uses==1 => (EQ (CMNW a (MULW <x.Type> x y)) yes
no)
(NE (CMPWconst [0] z:(MADDW a x y)) yes no) && z.Uses==1
 => (NE (CMNW a (MULW <x.Type> x y)) yes no)
(LE (CMPWconst [0] z:(MADDW a x y)) yes no) && z.Uses==1 => (LEnoov (CMNW a (MULW <x.Type> x y))
yes no)
(LT (CMPWconst [0] z:(MADDW a x y)) yes no) && z.Uses==1 => (LTnoov (CMNW a (MULW <x.Type> x y))
yes no)
(GE (CMPWconst [0] z:(MADDW a x y)) yes no) && z.Uses==1 => (GEnoov (CMNW a (MULW <x.Type> x y))
yes no)
(GT (CMPWconst [0] z:(MADDW a x y)) yes no) && z.Uses==1 => (GTnoov (CMNW a (MULW <x.Type> x y))
yes no)

(EQ (CMPWconst [0] z:(MSUBW a x y)) yes no) && z.Uses==1 => (EQ (CMPW a (MULW <x.Type> x y)) yes
no)
(NE (CMPWconst [0] z:(MSUBW a x y)) yes no) && z.Uses==1 => (NE (CMPW a (MULW <x.Type> x y)) yes
no)
(LE (CMPWconst [0] z:(MSUBW a x y)) yes no) && z.Uses==1 => (LEnoov (CMPW a (MULW <x.Type> x y))
yes no)
(LT (CMPWconst [0] z:(MSUBW a x y)) yes no) && z.Uses==1 => (LTnoov (CMPW a (MULW <x.Type> x y))
yes no)
(GE (CMPWconst [0] z:(MSUBW a x y)) yes no) && z.Uses==1 => (GEnoov (CMPW a (MULW <x.Type> x y))
```

```
yes no)
(GT (CMPWconst
 [0] z:(MSUBW a x y)) yes no) && z.Uses==1 => (GTnoov (CMPW a (MULW <x.Type> x y)) yes no)

// Absorb bit-tests into block
(Z  (ANDconst [c] x) yes no) && oneBit(c) => (TBZ  [int64(ntz64(c))] x yes no)
(NZ (ANDconst [c] x) yes no) && oneBit(c) => (TBNZ [int64(ntz64(c))] x yes no)
(ZW  (ANDconst [c] x) yes no) && oneBit(int64(uint32(c))) => (TBZ  [int64(ntz64(int64(uint32(c))))] x yes no)
(NZW (ANDconst [c] x) yes no) && oneBit(int64(uint32(c))) => (TBNZ [int64(ntz64(int64(uint32(c))))] x yes no)
(EQ (TSTconst [c] x) yes no) && oneBit(c) => (TBZ  [int64(ntz64(c))] x yes no)
(NE (TSTconst [c] x) yes no) && oneBit(c) => (TBNZ [int64(ntz64(c))] x yes no)
(EQ (TSTWconst [c] x) yes no) && oneBit(int64(uint32(c))) => (TBZ  [int64(ntz64(int64(uint32(c))))] x yes no)
(NE (TSTWconst [c] x) yes no) && oneBit(int64(uint32(c))) => (TBNZ [int64(ntz64(int64(uint32(c))))] x yes no)

// Test sign-bit for signed comparisons against zero
(GE (CMPWconst [0] x) yes no) => (TBZ  [31] x yes no)
(GE (CMPconst
 [0] x) yes no) => (TBZ  [63] x yes no)
(LT (CMPWconst [0] x) yes no) => (TBNZ  [31] x yes no)
(LT (CMPconst [0] x) yes no) => (TBNZ  [63] x yes no)

// fold offset into address
(ADDconst [off1] (MOVDaddr [off2] {sym} ptr)) && is32Bit(off1+int64(off2)) =>
  (MOVDaddr [int32(off1)+off2] {sym} ptr)

// fold address into load/store
(MOVBload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBload [off1+int32(off2)] {sym} ptr mem)
(MOVBUload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBUload [off1+int32(off2)] {sym} ptr mem)
(MOVHload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVHload [off1+int32(off2)] {sym} ptr mem)
(MOVHUload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVHUload
 [off1+int32(off2)] {sym} ptr mem)
(MOVWload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWload [off1+int32(off2)] {sym} ptr mem)
(MOVWUload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWUload [off1+int32(off2)] {sym} ptr mem)
(MOVDload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVDload [off1+int32(off2)] {sym} ptr mem)
```

```
(FMOVSload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVSload [off1+int32(off2)] {sym} ptr mem)
(FMOVDload [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVDload [off1+int32(off2)] {sym} ptr mem)

// register indexed load
(MOVDload  [off] {sym} (ADD ptr idx) mem) && off
 == 0 && sym == nil => (MOVDloadidx ptr idx mem)
(MOVWUload [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVWUloadidx ptr idx mem)
(MOVWload  [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVWloadidx ptr idx mem)
(MOVHUload [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVHUloadidx ptr idx mem)
(MOVHload  [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVHloadidx ptr idx mem)
(MOVBUload [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVBUloadidx ptr idx mem)
(MOVBload  [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVBloadidx ptr idx mem)
(FMOVSload [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (FMOVSloadidx ptr idx mem)
(FMOVDload [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (FMOVDloadidx ptr idx mem)
(MOVDloadidx  ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVDload  [int32(c)] ptr mem)
(MOVDloadidx  (MOVDconst [c]) ptr mem) && is32Bit(c) => (MOVDload  [int32(c)] ptr
 mem)
(MOVWUloadidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVWUload [int32(c)] ptr mem)
(MOVWUloadidx (MOVDconst [c]) ptr mem) && is32Bit(c) => (MOVWUload [int32(c)] ptr mem)
(MOVWloadidx  ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVWload  [int32(c)] ptr mem)
(MOVWloadidx  (MOVDconst [c]) ptr mem) && is32Bit(c) => (MOVWload  [int32(c)] ptr mem)
(MOVHUloadidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVHUload [int32(c)] ptr mem)
(MOVHUloadidx (MOVDconst [c]) ptr mem) && is32Bit(c) => (MOVHUload [int32(c)] ptr mem)
(MOVHloadidx  ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVHload  [int32(c)] ptr mem)
(MOVHloadidx  (MOVDconst [c]) ptr mem) && is32Bit(c) => (MOVHload  [int32(c)] ptr mem)
(MOVBUloadidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVBUload [int32(c)] ptr mem)
(MOVBUloadidx (MOVDconst [c]) ptr mem) && is32Bit(c) => (MOVBUload [int32(c)] ptr mem)
(MOVBloadidx  ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVBload  [int32(c)] ptr mem)
(MOVBloadidx  (MOVDconst [c]) ptr mem)
 && is32Bit(c) => (MOVBload  [int32(c)] ptr mem)
(FMOVSloadidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (FMOVSload [int32(c)] ptr mem)
(FMOVSloadidx (MOVDconst [c]) ptr mem) && is32Bit(c) => (FMOVSload [int32(c)] ptr mem)
(FMOVDloadidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (FMOVDload [int32(c)] ptr mem)
(FMOVDloadidx (MOVDconst [c]) ptr mem) && is32Bit(c) => (FMOVDload [int32(c)] ptr mem)

// shifted register indexed load
(MOVDload  [off] {sym} (ADDshiftLL [3] ptr idx) mem) && off == 0 && sym == nil => (MOVDloadidx8 ptr idx
mem)
(MOVWUload [off] {sym} (ADDshiftLL [2] ptr idx) mem) && off == 0 && sym == nil => (MOVWUloadidx4 ptr
idx mem)
(MOVWload  [off] {sym} (ADDshiftLL [2] ptr idx) mem) && off == 0 && sym == nil => (MOVWloadidx4 ptr
idx mem)
(MOVHUload [off] {sym} (ADDshiftLL [1] ptr idx) mem) && off == 0 && sym == nil => (MOVHUloadidx2 ptr
idx mem)
```

```
(MOVHload  [off] {sym} (ADDshiftLL [1] ptr idx) mem) && off == 0 && sym == nil => (MOVHloadidx2 ptr idx mem)
(MOVDloadidx  ptr (SLLconst
 [3] idx) mem) => (MOVDloadidx8 ptr idx mem)
(MOVWloadidx  ptr (SLLconst [2] idx) mem) => (MOVWloadidx4 ptr idx mem)
(MOVWUloadidx ptr (SLLconst [2] idx) mem) => (MOVWUloadidx4 ptr idx mem)
(MOVHloadidx  ptr (SLLconst [1] idx) mem) => (MOVHloadidx2 ptr idx mem)
(MOVHUloadidx ptr (SLLconst [1] idx) mem) => (MOVHUloadidx2 ptr idx mem)
(MOVHloadidx  ptr (ADD idx idx) mem) => (MOVHloadidx2 ptr idx mem)
(MOVHUloadidx ptr (ADD idx idx) mem) => (MOVHUloadidx2 ptr idx mem)
(MOVDloadidx  (SLLconst [3] idx) ptr mem) => (MOVDloadidx8 ptr idx mem)
(MOVWloadidx  (SLLconst [2] idx) ptr mem) => (MOVWloadidx4 ptr idx mem)
(MOVWUloadidx (SLLconst [2] idx) ptr mem) => (MOVWUloadidx4 ptr idx mem)
(MOVHloadidx  (ADD idx idx) ptr mem) => (MOVHloadidx2 ptr idx mem)
(MOVHUloadidx (ADD idx idx) ptr mem) => (MOVHUloadidx2 ptr idx mem)
(MOVDloadidx8  ptr (MOVDconst [c]) mem) && is32Bit(c<<3) => (MOVDload  [int32(c)<<3] ptr mem)
(MOVWUloadidx4 ptr (MOVDconst [c]) mem) && is32Bit(c<<2) => (MOVWUload [int32(c)<<2]
 ptr mem)
(MOVWloadidx4  ptr (MOVDconst [c]) mem) && is32Bit(c<<2) => (MOVWload  [int32(c)<<2] ptr mem)
(MOVHUloadidx2 ptr (MOVDconst [c]) mem) && is32Bit(c<<1) => (MOVHUload [int32(c)<<1] ptr mem)
(MOVHloadidx2  ptr (MOVDconst [c]) mem) && is32Bit(c<<1) => (MOVHload  [int32(c)<<1] ptr mem)

(FMOVDload [off] {sym} (ADDshiftLL [3] ptr idx) mem) && off == 0 && sym == nil => (FMOVDloadidx8 ptr idx mem)
(FMOVSload [off] {sym} (ADDshiftLL [2] ptr idx) mem) && off == 0 && sym == nil => (FMOVSloadidx4 ptr idx mem)
(FMOVDloadidx ptr (SLLconst [3] idx) mem) => (FMOVDloadidx8 ptr idx mem)
(FMOVSloadidx ptr (SLLconst [2] idx) mem) => (FMOVSloadidx4 ptr idx mem)
(FMOVDloadidx (SLLconst [3] idx) ptr mem) => (FMOVDloadidx8 ptr idx mem)
(FMOVSloadidx (SLLconst [2] idx) ptr mem) => (FMOVSloadidx4 ptr idx mem)
(FMOVDloadidx8 ptr (MOVDconst [c]) mem) && is32Bit(c<<3) => (FMOVDload ptr [int32(c)<<3] mem)
(FMOVSloadidx4 ptr (MOVDconst [c]) mem) && is32Bit(c<<2) => (FMOVSload ptr [int32(c)<<2] mem)

(MOVBstore
 [off1] {sym} (ADDconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBstore [off1+int32(off2)] {sym} ptr val mem)
(MOVHstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVHstore [off1+int32(off2)] {sym} ptr val mem)
(MOVWstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWstore [off1+int32(off2)] {sym} ptr val mem)
(MOVDstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVDstore [off1+int32(off2)] {sym} ptr val mem)
(STP [off1] {sym} (ADDconst [off2] ptr) val1 val2 mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
```

```
 (STP [off1+int32(off2)] {sym} ptr val1 val2 mem)
(FMOVSstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2)
 &&
 (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVSstore [off1+int32(off2)] {sym} ptr val mem)
(FMOVDstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVDstore [off1+int32(off2)] {sym} ptr val mem)
(MOVBstorezero [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVHstorezero [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVHstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVWstorezero [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVDstorezero [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVDstorezero
 [off1+int32(off2)] {sym} ptr mem)
(MOVQstorezero [off1] {sym} (ADDconst [off2] ptr) mem) && is32Bit(int64(off1)+off2)
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVQstorezero [off1+int32(off2)] {sym} ptr mem)

// register indexed store
(MOVDstore [off] {sym} (ADD ptr idx) val mem) && off == 0 && sym == nil => (MOVDstoreidx ptr idx val
mem)
(MOVWstore [off] {sym} (ADD ptr idx) val mem) && off == 0 && sym == nil => (MOVWstoreidx ptr idx val
mem)
(MOVHstore [off] {sym} (ADD ptr idx) val mem) && off == 0 && sym == nil => (MOVHstoreidx ptr idx val
mem)
(MOVBstore [off] {sym} (ADD ptr idx) val mem) && off == 0 && sym == nil => (MOVBstoreidx ptr idx val
mem)
(FMOVDstore [off] {sym} (ADD ptr idx) val mem) && off == 0 && sym == nil => (FMOVDstoreidx ptr idx val
mem)
(FMOVSstore [off] {sym} (ADD ptr idx) val mem) && off == 0 && sym == nil => (FMOVSstoreidx ptr idx val
mem)
(MOVDstoreidx ptr (MOVDconst [c]) val mem) && is32Bit(c) => (MOVDstore [int32(c)] ptr val mem)
(MOVDstoreidx
 (MOVDconst [c]) idx val mem) && is32Bit(c) => (MOVDstore [int32(c)] idx val mem)
(MOVWstoreidx ptr (MOVDconst [c]) val mem) && is32Bit(c) => (MOVWstore [int32(c)] ptr val mem)
(MOVWstoreidx (MOVDconst [c]) idx val mem) && is32Bit(c) => (MOVWstore [int32(c)] idx val mem)
(MOVHstoreidx ptr (MOVDconst [c]) val mem) && is32Bit(c) => (MOVHstore [int32(c)] ptr val mem)
(MOVHstoreidx (MOVDconst [c]) idx val mem) && is32Bit(c) => (MOVHstore [int32(c)] idx val mem)
(MOVBstoreidx ptr (MOVDconst [c]) val mem) && is32Bit(c) => (MOVBstore [int32(c)] ptr val mem)
(MOVBstoreidx (MOVDconst [c]) idx val mem) && is32Bit(c) => (MOVBstore [int32(c)] idx val mem)
(FMOVDstoreidx ptr (MOVDconst [c]) val mem) && is32Bit(c) => (FMOVDstore [int32(c)] ptr val mem)
```

```
(FMOVDstoreidx (MOVDconst [c]) idx val mem) && is32Bit(c) => (FMOVDstore [int32(c)] idx val mem)
(FMOVSstoreidx ptr (MOVDconst [c]) val mem) && is32Bit(c) => (FMOVSstore [int32(c)] ptr val mem)
(FMOVSstoreidx (MOVDconst [c]) idx val mem) &&
 is32Bit(c) => (FMOVSstore [int32(c)] idx val mem)

// shifted register indexed store
(MOVDstore [off] {sym} (ADDshiftLL [3] ptr idx) val mem) && off == 0 && sym == nil => (MOVDstoreidx8 ptr
idx val mem)
(MOVWstore [off] {sym} (ADDshiftLL [2] ptr idx) val mem) && off == 0 && sym == nil => (MOVWstoreidx4
ptr idx val mem)
(MOVHstore [off] {sym} (ADDshiftLL [1] ptr idx) val mem) && off == 0 && sym == nil => (MOVHstoreidx2 ptr
idx val mem)
(MOVDstoreidx ptr (SLLconst [3] idx) val mem) => (MOVDstoreidx8 ptr idx val mem)
(MOVWstoreidx ptr (SLLconst [2] idx) val mem) => (MOVWstoreidx4 ptr idx val mem)
(MOVHstoreidx ptr (SLLconst [1] idx) val mem) => (MOVHstoreidx2 ptr idx val mem)
(MOVHstoreidx ptr (ADD idx idx) val mem) => (MOVHstoreidx2 ptr idx val mem)
(MOVDstoreidx (SLLconst [3] idx) ptr val mem) => (MOVDstoreidx8 ptr idx val mem)
(MOVWstoreidx (SLLconst [2] idx) ptr val mem) => (MOVWstoreidx4 ptr idx val mem)
(MOVHstoreidx (SLLconst [1] idx) ptr val mem) => (MOVHstoreidx2 ptr idx val mem)
(MOVHstoreidx
 (ADD idx idx) ptr val mem) => (MOVHstoreidx2 ptr idx val mem)
(MOVDstoreidx8 ptr (MOVDconst [c]) val mem) && is32Bit(c<<3) => (MOVDstore [int32(c)<<3] ptr val mem)
(MOVWstoreidx4 ptr (MOVDconst [c]) val mem) && is32Bit(c<<2) => (MOVWstore [int32(c)<<2] ptr val mem)
(MOVHstoreidx2 ptr (MOVDconst [c]) val mem) && is32Bit(c<<1) => (MOVHstore [int32(c)<<1] ptr val mem)

(FMOVDstore [off] {sym} (ADDshiftLL [3] ptr idx) val mem) && off == 0 && sym == nil => (FMOVDstoreidx8
ptr idx val mem)
(FMOVSstore [off] {sym} (ADDshiftLL [2] ptr idx) val mem) && off == 0 && sym == nil => (FMOVSstoreidx4
ptr idx val mem)
(FMOVDstoreidx ptr (SLLconst [3] idx) val mem) => (FMOVDstoreidx8 ptr idx val mem)
(FMOVSstoreidx ptr (SLLconst [2] idx) val mem) => (FMOVSstoreidx4 ptr idx val mem)
(FMOVDstoreidx (SLLconst [3] idx) ptr val mem) => (FMOVDstoreidx8 ptr idx val mem)
(FMOVSstoreidx (SLLconst [2] idx) ptr val mem) => (FMOVSstoreidx4 ptr idx val mem)
(FMOVDstoreidx8 ptr (MOVDconst [c]) val mem)
 && is32Bit(c<<3) => (FMOVDstore [int32(c)<<3] ptr val mem)
(FMOVSstoreidx4 ptr (MOVDconst [c]) val mem) && is32Bit(c<<2) => (FMOVSstore [int32(c)<<2] ptr val mem)

(MOVBload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVBUload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBUload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
```

```
 (MOVHload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHUload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared)
 =>
 (MOVHUload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWUload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWUload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVDload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVDload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(FMOVSload [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVSload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(FMOVDload
 [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVDload [off1+off2] {mergeSym(sym1,sym2)} ptr mem)

(MOVBstore [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) val mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVHstore [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) val mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVHstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVWstore [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) val mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVDstore [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) val mem)
 && canMergeSym(sym1,sym2)
 && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVDstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(STP [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) val1 val2 mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
```

```
 (STP [off1+off2] {mergeSym(sym1,sym2)} ptr val1 val2 mem)
(FMOVSstore [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) val mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVSstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(FMOVDstore [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) val mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (FMOVDstore [off1+off2] {mergeSym(sym1,sym2)} ptr val mem)
(MOVBstorezero [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 &&
 (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVBstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVHstorezero [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVHstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVWstorezero [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVWstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVDstorezero [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared) =>
 (MOVDstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)
(MOVQstorezero [off1] {sym1} (MOVDaddr [off2] {sym2} ptr) mem)
 && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
 && (ptr.Op != OpSB || !config.ctxt.Flag_shared)
 =>
 (MOVQstorezero [off1+off2] {mergeSym(sym1,sym2)} ptr mem)

// store zero
(MOVBstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVBstorezero [off] {sym} ptr mem)
(MOVHstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVHstorezero [off] {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVWstorezero [off] {sym} ptr mem)
(MOVDstore [off] {sym} ptr (MOVDconst [0]) mem) => (MOVDstorezero [off] {sym} ptr mem)
(STP [off] {sym} ptr (MOVDconst [0]) (MOVDconst [0]) mem) => (MOVQstorezero [off] {sym} ptr mem)

// register indexed store zero
(MOVDstorezero [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVDstorezeroidx ptr idx
mem)
(MOVWstorezero [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVWstorezeroidx ptr idx
mem)
(MOVHstorezero [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVHstorezeroidx ptr idx
mem)
(MOVBstorezero [off] {sym} (ADD ptr idx) mem) && off == 0 && sym == nil => (MOVBstorezeroidx ptr idx
mem)
```

```
(MOVDstoreidx ptr
 idx (MOVDconst [0]) mem) => (MOVDstorezeroidx ptr idx mem)
(MOVWstoreidx ptr idx (MOVDconst [0]) mem) => (MOVWstorezeroidx ptr idx mem)
(MOVHstoreidx ptr idx (MOVDconst [0]) mem) => (MOVHstorezeroidx ptr idx mem)
(MOVBstoreidx ptr idx (MOVDconst [0]) mem) => (MOVBstorezeroidx ptr idx mem)
(MOVDstorezeroidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVDstorezero [int32(c)] ptr mem)
(MOVDstorezeroidx (MOVDconst [c]) idx mem) && is32Bit(c) => (MOVDstorezero [int32(c)] idx mem)
(MOVWstorezeroidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVWstorezero [int32(c)] ptr mem)
(MOVWstorezeroidx (MOVDconst [c]) idx mem) && is32Bit(c) => (MOVWstorezero [int32(c)] idx mem)
(MOVHstorezeroidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVHstorezero [int32(c)] ptr mem)
(MOVHstorezeroidx (MOVDconst [c]) idx mem) && is32Bit(c) => (MOVHstorezero [int32(c)] idx mem)
(MOVBstorezeroidx ptr (MOVDconst [c]) mem) && is32Bit(c) => (MOVBstorezero [int32(c)] ptr mem)
(MOVBstorezeroidx (MOVDconst [c]) idx mem) &&
 is32Bit(c) => (MOVBstorezero [int32(c)] idx mem)

// shifted register indexed store zero
(MOVDstorezero [off] {sym} (ADDshiftLL [3] ptr idx) mem) && off == 0 && sym == nil =>
(MOVDstorezeroidx8 ptr idx mem)
(MOVWstorezero [off] {sym} (ADDshiftLL [2] ptr idx) mem) && off == 0 && sym == nil =>
(MOVWstorezeroidx4 ptr idx mem)
(MOVHstorezero [off] {sym} (ADDshiftLL [1] ptr idx) mem) && off == 0 && sym == nil =>
(MOVHstorezeroidx2 ptr idx mem)
(MOVDstorezeroidx ptr (SLLconst [3] idx) mem) => (MOVDstorezeroidx8 ptr idx mem)
(MOVWstorezeroidx ptr (SLLconst [2] idx) mem) => (MOVWstorezeroidx4 ptr idx mem)
(MOVHstorezeroidx ptr (SLLconst [1] idx) mem) => (MOVHstorezeroidx2 ptr idx mem)
(MOVHstorezeroidx ptr (ADD idx idx) mem) => (MOVHstorezeroidx2 ptr idx mem)
(MOVDstorezeroidx (SLLconst [3] idx) ptr mem) => (MOVDstorezeroidx8 ptr idx mem)
(MOVWstorezeroidx (SLLconst [2] idx) ptr mem) => (MOVWstorezeroidx4 ptr idx mem)
(MOVHstorezeroidx (SLLconst [1] idx) ptr mem) => (MOVHstorezeroidx2 ptr idx
 mem)
(MOVHstorezeroidx (ADD idx idx) ptr mem) => (MOVHstorezeroidx2 ptr idx mem)
(MOVDstoreidx8 ptr idx (MOVDconst [0]) mem) => (MOVDstorezeroidx8 ptr idx mem)
(MOVWstoreidx4 ptr idx (MOVDconst [0]) mem) => (MOVWstorezeroidx4 ptr idx mem)
(MOVHstoreidx2 ptr idx (MOVDconst [0]) mem) => (MOVHstorezeroidx2 ptr idx mem)
(MOVDstorezeroidx8 ptr (MOVDconst [c]) mem) && is32Bit(c<<3) => (MOVDstorezero [int32(c<<3)] ptr mem)
(MOVWstorezeroidx4 ptr (MOVDconst [c]) mem) && is32Bit(c<<2) => (MOVWstorezero [int32(c<<2)] ptr mem)
(MOVHstorezeroidx2 ptr (MOVDconst [c]) mem) && is32Bit(c<<1) => (MOVHstorezero [int32(c<<1)] ptr mem)

// replace load from same location as preceding store with zero/sign extension (or copy in case of full width)
// these seem to have bad interaction with other rules, resulting in slower code
//(MOVBload [off] {sym} ptr (MOVBstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> (MOVBreg x)
//(MOVBUload [off] {sym} ptr (MOVBstore [off2] {sym2}
 ptr2 x _)) && sym == sym2 && off == off2 && isSamePtr(ptr, ptr2) -> (MOVBUreg x)
//(MOVHload [off] {sym} ptr (MOVHstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> (MOVHreg x)
//(MOVHUload [off] {sym} ptr (MOVHstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> (MOVHUreg x)
```

```
//(MOVWload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> (MOVWreg x)
//(MOVWUload [off] {sym} ptr (MOVWstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> (MOVWUreg x)
//(MOVDload [off] {sym} ptr (MOVDstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> x
//(FMOVSload [off] {sym} ptr (FMOVSstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> x
//(FMOVDload [off] {sym} ptr (FMOVDstore [off2] {sym2} ptr2 x _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) -> x

(MOVBload
 [off] {sym} ptr (MOVBstorezero [off2] {sym2} ptr2 _)) && sym == sym2 && off == off2 && isSamePtr(ptr,
ptr2) => (MOVDconst [0])
(MOVBUload [off] {sym} ptr (MOVBstorezero [off2] {sym2} ptr2 _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVDconst [0])
(MOVHload [off] {sym} ptr (MOVHstorezero [off2] {sym2} ptr2 _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVDconst [0])
(MOVHUload [off] {sym} ptr (MOVHstorezero [off2] {sym2} ptr2 _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVDconst [0])
(MOVWload [off] {sym} ptr (MOVWstorezero [off2] {sym2} ptr2 _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVDconst [0])
(MOVWUload [off] {sym} ptr (MOVWstorezero [off2] {sym2} ptr2 _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVDconst [0])
(MOVDload [off] {sym} ptr (MOVDstorezero [off2] {sym2} ptr2 _)) && sym == sym2 && off == off2 &&
isSamePtr(ptr, ptr2) => (MOVDconst [0])

(MOVBloadidx ptr idx (MOVBstorezeroidx ptr2
 idx2 _))
 && (isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) || isSamePtr(ptr, idx2) && isSamePtr(idx, ptr2)) =>
(MOVDconst [0])
(MOVBUloadidx ptr idx (MOVBstorezeroidx ptr2 idx2 _))
 && (isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) || isSamePtr(ptr, idx2) && isSamePtr(idx, ptr2)) =>
(MOVDconst [0])
(MOVHloadidx ptr idx (MOVHstorezeroidx ptr2 idx2 _))
 && (isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) || isSamePtr(ptr, idx2) && isSamePtr(idx, ptr2)) =>
(MOVDconst [0])
(MOVHUloadidx ptr idx (MOVHstorezeroidx ptr2 idx2 _))
 && (isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) || isSamePtr(ptr, idx2) && isSamePtr(idx, ptr2)) =>
(MOVDconst [0])
(MOVWloadidx ptr idx (MOVWstorezeroidx ptr2 idx2 _))
 && (isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) || isSamePtr(ptr, idx2) && isSamePtr(idx, ptr2)) =>
(MOVDconst [0])
(MOVWUloadidx ptr idx (MOVWstorezeroidx ptr2 idx2 _))
 && (isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) || isSamePtr(ptr, idx2) && isSamePtr(idx, ptr2)) =>
(MOVDconst [0])
(MOVDloadidx
```

```
 ptr idx (MOVDstorezeroidx ptr2 idx2 _))
 && (isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) || isSamePtr(ptr, idx2) && isSamePtr(idx, ptr2)) =>
(MOVDconst [0])

(MOVHloadidx2 ptr idx (MOVHstorezeroidx2 ptr2 idx2 _)) && isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) =>
(MOVDconst [0])
(MOVHUloadidx2 ptr idx (MOVHstorezeroidx2 ptr2 idx2 _)) && isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) =>
(MOVDconst [0])
(MOVWloadidx4 ptr idx (MOVWstorezeroidx4 ptr2 idx2 _)) && isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) =>
(MOVDconst [0])
(MOVWUloadidx4 ptr idx (MOVWstorezeroidx4 ptr2 idx2 _)) && isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2)
=> (MOVDconst [0])
(MOVDloadidx8 ptr idx (MOVDstorezeroidx8 ptr2 idx2 _)) && isSamePtr(ptr, ptr2) && isSamePtr(idx, idx2) =>
(MOVDconst [0])

// don't extend after proper load
(MOVBreg x:(MOVBload _ _)) => (MOVDreg x)
(MOVBUreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVHreg x:(MOVBload _ _)) => (MOVDreg x)
(MOVHreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVHreg x:(MOVHload
 _ _)) => (MOVDreg x)
(MOVHUreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVHUreg x:(MOVHUload _ _)) => (MOVDreg x)
(MOVWreg x:(MOVBload _ _)) => (MOVDreg x)
(MOVWreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVWreg x:(MOVHload _ _)) => (MOVDreg x)
(MOVWreg x:(MOVHUload _ _)) => (MOVDreg x)
(MOVWreg x:(MOVWload _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVBUload _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVHUload _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVWUload _ _)) => (MOVDreg x)
(MOVBreg x:(MOVBloadidx _  _ _)) => (MOVDreg x)
(MOVBUreg x:(MOVBUloadidx _ _ _)) => (MOVDreg x)
(MOVHreg x:(MOVBloadidx _ _ _)) => (MOVDreg x)
(MOVHreg x:(MOVBUloadidx _ _ _)) => (MOVDreg x)
(MOVHreg x:(MOVHloadidx _ _ _)) => (MOVDreg x)
(MOVHUreg x:(MOVBUloadidx _ _ _)) => (MOVDreg x)
(MOVHUreg x:(MOVHUloadidx _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVBloadidx _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVBUloadidx _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVHloadidx _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVHUloadidx _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVWloadidx
 _ _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVBUloadidx _ _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVHUloadidx _ _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVWUloadidx _ _ _)) => (MOVDreg x)
```

```
(MOVHreg x:(MOVHloadidx2 _ _ _)) => (MOVDreg x)
(MOVHUreg x:(MOVHUloadidx2 _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVHloadidx2 _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVHUloadidx2 _ _ _)) => (MOVDreg x)
(MOVWreg x:(MOVWloadidx4 _ _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVHUloadidx2 _ _ _)) => (MOVDreg x)
(MOVWUreg x:(MOVWUloadidx4 _ _ _)) => (MOVDreg x)

// fold double extensions
(MOVBreg x:(MOVBreg _)) => (MOVDreg x)
(MOVBUreg x:(MOVBUreg _)) => (MOVDreg x)
(MOVHreg x:(MOVBreg _)) => (MOVDreg x)
(MOVHreg x:(MOVBUreg _)) => (MOVDreg x)
(MOVHreg x:(MOVHreg _)) => (MOVDreg x)
(MOVHUreg x:(MOVBUreg _)) => (MOVDreg x)
(MOVHUreg x:(MOVHUreg _)) => (MOVDreg x)
(MOVWreg x:(MOVBreg _)) => (MOVDreg x)
(MOVWreg x:(MOVBUreg _)) => (MOVDreg x)
(MOVWreg x:(MOVHreg _)) => (MOVDreg x)
(MOVWreg x:(MOVWreg _)) => (MOVDreg x)
(MOVWUreg x:(MOVBUreg
 _)) => (MOVDreg x)
(MOVWUreg x:(MOVHUreg _)) => (MOVDreg x)
(MOVWUreg x:(MOVWUreg _)) => (MOVDreg x)

// don't extend before store
(MOVBstore [off] {sym} ptr (MOVBreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVWreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWreg x) mem) => (MOVWstore
 [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVBstoreidx ptr idx (MOVBreg x) mem) => (MOVBstoreidx ptr idx x mem)
(MOVBstoreidx ptr idx (MOVBUreg x) mem) => (MOVBstoreidx ptr idx x mem)
(MOVBstoreidx ptr idx (MOVHreg x) mem) => (MOVBstoreidx ptr idx x mem)
(MOVBstoreidx ptr idx (MOVHUreg x) mem) => (MOVBstoreidx ptr idx x mem)
(MOVBstoreidx ptr idx (MOVWreg x) mem) => (MOVBstoreidx ptr idx x mem)
(MOVBstoreidx ptr idx (MOVWUreg x) mem) => (MOVBstoreidx ptr idx x mem)
(MOVHstoreidx ptr idx (MOVHreg x) mem) => (MOVHstoreidx ptr idx x mem)
(MOVHstoreidx ptr idx (MOVHUreg x) mem) => (MOVHstoreidx ptr idx x mem)
(MOVHstoreidx ptr idx (MOVWreg x) mem) => (MOVHstoreidx ptr idx x mem)
```

```
(MOVHstoreidx ptr idx (MOVWUreg x) mem) => (MOVHstoreidx ptr idx x mem)
(MOVWstoreidx ptr idx (MOVWreg x) mem) => (MOVWstoreidx ptr idx x mem)
(MOVWstoreidx ptr idx (MOVWUreg x) mem) => (MOVWstoreidx ptr idx x mem)
(MOVHstoreidx2 ptr idx (MOVHreg
 x) mem) => (MOVHstoreidx2 ptr idx x mem)
(MOVHstoreidx2 ptr idx (MOVHUreg x) mem) => (MOVHstoreidx2 ptr idx x mem)
(MOVHstoreidx2 ptr idx (MOVWreg x) mem) => (MOVHstoreidx2 ptr idx x mem)
(MOVHstoreidx2 ptr idx (MOVWUreg x) mem) => (MOVHstoreidx2 ptr idx x mem)
(MOVWstoreidx4 ptr idx (MOVWreg x) mem) => (MOVWstoreidx4 ptr idx x mem)
(MOVWstoreidx4 ptr idx (MOVWUreg x) mem) => (MOVWstoreidx4 ptr idx x mem)

// if a register move has only 1 use, just use the same register without emitting instruction
// MOVDnop doesn't emit instruction, only for ensuring the type.
(MOVDreg x) && x.Uses == 1 => (MOVDnop x)

// TODO: we should be able to get rid of MOVDnop all together.
// But for now, this is enough to get rid of lots of them.
(MOVDnop (MOVDconst [c])) => (MOVDconst [c])

// fold constant into arithmetic ops
(ADD x (MOVDconst [c])) => (ADDconst [c] x)
(SUB x (MOVDconst [c])) => (SUBconst [c] x)
(AND x (MOVDconst [c])) => (ANDconst [c] x)
(OR  x (MOVDconst [c])) => (ORconst  [c] x)
(XOR
 x (MOVDconst [c])) => (XORconst [c] x)
(TST x (MOVDconst [c])) => (TSTconst [c] x)
(TSTW x (MOVDconst [c])) => (TSTWconst [int32(c)] x)
(CMN x (MOVDconst [c])) => (CMNconst [c] x)
(CMNW x (MOVDconst [c])) => (CMNWconst [int32(c)] x)
(BIC x (MOVDconst [c])) => (ANDconst [^c] x)
(EON x (MOVDconst [c])) => (XORconst [^c] x)
(ORN x (MOVDconst [c])) => (ORconst  [^c] x)

(SLL x (MOVDconst [c])) => (SLLconst x [c&63]) // Note: I don't think we ever generate bad constant shifts (i.e.
c>=64)
(SRL x (MOVDconst [c])) => (SRLconst x [c&63])
(SRA x (MOVDconst [c])) => (SRAconst x [c&63])

(CMP x (MOVDconst [c])) => (CMPconst [c] x)
(CMP (MOVDconst [c]) x) => (InvertFlags (CMPconst [c] x))
(CMPW x (MOVDconst [c])) => (CMPWconst [int32(c)] x)
(CMPW (MOVDconst [c]) x) => (InvertFlags (CMPWconst [int32(c)] x))

(ROR x (MOVDconst [c])) => (RORconst x [c&63])
(RORW x (MOVDconst [c])) => (RORWconst x [c&31])

// Canonicalize the order of arguments to comparisons - helps with CSE.
```

```
((CMP|CMPW) x y) && canonLessThan(x,y)
 => (InvertFlags ((CMP|CMPW) y x))

// mul-neg => mneg
(NEG (MUL x y)) => (MNEG x y)
(NEG (MULW x y)) => (MNEGW x y)
(MUL (NEG x) y) => (MNEG x y)
(MULW (NEG x) y) => (MNEGW x y)

// madd/msub
(ADD a l:(MUL  x y)) && l.Uses==1 && clobber(l) => (MADD a x y)
(SUB a l:(MUL  x y)) && l.Uses==1 && clobber(l) => (MSUB a x y)
(ADD a l:(MNEG x y)) && l.Uses==1 && clobber(l) => (MSUB a x y)
(SUB a l:(MNEG x y)) && l.Uses==1 && clobber(l) => (MADD a x y)

(ADD a l:(MULW  x y)) && a.Type.Size() != 8 && l.Uses==1 && clobber(l) => (MADDW a x y)
(SUB a l:(MULW  x y)) && a.Type.Size() != 8 && l.Uses==1 && clobber(l) => (MSUBW a x y)
(ADD a l:(MNEGW x y)) && a.Type.Size() != 8 && l.Uses==1 && clobber(l) => (MSUBW a x y)
(SUB a l:(MNEGW x y)) && a.Type.Size() != 8 && l.Uses==1 && clobber(l) => (MADDW a x y)

// optimize ADCSflags, SBCSflags and friends
(ADCSflags x y (Select1 <types.TypeFlags> (ADDSconstflags [-1] (ADCzerocarry <typ.UInt64> c)))) =>
(ADCSflags x y c)
(ADCSflags x y (Select1
 <types.TypeFlags> (ADDSconstflags [-1] (MOVDconst [0])))) => (ADDSflags x y)
(SBCSflags x y (Select1 <types.TypeFlags> (NEGSflags (NEG <typ.UInt64> (NGCzerocarry <typ.UInt64> bo)))))
=> (SBCSflags x y bo)
(SBCSflags x y (Select1 <types.TypeFlags> (NEGSflags (MOVDconst [0])))) => (SUBSflags x y)

// mul by constant
(MUL x (MOVDconst [-1])) => (NEG x)
(MUL _ (MOVDconst [0])) => (MOVDconst [0])
(MUL x (MOVDconst [1])) => x
(MUL x (MOVDconst [c])) && isPowerOfTwo64(c) => (SLLconst [log64(c)] x)
(MUL x (MOVDconst [c])) && isPowerOfTwo64(c-1) && c >= 3 => (ADDshiftLL x x [log64(c-1)])
(MUL x (MOVDconst [c])) && isPowerOfTwo64(c+1) && c >= 7 => (ADDshiftLL (NEG <x.Type> x) x
[log64(c+1)])
(MUL x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) => (SLLconst [log64(c/3)] (ADDshiftLL
<x.Type> x x [1]))
(MUL x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) => (SLLconst [log64(c/5)] (ADDshiftLL
<x.Type> x x [2]))
(MUL x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) => (SLLconst [log64(c/7)]
 (ADDshiftLL <x.Type> (NEG <x.Type> x) x [3]))
(MUL x (MOVDconst [c])) && c%9 == 0 && isPowerOfTwo64(c/9) => (SLLconst [log64(c/9)] (ADDshiftLL
<x.Type> x x [3]))

(MULW x (MOVDconst [c])) && int32(c)==-1 => (NEG x)
(MULW _ (MOVDconst [c])) && int32(c)==0 => (MOVDconst [0])
```

(MULW x (MOVDconst [c])) && int32(c)==1 => x
(MULW x (MOVDconst [c])) && isPowerOfTwo64(c) => (SLLconst [log64(c)] x)
(MULW x (MOVDconst [c])) && isPowerOfTwo64(c-1) && int32(c) >= 3 => (ADDshiftLL x x [log64(c-1)])
(MULW x (MOVDconst [c])) && isPowerOfTwo64(c+1) && int32(c) >= 7 => (ADDshiftLL (NEG <x.Type> x) x [log64(c+1)])
(MULW x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) && is32Bit(c) => (SLLconst [log64(c/3)] (ADDshiftLL <x.Type> x x [1]))
(MULW x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) && is32Bit(c) => (SLLconst [log64(c/5)] (ADDshiftLL <x.Type> x x [2]))
(MULW x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) && is32Bit(c) => (SLLconst [log64(c/7)] (ADDshiftLL <x.Type> (NEG
<x.Type> x) x [3]))
(MULW x (MOVDconst [c])) && c%9 == 0 && isPowerOfTwo64(c/9) && is32Bit(c) => (SLLconst [log64(c/9)] (ADDshiftLL <x.Type> x x [3]))

// mneg by constant
(MNEG x (MOVDconst [-1])) => x
(MNEG _ (MOVDconst [0])) => (MOVDconst [0])
(MNEG x (MOVDconst [1])) => (NEG x)
(MNEG x (MOVDconst [c])) && isPowerOfTwo64(c) => (NEG (SLLconst <x.Type> [log64(c)] x))
(MNEG x (MOVDconst [c])) && isPowerOfTwo64(c-1) && c >= 3 => (NEG (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MNEG x (MOVDconst [c])) && isPowerOfTwo64(c+1) && c >= 7 => (NEG (ADDshiftLL <x.Type> (NEG <x.Type> x) x [log64(c+1)]))
(MNEG x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) => (SLLconst <x.Type> [log64(c/3)] (SUBshiftLL <x.Type> x x [2]))
(MNEG x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) => (NEG (SLLconst <x.Type> [log64(c/5)] (ADDshiftLL <x.Type> x x [2])))
(MNEG x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) => (SLLconst <x.Type> [log64(c/7)] (SUBshiftLL <x.Type> x x [3]))
(MNEG x (MOVDconst
[c])) && c%9 == 0 && isPowerOfTwo64(c/9) => (NEG (SLLconst <x.Type> [log64(c/9)] (ADDshiftLL <x.Type> x x [3])))

(MNEGW x (MOVDconst [c])) && int32(c)==-1 => x
(MNEGW _ (MOVDconst [c])) && int32(c)==0 => (MOVDconst [0])
(MNEGW x (MOVDconst [c])) && int32(c)==1 => (NEG x)
(MNEGW x (MOVDconst [c])) && isPowerOfTwo64(c) => (NEG (SLLconst <x.Type> [log64(c)] x))
(MNEGW x (MOVDconst [c])) && isPowerOfTwo64(c-1) && int32(c) >= 3 => (NEG (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MNEGW x (MOVDconst [c])) && isPowerOfTwo64(c+1) && int32(c) >= 7 => (NEG (ADDshiftLL <x.Type> (NEG <x.Type> x) x [log64(c+1)]))
(MNEGW x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) && is32Bit(c) => (SLLconst <x.Type> [log64(c/3)] (SUBshiftLL <x.Type> x x [2]))
(MNEGW x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) && is32Bit(c) => (NEG (SLLconst <x.Type> [log64(c/5)] (ADDshiftLL <x.Type> x x [2])))
(MNEGW x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) && is32Bit(c) => (SLLconst <x.Type>

[log64(c/7)]
 (SUBshiftLL <x.Type> x x [3]))
(MNEGW x (MOVDconst [c])) && c%9 == 0 && isPowerOfTwo64(c/9) && is32Bit(c) => (NEG (SLLconst <x.Type> [log64(c/9)] (ADDshiftLL <x.Type> x x [3])))

(MADD a x (MOVDconst [-1])) => (SUB a x)
(MADD a _ (MOVDconst [0])) => a
(MADD a x (MOVDconst [1])) => (ADD a x)
(MADD a x (MOVDconst [c])) && isPowerOfTwo64(c) => (ADDshiftLL a x [log64(c)])
(MADD a x (MOVDconst [c])) && isPowerOfTwo64(c-1) && c>=3 => (ADD a (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MADD a x (MOVDconst [c])) && isPowerOfTwo64(c+1) && c>=7 => (SUB a (SUBshiftLL <x.Type> x x [log64(c+1)]))
(MADD a x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) => (SUBshiftLL a (SUBshiftLL <x.Type> x x [2]) [log64(c/3)])
(MADD a x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) => (ADDshiftLL a (ADDshiftLL <x.Type> x x [2]) [log64(c/5)])
(MADD a x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) => (SUBshiftLL a (SUBshiftLL <x.Type> x x [3]) [log64(c/7)])
(MADD a x (MOVDconst [c])) && c%9 ==
 0 && isPowerOfTwo64(c/9) => (ADDshiftLL a (ADDshiftLL <x.Type> x x [3]) [log64(c/9)])

(MADD a (MOVDconst [-1]) x) => (SUB a x)
(MADD a (MOVDconst [0]) _) => a
(MADD a (MOVDconst [1]) x) => (ADD a x)
(MADD a (MOVDconst [c]) x) && isPowerOfTwo64(c) => (ADDshiftLL a x [log64(c)])
(MADD a (MOVDconst [c]) x) && isPowerOfTwo64(c-1) && c>=3 => (ADD a (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MADD a (MOVDconst [c]) x) && isPowerOfTwo64(c+1) && c>=7 => (SUB a (SUBshiftLL <x.Type> x x [log64(c+1)]))
(MADD a (MOVDconst [c]) x) && c%3 == 0 && isPowerOfTwo64(c/3) => (SUBshiftLL a (SUBshiftLL <x.Type> x x [2]) [log64(c/3)])
(MADD a (MOVDconst [c]) x) && c%5 == 0 && isPowerOfTwo64(c/5) => (ADDshiftLL a (ADDshiftLL <x.Type> x x [2]) [log64(c/5)])
(MADD a (MOVDconst [c]) x) && c%7 == 0 && isPowerOfTwo64(c/7) => (SUBshiftLL a (SUBshiftLL <x.Type> x x [3]) [log64(c/7)])
(MADD a (MOVDconst [c]) x) && c%9 == 0 && isPowerOfTwo64(c/9) => (ADDshiftLL a (ADDshiftLL <x.Type> x x [3]) [log64(c/9)])

(MADDW a x
 (MOVDconst [c])) && int32(c)==-1 => (SUB a x)
(MADDW a _ (MOVDconst [c])) && int32(c)==0 => a
(MADDW a x (MOVDconst [c])) && int32(c)==1 => (ADD a x)
(MADDW a x (MOVDconst [c])) && isPowerOfTwo64(c) => (ADDshiftLL a x [log64(c)])
(MADDW a x (MOVDconst [c])) && isPowerOfTwo64(c-1) && int32(c)>=3 => (ADD a (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MADDW a x (MOVDconst [c])) && isPowerOfTwo64(c+1) && int32(c)>=7 => (SUB a (SUBshiftLL <x.Type>

```
x x [log64(c+1)]))
(MADDW a x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) && is32Bit(c) => (SUBshiftLL a
(SUBshiftLL <x.Type> x x [2]) [log64(c/3)])
(MADDW a x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) && is32Bit(c) => (ADDshiftLL a
(ADDshiftLL <x.Type> x x [2]) [log64(c/5)])
(MADDW a x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) && is32Bit(c) => (SUBshiftLL a
(SUBshiftLL <x.Type> x x [3]) [log64(c/7)])
(MADDW a x (MOVDconst [c])) && c%9 == 0 && isPowerOfTwo64(c/9) && is32Bit(c) => (ADDshiftLL a
(ADDshiftLL <x.Type> x x [3])
 [log64(c/9)])

(MADDW a (MOVDconst [c]) x) && int32(c)==-1 => (SUB a x)
(MADDW a (MOVDconst [c]) _) && int32(c)==0 => a
(MADDW a (MOVDconst [c]) x) && int32(c)==1 => (ADD a x)
(MADDW a (MOVDconst [c]) x) && isPowerOfTwo64(c) => (ADDshiftLL a x [log64(c)])
(MADDW a (MOVDconst [c]) x) && isPowerOfTwo64(c-1) && int32(c)>=3 => (ADD a (ADDshiftLL <x.Type>
x x [log64(c-1)]))
(MADDW a (MOVDconst [c]) x) && isPowerOfTwo64(c+1) && int32(c)>=7 => (SUB a (SUBshiftLL <x.Type>
x x [log64(c+1)]))
(MADDW a (MOVDconst [c]) x) && c%3 == 0 && isPowerOfTwo64(c/3) && is32Bit(c) => (SUBshiftLL a
(SUBshiftLL <x.Type> x x [2]) [log64(c/3)])
(MADDW a (MOVDconst [c]) x) && c%5 == 0 && isPowerOfTwo64(c/5) && is32Bit(c) => (ADDshiftLL a
(ADDshiftLL <x.Type> x x [2]) [log64(c/5)])
(MADDW a (MOVDconst [c]) x) && c%7 == 0 && isPowerOfTwo64(c/7) && is32Bit(c) => (SUBshiftLL a
(SUBshiftLL <x.Type> x x [3]) [log64(c/7)])
(MADDW a (MOVDconst [c]) x) && c%9 == 0 && isPowerOfTwo64(c/9) && is32Bit(c) => (ADDshiftLL a
(ADDshiftLL
 <x.Type> x x [3]) [log64(c/9)])

(MSUB a x (MOVDconst [-1])) => (ADD a x)
(MSUB a _ (MOVDconst [0])) => a
(MSUB a x (MOVDconst [1])) => (SUB a x)
(MSUB a x (MOVDconst [c])) && isPowerOfTwo64(c) => (SUBshiftLL a x [log64(c)])
(MSUB a x (MOVDconst [c])) && isPowerOfTwo64(c-1) && c>=3 => (SUB a (ADDshiftLL <x.Type> x x
[log64(c-1)]))
(MSUB a x (MOVDconst [c])) && isPowerOfTwo64(c+1) && c>=7 => (ADD a (SUBshiftLL <x.Type> x x
[log64(c+1)]))
(MSUB a x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) => (ADDshiftLL a (SUBshiftLL
<x.Type> x x [2]) [log64(c/3)])
(MSUB a x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) => (SUBshiftLL a (ADDshiftLL
<x.Type> x x [2]) [log64(c/5)])
(MSUB a x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) => (ADDshiftLL a (SUBshiftLL
<x.Type> x x [3]) [log64(c/7)])
(MSUB a x (MOVDconst [c])) && c%9 == 0 && isPowerOfTwo64(c/9) => (SUBshiftLL a (ADDshiftLL
<x.Type> x x [3]) [log64(c/9)])

(MSUB a (MOVDconst [-1]) x) => (ADD a x)
(MSUB a (MOVDconst
```

[0]) _) => a
(MSUB a (MOVDconst [1]) x) => (SUB a x)
(MSUB a (MOVDconst [c]) x) && isPowerOfTwo64(c) => (SUBshiftLL a x [log64(c)])
(MSUB a (MOVDconst [c]) x) && isPowerOfTwo64(c-1) && c>=3 => (SUB a (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MSUB a (MOVDconst [c]) x) && isPowerOfTwo64(c+1) && c>=7 => (ADD a (SUBshiftLL <x.Type> x x [log64(c+1)]))
(MSUB a (MOVDconst [c]) x) && c%3 == 0 && isPowerOfTwo64(c/3) => (ADDshiftLL a (SUBshiftLL <x.Type> x x [2]) [log64(c/3)])
(MSUB a (MOVDconst [c]) x) && c%5 == 0 && isPowerOfTwo64(c/5) => (SUBshiftLL a (ADDshiftLL <x.Type> x x [2]) [log64(c/5)])
(MSUB a (MOVDconst [c]) x) && c%7 == 0 && isPowerOfTwo64(c/7) => (ADDshiftLL a (SUBshiftLL <x.Type> x x [3]) [log64(c/7)])
(MSUB a (MOVDconst [c]) x) && c%9 == 0 && isPowerOfTwo64(c/9) => (SUBshiftLL a (ADDshiftLL <x.Type> x x [3]) [log64(c/9)])

(MSUBW a x (MOVDconst [c])) && int32(c)==-1 => (ADD a x)
(MSUBW a _ (MOVDconst [c])) && int32(c)==0 => a
(MSUBW a x (MOVDconst [c])) && int32(c)==1 => (SUB a
x)
(MSUBW a x (MOVDconst [c])) && isPowerOfTwo64(c) => (SUBshiftLL a x [log64(c)])
(MSUBW a x (MOVDconst [c])) && isPowerOfTwo64(c-1) && int32(c)>=3 => (SUB a (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MSUBW a x (MOVDconst [c])) && isPowerOfTwo64(c+1) && int32(c)>=7 => (ADD a (SUBshiftLL <x.Type> x x [log64(c+1)]))
(MSUBW a x (MOVDconst [c])) && c%3 == 0 && isPowerOfTwo64(c/3) && is32Bit(c) => (ADDshiftLL a (SUBshiftLL <x.Type> x x [2]) [log64(c/3)])
(MSUBW a x (MOVDconst [c])) && c%5 == 0 && isPowerOfTwo64(c/5) && is32Bit(c) => (SUBshiftLL a (ADDshiftLL <x.Type> x x [2]) [log64(c/5)])
(MSUBW a x (MOVDconst [c])) && c%7 == 0 && isPowerOfTwo64(c/7) && is32Bit(c) => (ADDshiftLL a (SUBshiftLL <x.Type> x x [3]) [log64(c/7)])
(MSUBW a x (MOVDconst [c])) && c%9 == 0 && isPowerOfTwo64(c/9) && is32Bit(c) => (SUBshiftLL a (ADDshiftLL <x.Type> x x [3]) [log64(c/9)])

(MSUBW a (MOVDconst [c]) x) && int32(c)==-1 => (ADD a x)
(MSUBW a (MOVDconst [c]) _) && int32(c)==0 => a
(MSUBW a (MOVDconst [c]) x)
&& int32(c)==1 => (SUB a x)
(MSUBW a (MOVDconst [c]) x) && isPowerOfTwo64(c) => (SUBshiftLL a x [log64(c)])
(MSUBW a (MOVDconst [c]) x) && isPowerOfTwo64(c-1) && int32(c)>=3 => (SUB a (ADDshiftLL <x.Type> x x [log64(c-1)]))
(MSUBW a (MOVDconst [c]) x) && isPowerOfTwo64(c+1) && int32(c)>=7 => (ADD a (SUBshiftLL <x.Type> x x [log64(c+1)]))
(MSUBW a (MOVDconst [c]) x) && c%3 == 0 && isPowerOfTwo64(c/3) && is32Bit(c) => (ADDshiftLL a (SUBshiftLL <x.Type> x x [2]) [log64(c/3)])
(MSUBW a (MOVDconst [c]) x) && c%5 == 0 && isPowerOfTwo64(c/5) && is32Bit(c) => (SUBshiftLL a (ADDshiftLL <x.Type> x x [2]) [log64(c/5)])
(MSUBW a (MOVDconst [c]) x) && c%7 == 0 && isPowerOfTwo64(c/7) && is32Bit(c) => (ADDshiftLL a

```
(SUBshiftLL <x.Type> x x [3]) [log64(c/7)])
(MSUBW a (MOVDconst [c]) x) && c%9 == 0 && isPowerOfTwo64(c/9) && is32Bit(c) => (SUBshiftLL a
(ADDshiftLL <x.Type> x x [3]) [log64(c/9)])

// div by constant
(UDIV x (MOVDconst [1])) => x
(UDIV x (MOVDconst [c])) && isPowerOfTwo64(c) => (SRLconst
 [log64(c)] x)
(UDIVW x (MOVDconst [c])) && uint32(c)==1 => x
(UDIVW x (MOVDconst [c])) && isPowerOfTwo64(c) && is32Bit(c) => (SRLconst [log64(c)] x)
(UMOD _ (MOVDconst [1])) => (MOVDconst [0])
(UMOD x (MOVDconst [c])) && isPowerOfTwo64(c) => (ANDconst [c-1] x)
(UMODW _ (MOVDconst [c])) && uint32(c)==1 => (MOVDconst [0])
(UMODW x (MOVDconst [c])) && isPowerOfTwo64(c) && is32Bit(c) => (ANDconst [c-1] x)

// generic simplifications
(ADD x (NEG y)) => (SUB x y)
(SUB x x) => (MOVDconst [0])
(AND x x) => x
(OR  x x) => x
(XOR x x) => (MOVDconst [0])
(BIC x x) => (MOVDconst [0])
(EON x x) => (MOVDconst [-1])
(ORN x x) => (MOVDconst [-1])
(AND x (MVN y)) => (BIC x y)
(XOR x (MVN y)) => (EON x y)
(OR  x (MVN y)) => (ORN x y)
(MVN (XOR x y)) => (EON x y)
(NEG (NEG x)) => x

(CSEL [cc] (MOVDconst [-1]) (MOVDconst [0]) flag) => (CSETM [cc] flag)
(CSEL [cc] (MOVDconst [0]) (MOVDconst [-1]) flag) => (CSETM [arm64Negate(cc)] flag)
(CSEL [cc] x (MOVDconst [0]) flag) => (CSEL0 [cc] x flag)
(CSEL [cc]
 (MOVDconst [0]) y flag) => (CSEL0 [arm64Negate(cc)] y flag)
(CSEL [cc] x (ADDconst [1] a) flag) => (CSINC [cc] x a flag)
(CSEL [cc] (ADDconst [1] a) x flag) => (CSINC [arm64Negate(cc)] x a flag)
(CSEL [cc] x (MVN a) flag) => (CSINV [cc] x a flag)
(CSEL [cc] (MVN a) x flag) => (CSINV [arm64Negate(cc)] x a flag)
(CSEL [cc] x (NEG a) flag) => (CSNEG [cc] x a flag)
(CSEL [cc] (NEG a) x flag) => (CSNEG [arm64Negate(cc)] x a flag)

(SUB x (SUB y z)) => (SUB (ADD <v.Type> x z) y)
(SUB (SUB x y) z) => (SUB x (ADD <y.Type> y z))

// remove redundant *const ops
(ADDconst [0]  x) => x
(SUBconst [0]  x) => x
```

```
(ANDconst [0]  _) => (MOVDconst [0])
(ANDconst [-1] x) => x
(ORconst  [0]  x) => x
(ORconst  [-1] _) => (MOVDconst [-1])
(XORconst [0]  x) => x
(XORconst [-1] x) => (MVN x)

// generic constant folding
(ADDconst [c] (MOVDconst [d]))  => (MOVDconst [c+d])
(ADDconst [c] (ADDconst [d] x)) => (ADDconst [c+d] x)
(ADDconst [c] (SUBconst [d] x)) => (ADDconst [c-d] x)
(SUBconst [c] (MOVDconst [d]))
  => (MOVDconst [d-c])
(SUBconst [c] (SUBconst [d] x)) => (ADDconst [-c-d] x)
(SUBconst [c] (ADDconst [d] x)) => (ADDconst [-c+d] x)
(SLLconst [c] (MOVDconst [d]))  => (MOVDconst [d<<uint64(c)])
(SRLconst [c] (MOVDconst [d]))  => (MOVDconst [int64(uint64(d)>>uint64(c))])
(SRAconst [c] (MOVDconst [d]))  => (MOVDconst [d>>uint64(c)])
(MUL   (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c*d])
(MULW  (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [int64(int32(c)*int32(d))])
(MNEG  (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [-c*d])
(MNEGW (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [-int64(int32(c)*int32(d))])
(MADD  (MOVDconst [c]) x y) => (ADDconst [c] (MUL   <x.Type> x y))
(MADDW (MOVDconst [c]) x y) => (ADDconst [c] (MULW  <x.Type> x y))
(MSUB  (MOVDconst [c]) x y) => (ADDconst [c] (MNEG  <x.Type> x y))
(MSUBW (MOVDconst [c]) x y) => (ADDconst [c] (MNEGW <x.Type> x y))
(MADD  a (MOVDconst [c]) (MOVDconst [d])) => (ADDconst [c*d] a)
(MADDW a (MOVDconst [c]) (MOVDconst [d])) => (ADDconst
 [int64(int32(c)*int32(d))] a)
(MSUB  a (MOVDconst [c]) (MOVDconst [d])) => (SUBconst [c*d] a)
(MSUBW a (MOVDconst [c]) (MOVDconst [d])) => (SUBconst [int64(int32(c)*int32(d))] a)
(DIV   (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [c/d])
(UDIV  (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [int64(uint64(c)/uint64(d))])
(DIVW  (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [int64(int32(c)/int32(d))])
(UDIVW (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [int64(uint32(c)/uint32(d))])
(MOD   (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [c%d])
(UMOD  (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [int64(uint64(c)%uint64(d))])
(MODW  (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [int64(int32(c)%int32(d))])
(UMODW (MOVDconst [c]) (MOVDconst [d])) && d != 0 => (MOVDconst [int64(uint32(c)%uint32(d))])
(ANDconst [c] (MOVDconst [d]))  => (MOVDconst [c&d])
(ANDconst [c] (ANDconst [d] x)) => (ANDconst [c&d] x)
(ANDconst
 [c] (MOVWUreg x)) => (ANDconst [c&(1<<32-1)] x)
(ANDconst [c] (MOVHUreg x)) => (ANDconst [c&(1<<16-1)] x)
(ANDconst [c] (MOVBUreg x)) => (ANDconst [c&(1<<8-1)] x)
(MOVWUreg (ANDconst [c] x)) => (ANDconst [c&(1<<32-1)] x)
(MOVHUreg (ANDconst [c] x)) => (ANDconst [c&(1<<16-1)] x)
(MOVBUreg (ANDconst [c] x)) => (ANDconst [c&(1<<8-1)] x)
```

```
(ORconst  [c] (MOVDconst [d]))  => (MOVDconst [c|d])
(ORconst  [c] (ORconst [d] x))  => (ORconst [c|d] x)
(XORconst [c] (MOVDconst [d]))  => (MOVDconst [c^d])
(XORconst [c] (XORconst [d] x)) => (XORconst [c^d] x)
(MVN (MOVDconst [c])) => (MOVDconst [^c])
(NEG (MOVDconst [c])) => (MOVDconst [-c])
(MOVBreg  (MOVDconst [c])) => (MOVDconst [int64(int8(c))])
(MOVBUreg (MOVDconst [c])) => (MOVDconst [int64(uint8(c))])
(MOVHreg  (MOVDconst [c])) => (MOVDconst [int64(int16(c))])
(MOVHUreg (MOVDconst [c])) => (MOVDconst [int64(uint16(c))])
(MOVWreg  (MOVDconst [c])) => (MOVDconst [int64(int32(c))])
(MOVWUreg (MOVDconst [c])) => (MOVDconst [int64(uint32(c))])
(MOVDreg
  (MOVDconst [c])) => (MOVDconst [c])

// constant comparisons
(CMPconst  (MOVDconst [x]) [y]) => (FlagConstant [subFlags64(x,y)])
(CMPWconst (MOVDconst [x]) [y]) => (FlagConstant [subFlags32(int32(x),y)])
(TSTconst  (MOVDconst [x]) [y]) => (FlagConstant [logicFlags64(x&y)])
(TSTWconst (MOVDconst [x]) [y]) => (FlagConstant [logicFlags32(int32(x)&y)])
(CMNconst  (MOVDconst [x]) [y]) => (FlagConstant [addFlags64(x,y)])
(CMNWconst (MOVDconst [x]) [y]) => (FlagConstant [addFlags32(int32(x),y)])

// other known comparisons
(CMPconst (MOVBUreg _) [c]) && 0xff < c => (FlagConstant [subFlags64(0,1)])
(CMPconst (MOVHUreg _) [c]) && 0xffff < c => (FlagConstant [subFlags64(0,1)])
(CMPconst (MOVWUreg _) [c]) && 0xffffffff < c => (FlagConstant [subFlags64(0,1)])
(CMPconst (ANDconst _ [m]) [n]) && 0 <= m && m < n => (FlagConstant [subFlags64(0,1)])
(CMPconst (SRLconst _ [c]) [n]) && 0 <= n && 0 < c && c <= 63 && (1<<uint64(64-c)) <= uint64(n) =>
(FlagConstant [subFlags64(0,1)])
(CMPWconst (MOVBUreg
 _) [c]) && 0xff < c => (FlagConstant [subFlags64(0,1)])
(CMPWconst (MOVHUreg _) [c]) && 0xffff < c => (FlagConstant [subFlags64(0,1)])

// absorb flag constants into branches
(EQ (FlagConstant [fc]) yes no) &&  fc.eq() => (First yes no)
(EQ (FlagConstant [fc]) yes no) && !fc.eq() => (First no yes)

(NE (FlagConstant [fc]) yes no) &&  fc.ne() => (First yes no)
(NE (FlagConstant [fc]) yes no) && !fc.ne() => (First no yes)

(LT (FlagConstant [fc]) yes no) &&  fc.lt() => (First yes no)
(LT (FlagConstant [fc]) yes no) && !fc.lt() => (First no yes)

(LE (FlagConstant [fc]) yes no) &&  fc.le() => (First yes no)
(LE (FlagConstant [fc]) yes no) && !fc.le() => (First no yes)

(GT (FlagConstant [fc]) yes no) &&  fc.gt() => (First yes no)
```

```
(GT (FlagConstant [fc]) yes no) && !fc.gt() => (First no yes)

(GE (FlagConstant [fc]) yes no) &&  fc.ge() => (First yes no)
(GE (FlagConstant [fc]) yes no) && !fc.ge() => (First no yes)

(ULT (FlagConstant [fc]) yes no) &&  fc.ult() => (First yes no)
(ULT
 (FlagConstant [fc]) yes no) && !fc.ult() => (First no yes)

(ULE (FlagConstant [fc]) yes no) &&  fc.ule() => (First yes no)
(ULE (FlagConstant [fc]) yes no) && !fc.ule() => (First no yes)

(UGT (FlagConstant [fc]) yes no) &&  fc.ugt() => (First yes no)
(UGT (FlagConstant [fc]) yes no) && !fc.ugt() => (First no yes)

(UGE (FlagConstant [fc]) yes no) &&  fc.uge() => (First yes no)
(UGE (FlagConstant [fc]) yes no) && !fc.uge() => (First no yes)

(LTnoov (FlagConstant [fc]) yes no) &&  fc.ltNoov() => (First yes no)
(LTnoov (FlagConstant [fc]) yes no) && !fc.ltNoov() => (First no yes)

(LEnoov (FlagConstant [fc]) yes no) &&  fc.leNoov() => (First yes no)
(LEnoov (FlagConstant [fc]) yes no) && !fc.leNoov() => (First no yes)

(GTnoov (FlagConstant [fc]) yes no) &&  fc.gtNoov() => (First yes no)
(GTnoov (FlagConstant [fc]) yes no) && !fc.gtNoov() => (First no yes)

(GEnoov (FlagConstant [fc]) yes no) &&  fc.geNoov() => (First yes no)
(GEnoov (FlagConstant [fc]) yes no) && !fc.geNoov() => (First
 no yes)

(Z (MOVDconst [0]) yes no) => (First yes no)
(Z (MOVDconst [c]) yes no) && c != 0 => (First no yes)
(NZ (MOVDconst [0]) yes no) => (First no yes)
(NZ (MOVDconst [c]) yes no) && c != 0 => (First yes no)
(ZW (MOVDconst [c]) yes no) && int32(c) == 0 => (First yes no)
(ZW (MOVDconst [c]) yes no) && int32(c) != 0 => (First no yes)
(NZW (MOVDconst [c]) yes no) && int32(c) == 0 => (First no yes)
(NZW (MOVDconst [c]) yes no) && int32(c) != 0 => (First yes no)

// absorb InvertFlags into branches
(LT (InvertFlags cmp) yes no) => (GT cmp yes no)
(GT (InvertFlags cmp) yes no) => (LT cmp yes no)
(LE (InvertFlags cmp) yes no) => (GE cmp yes no)
(GE (InvertFlags cmp) yes no) => (LE cmp yes no)
(ULT (InvertFlags cmp) yes no) => (UGT cmp yes no)
(UGT (InvertFlags cmp) yes no) => (ULT cmp yes no)
(ULE (InvertFlags cmp) yes no) => (UGE cmp yes no)
```

```
(UGE (InvertFlags cmp) yes no) => (ULE cmp yes no)
(EQ (InvertFlags cmp) yes no) => (EQ cmp yes no)
(NE (InvertFlags cmp) yes no) => (NE cmp yes
 no)
(FLT (InvertFlags cmp) yes no) => (FGT cmp yes no)
(FGT (InvertFlags cmp) yes no) => (FLT cmp yes no)
(FLE (InvertFlags cmp) yes no) => (FGE cmp yes no)
(FGE (InvertFlags cmp) yes no) => (FLE cmp yes no)
(LTnoov (InvertFlags cmp) yes no) => (GTnoov cmp yes no)
(GEnoov (InvertFlags cmp) yes no) => (LEnoov cmp yes no)
(LEnoov (InvertFlags cmp) yes no) => (GEnoov cmp yes no)
(GTnoov (InvertFlags cmp) yes no) => (LTnoov cmp yes no)

// absorb InvertFlags into conditional instructions
(CSEL [cc] x y (InvertFlags cmp)) => (CSEL [arm64Invert(cc)] x y cmp)
(CSEL0 [cc] x (InvertFlags cmp)) => (CSEL0 [arm64Invert(cc)] x cmp)
(CSETM [cc] (InvertFlags cmp)) => (CSETM [arm64Invert(cc)] cmp)
(CSINC [cc] x y (InvertFlags cmp)) => (CSINC [arm64Invert(cc)] x y cmp)
(CSINV [cc] x y (InvertFlags cmp)) => (CSINV [arm64Invert(cc)] x y cmp)
(CSNEG [cc] x y (InvertFlags cmp)) => (CSNEG [arm64Invert(cc)] x y cmp)

// absorb flag constants into boolean values
(Equal (FlagConstant [fc])) => (MOVDconst [b2i(fc.eq())])
(NotEqual
 (FlagConstant [fc])) => (MOVDconst [b2i(fc.ne())])
(LessThan (FlagConstant [fc])) => (MOVDconst [b2i(fc.lt())])
(LessThanU (FlagConstant [fc])) => (MOVDconst [b2i(fc.ult())])
(LessEqual (FlagConstant [fc])) => (MOVDconst [b2i(fc.le())])
(LessEqualU (FlagConstant [fc])) => (MOVDconst [b2i(fc.ule())])
(GreaterThan (FlagConstant [fc])) => (MOVDconst [b2i(fc.gt())])
(GreaterThanU (FlagConstant [fc])) => (MOVDconst [b2i(fc.ugt())])
(GreaterEqual (FlagConstant [fc])) => (MOVDconst [b2i(fc.ge())])
(GreaterEqualU (FlagConstant [fc])) => (MOVDconst [b2i(fc.uge())])

// absorb InvertFlags into boolean values
(Equal (InvertFlags x)) => (Equal x)
(NotEqual (InvertFlags x)) => (NotEqual x)
(LessThan (InvertFlags x)) => (GreaterThan x)
(LessThanU (InvertFlags x)) => (GreaterThanU x)
(GreaterThan (InvertFlags x)) => (LessThan x)
(GreaterThanU (InvertFlags x)) => (LessThanU x)
(LessEqual (InvertFlags x)) => (GreaterEqual x)
(LessEqualU (InvertFlags x)) => (GreaterEqualU x)
(GreaterEqual
 (InvertFlags x)) => (LessEqual x)
(GreaterEqualU (InvertFlags x)) => (LessEqualU x)
(LessThanF (InvertFlags x)) => (GreaterThanF x)
(LessEqualF (InvertFlags x)) => (GreaterEqualF x)
```

```
(GreaterThanF (InvertFlags x)) => (LessThanF x)
(GreaterEqualF (InvertFlags x)) => (LessEqualF x)

// Boolean-generating instructions (NOTE: NOT all boolean Values) always
// zero upper bit of the register; no need to zero-extend
(MOVBUreg
x:((Equal|NotEqual|LessThan|LessThanU|LessThanF|LessEqual|LessEqualU|LessEqualF|GreaterThan|GreaterThan
U|GreaterThanF|GreaterEqual|GreaterEqualU|GreaterEqualF) _)) => (MOVDreg x)

// absorb flag constants into conditional instructions
(CSEL [cc] x _ flag) && ccARM64Eval(cc, flag) > 0 => x
(CSEL [cc] _ y flag) && ccARM64Eval(cc, flag) < 0 => y
(CSEL0 [cc] x flag) && ccARM64Eval(cc, flag) > 0 => x
(CSEL0 [cc] _ flag) && ccARM64Eval(cc, flag) < 0 => (MOVDconst [0])
(CSNEG [cc] x _ flag) && ccARM64Eval(cc, flag) > 0 => x
(CSNEG [cc] _ y flag) && ccARM64Eval(cc, flag) <
 0 => (NEG y)
(CSINV [cc] x _ flag) && ccARM64Eval(cc, flag) > 0 => x
(CSINV [cc] _ y flag) && ccARM64Eval(cc, flag) < 0 => (Not y)
(CSINC [cc] x _ flag) && ccARM64Eval(cc, flag) > 0 => x
(CSINC [cc] _ y flag) && ccARM64Eval(cc, flag) < 0 => (ADDconst [1] y)
(CSETM [cc] flag) && ccARM64Eval(cc, flag) > 0 => (MOVDconst [-1])
(CSETM [cc] flag) && ccARM64Eval(cc, flag) < 0 => (MOVDconst [0])

// absorb flags back into boolean CSEL
(CSEL [cc] x y (CMPWconst [0] boolval)) && cc == OpARM64NotEqual && flagArg(boolval) != nil =>
    (CSEL [boolval.Op] x y flagArg(boolval))
(CSEL [cc] x y (CMPWconst [0] boolval)) && cc == OpARM64Equal && flagArg(boolval) != nil =>
    (CSEL [arm64Negate(boolval.Op)] x y flagArg(boolval))
(CSEL0 [cc] x (CMPWconst [0] boolval)) && cc == OpARM64NotEqual && flagArg(boolval) != nil =>
    (CSEL0 [boolval.Op] x flagArg(boolval))
(CSEL0 [cc] x (CMPWconst [0] boolval)) && cc == OpARM64Equal && flagArg(boolval) != nil =>
    (CSEL0 [arm64Negate(boolval.Op)] x flagArg(boolval))

//
 absorb shifts into ops
(NEG x:(SLLconst [c] y)) && clobberIfDead(x) => (NEGshiftLL [c] y)
(NEG x:(SRLconst [c] y)) && clobberIfDead(x) => (NEGshiftRL [c] y)
(NEG x:(SRAconst [c] y)) && clobberIfDead(x) => (NEGshiftRA [c] y)
(MVN x:(SLLconst [c] y)) && clobberIfDead(x) => (MVNshiftLL [c] y)
(MVN x:(SRLconst [c] y)) && clobberIfDead(x) => (MVNshiftRL [c] y)
(MVN x:(SRAconst [c] y)) && clobberIfDead(x) => (MVNshiftRA [c] y)
(MVN x:(RORconst [c] y)) && clobberIfDead(x) => (MVNshiftRO [c] y)
(ADD x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (ADDshiftLL x0 y [c])
(ADD x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (ADDshiftRL x0 y [c])
(ADD x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (ADDshiftRA x0 y [c])
(SUB x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (SUBshiftLL x0 y [c])
(SUB x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (SUBshiftRL x0 y [c])
```

```
(SUB x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (SUBshiftRA x0 y [c])
(AND x0 x1:(SLLconst [c] y)) && clobberIfDead(x1)
 => (ANDshiftLL x0 y [c])
(AND x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (ANDshiftRL x0 y [c])
(AND x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (ANDshiftRA x0 y [c])
(AND x0 x1:(RORconst [c] y)) && clobberIfDead(x1) => (ANDshiftRO x0 y [c])
(OR  x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (ORshiftLL  x0 y [c]) // useful for combined load
(OR  x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (ORshiftRL  x0 y [c])
(OR  x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (ORshiftRA  x0 y [c])
(OR  x0 x1:(RORconst [c] y)) && clobberIfDead(x1) => (ORshiftRO  x0 y [c])
(XOR x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (XORshiftLL x0 y [c])
(XOR x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (XORshiftRL x0 y [c])
(XOR x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (XORshiftRA x0 y [c])
(XOR x0 x1:(RORconst [c] y)) && clobberIfDead(x1) => (XORshiftRO x0 y [c])
(BIC x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (BICshiftLL x0 y [c])
(BIC x0 x1:(SRLconst [c] y)) && clobberIfDead(x1)
 => (BICshiftRL x0 y [c])
(BIC x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (BICshiftRA x0 y [c])
(BIC x0 x1:(RORconst [c] y)) && clobberIfDead(x1) => (BICshiftRO x0 y [c])
(ORN x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (ORNshiftLL x0 y [c])
(ORN x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (ORNshiftRL x0 y [c])
(ORN x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (ORNshiftRA x0 y [c])
(ORN x0 x1:(RORconst [c] y)) && clobberIfDead(x1) => (ORNshiftRO x0 y [c])
(EON x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (EONshiftLL x0 y [c])
(EON x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (EONshiftRL x0 y [c])
(EON x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (EONshiftRA x0 y [c])
(EON x0 x1:(RORconst [c] y)) && clobberIfDead(x1) => (EONshiftRO x0 y [c])
(CMP x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (CMPshiftLL x0 y [c])
(CMP x0:(SLLconst [c] y) x1) && clobberIfDead(x0) => (InvertFlags (CMPshiftLL x1 y [c]))
(CMP x0 x1:(SRLconst [c] y)) && clobberIfDead(x1)
 => (CMPshiftRL x0 y [c])
(CMP x0:(SRLconst [c] y) x1) && clobberIfDead(x0) => (InvertFlags (CMPshiftRL x1 y [c]))
(CMP x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (CMPshiftRA x0 y [c])
(CMP x0:(SRAconst [c] y) x1) && clobberIfDead(x0) => (InvertFlags (CMPshiftRA x1 y [c]))
(CMN x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (CMNshiftLL x0 y [c])
(CMN x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (CMNshiftRL x0 y [c])
(CMN x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (CMNshiftRA x0 y [c])
(TST x0 x1:(SLLconst [c] y)) && clobberIfDead(x1) => (TSTshiftLL x0 y [c])
(TST x0 x1:(SRLconst [c] y)) && clobberIfDead(x1) => (TSTshiftRL x0 y [c])
(TST x0 x1:(SRAconst [c] y)) && clobberIfDead(x1) => (TSTshiftRA x0 y [c])
(TST x0 x1:(RORconst [c] y)) && clobberIfDead(x1) => (TSTshiftRO x0 y [c])

// prefer *const ops to *shift ops
(ADDshiftLL (MOVDconst [c]) x [d]) => (ADDconst [c] (SLLconst <x.Type> x [d]))
(ADDshiftRL (MOVDconst [c]) x [d]) => (ADDconst [c] (SRLconst <x.Type> x [d]))
(ADDshiftRA
 (MOVDconst [c]) x [d]) => (ADDconst [c] (SRAconst <x.Type> x [d]))
(ANDshiftLL (MOVDconst [c]) x [d]) => (ANDconst [c] (SLLconst <x.Type> x [d]))
```

```
(ANDshiftRL (MOVDconst [c]) x [d]) => (ANDconst [c] (SRLconst <x.Type> x [d]))
(ANDshiftRA (MOVDconst [c]) x [d]) => (ANDconst [c] (SRAconst <x.Type> x [d]))
(ANDshiftRO (MOVDconst [c]) x [d]) => (ANDconst [c] (RORconst <x.Type> x [d]))
(ORshiftLL  (MOVDconst [c]) x [d]) => (ORconst  [c] (SLLconst <x.Type> x [d]))
(ORshiftRL  (MOVDconst [c]) x [d]) => (ORconst  [c] (SRLconst <x.Type> x [d]))
(ORshiftRA  (MOVDconst [c]) x [d]) => (ORconst  [c] (SRAconst <x.Type> x [d]))
(ORshiftRO  (MOVDconst [c]) x [d]) => (ORconst  [c] (RORconst <x.Type> x [d]))
(XORshiftLL (MOVDconst [c]) x [d]) => (XORconst [c] (SLLconst <x.Type> x [d]))
(XORshiftRL (MOVDconst [c]) x [d]) => (XORconst [c] (SRLconst <x.Type> x [d]))
(XORshiftRA (MOVDconst [c]) x [d]) => (XORconst [c] (SRAconst <x.Type> x [d]))
(XORshiftRO (MOVDconst [c]) x [d]) => (XORconst [c]
 (RORconst <x.Type> x [d]))
(CMPshiftLL (MOVDconst [c]) x [d]) => (InvertFlags (CMPconst [c] (SLLconst <x.Type> x [d])))
(CMPshiftRL (MOVDconst [c]) x [d]) => (InvertFlags (CMPconst [c] (SRLconst <x.Type> x [d])))
(CMPshiftRA (MOVDconst [c]) x [d]) => (InvertFlags (CMPconst [c] (SRAconst <x.Type> x [d])))
(CMNshiftLL (MOVDconst [c]) x [d]) => (CMNconst [c] (SLLconst <x.Type> x [d]))
(CMNshiftRL (MOVDconst [c]) x [d]) => (CMNconst [c] (SRLconst <x.Type> x [d]))
(CMNshiftRA (MOVDconst [c]) x [d]) => (CMNconst [c] (SRAconst <x.Type> x [d]))
(TSTshiftLL (MOVDconst [c]) x [d]) => (TSTconst [c] (SLLconst <x.Type> x [d]))
(TSTshiftRL (MOVDconst [c]) x [d]) => (TSTconst [c] (SRLconst <x.Type> x [d]))
(TSTshiftRA (MOVDconst [c]) x [d]) => (TSTconst [c] (SRAconst <x.Type> x [d]))
(TSTshiftRO (MOVDconst [c]) x [d]) => (TSTconst [c] (RORconst <x.Type> x [d]))

// constant folding in *shift ops
(MVNshiftLL (MOVDconst [c]) [d]) => (MOVDconst [^int64(uint64(c)<<uint64(d))])
(MVNshiftRL (MOVDconst [c])
 [d]) => (MOVDconst [^int64(uint64(c)>>uint64(d))])
(MVNshiftRA (MOVDconst [c]) [d]) => (MOVDconst [^(c>>uint64(d))])
(MVNshiftRO (MOVDconst [c]) [d]) => (MOVDconst [^rotateRight64(c, d)])
(NEGshiftLL (MOVDconst [c]) [d]) => (MOVDconst [-int64(uint64(c)<<uint64(d))])
(NEGshiftRL (MOVDconst [c]) [d]) => (MOVDconst [-int64(uint64(c)>>uint64(d))])
(NEGshiftRA (MOVDconst [c]) [d]) => (MOVDconst [-(c>>uint64(d))])
(ADDshiftLL x (MOVDconst [c]) [d]) => (ADDconst x [int64(uint64(c)<<uint64(d))])
(ADDshiftRL x (MOVDconst [c]) [d]) => (ADDconst x [int64(uint64(c)>>uint64(d))])
(ADDshiftRA x (MOVDconst [c]) [d]) => (ADDconst x [c>>uint64(d)])
(SUBshiftLL x (MOVDconst [c]) [d]) => (SUBconst x [int64(uint64(c)<<uint64(d))])
(SUBshiftRL x (MOVDconst [c]) [d]) => (SUBconst x [int64(uint64(c)>>uint64(d))])
(SUBshiftRA x (MOVDconst [c]) [d]) => (SUBconst x [c>>uint64(d)])
(ANDshiftLL x (MOVDconst [c]) [d]) => (ANDconst x [int64(uint64(c)<<uint64(d))])
(ANDshiftRL x (MOVDconst [c]) [d]) => (ANDconst x
 [int64(uint64(c)>>uint64(d))])
(ANDshiftRA x (MOVDconst [c]) [d]) => (ANDconst x [c>>uint64(d)])
(ANDshiftRO x (MOVDconst [c]) [d]) => (ANDconst x [rotateRight64(c, d)])
(ORshiftLL  x (MOVDconst [c]) [d]) => (ORconst  x [int64(uint64(c)<<uint64(d))])
(ORshiftRL  x (MOVDconst [c]) [d]) => (ORconst  x [int64(uint64(c)>>uint64(d))])
(ORshiftRA  x (MOVDconst [c]) [d]) => (ORconst  x [c>>uint64(d)])
(ORshiftRO  x (MOVDconst [c]) [d]) => (ORconst  x [rotateRight64(c, d)])
(XORshiftLL x (MOVDconst [c]) [d]) => (XORconst x [int64(uint64(c)<<uint64(d))])
```

```
(XORshiftRL x (MOVDconst [c]) [d]) => (XORconst x [int64(uint64(c)>>uint64(d))])
(XORshiftRA x (MOVDconst [c]) [d]) => (XORconst x [c>>uint64(d)])
(XORshiftRO x (MOVDconst [c]) [d]) => (XORconst x [rotateRight64(c, d)])
(BICshiftLL x (MOVDconst [c]) [d]) => (ANDconst x [^int64(uint64(c)<<uint64(d))])
(BICshiftRL x (MOVDconst [c]) [d]) => (ANDconst x [^int64(uint64(c)>>uint64(d))])
(BICshiftRA x (MOVDconst [c]) [d]) => (ANDconst x [^(c>>uint64(d))])
(BICshiftRO
 x (MOVDconst [c]) [d]) => (ANDconst x [^rotateRight64(c, d)])
(ORNshiftLL x (MOVDconst [c]) [d]) => (ORconst  x [^int64(uint64(c)<<uint64(d))])
(ORNshiftRL x (MOVDconst [c]) [d]) => (ORconst  x [^int64(uint64(c)>>uint64(d))])
(ORNshiftRA x (MOVDconst [c]) [d]) => (ORconst  x [^(c>>uint64(d))])
(ORNshiftRO x (MOVDconst [c]) [d]) => (ORconst  x [^rotateRight64(c, d)])
(EONshiftLL x (MOVDconst [c]) [d]) => (XORconst x [^int64(uint64(c)<<uint64(d))])
(EONshiftRL x (MOVDconst [c]) [d]) => (XORconst x [^int64(uint64(c)>>uint64(d))])
(EONshiftRA x (MOVDconst [c]) [d]) => (XORconst x [^(c>>uint64(d))])
(EONshiftRO x (MOVDconst [c]) [d]) => (XORconst x [^rotateRight64(c, d)])
(CMPshiftLL x (MOVDconst [c]) [d]) => (CMPconst x [int64(uint64(c)<<uint64(d))])
(CMPshiftRL x (MOVDconst [c]) [d]) => (CMPconst x [int64(uint64(c)>>uint64(d))])
(CMPshiftRA x (MOVDconst [c]) [d]) => (CMPconst x [c>>uint64(d)])
(CMNshiftLL x (MOVDconst [c]) [d]) => (CMNconst x [int64(uint64(c)<<uint64(d))])
(CMNshiftRL
 x (MOVDconst [c]) [d]) => (CMNconst x [int64(uint64(c)>>uint64(d))])
(CMNshiftRA x (MOVDconst [c]) [d]) => (CMNconst x [c>>uint64(d)])
(TSTshiftLL x (MOVDconst [c]) [d]) => (TSTconst x [int64(uint64(c)<<uint64(d))])
(TSTshiftRL x (MOVDconst [c]) [d]) => (TSTconst x [int64(uint64(c)>>uint64(d))])
(TSTshiftRA x (MOVDconst [c]) [d]) => (TSTconst x [c>>uint64(d)])
(TSTshiftRO x (MOVDconst [c]) [d]) => (TSTconst x [rotateRight64(c, d)])

// simplification with *shift ops
(SUBshiftLL (SLLconst x [c]) x [c]) => (MOVDconst [0])
(SUBshiftRL (SRLconst x [c]) x [c]) => (MOVDconst [0])
(SUBshiftRA (SRAconst x [c]) x [c]) => (MOVDconst [0])
(ANDshiftLL y:(SLLconst x [c]) x [c]) => y
(ANDshiftRL y:(SRLconst x [c]) x [c]) => y
(ANDshiftRA y:(SRAconst x [c]) x [c]) => y
(ANDshiftRO y:(RORconst x [c]) x [c]) => y
(ORshiftLL  y:(SLLconst x [c]) x [c]) => y
(ORshiftRL  y:(SRLconst x [c]) x [c]) => y
(ORshiftRA  y:(SRAconst x [c]) x [c]) => y
(ORshiftRO  y:(RORconst x [c]) x [c]) => y
(XORshiftLL
 (SLLconst x [c]) x [c]) => (MOVDconst [0])
(XORshiftRL (SRLconst x [c]) x [c]) => (MOVDconst [0])
(XORshiftRA (SRAconst x [c]) x [c]) => (MOVDconst [0])
(XORshiftRO (RORconst x [c]) x [c]) => (MOVDconst [0])
(BICshiftLL (SLLconst x [c]) x [c]) => (MOVDconst [0])
(BICshiftRL (SRLconst x [c]) x [c]) => (MOVDconst [0])
(BICshiftRA (SRAconst x [c]) x [c]) => (MOVDconst [0])
```

```
(BICshiftRO (RORconst x [c]) x [c]) => (MOVDconst [0])
(EONshiftLL (SLLconst x [c]) x [c]) => (MOVDconst [-1])
(EONshiftRL (SRLconst x [c]) x [c]) => (MOVDconst [-1])
(EONshiftRA (SRAconst x [c]) x [c]) => (MOVDconst [-1])
(EONshiftRO (RORconst x [c]) x [c]) => (MOVDconst [-1])
(ORNshiftLL (SLLconst x [c]) x [c]) => (MOVDconst [-1])
(ORNshiftRL (SRLconst x [c]) x [c]) => (MOVDconst [-1])
(ORNshiftRA (SRAconst x [c]) x [c]) => (MOVDconst [-1])
(ORNshiftRO (RORconst x [c]) x [c]) => (MOVDconst [-1])

// Generate rotates with const shift
(ADDshiftLL [c] (SRLconst x [64-c]) x) => (RORconst [64-c] x)
( ORshiftLL [c] (SRLconst
 x [64-c]) x) => (RORconst [64-c] x)
(XORshiftLL [c] (SRLconst x [64-c]) x) => (RORconst [64-c] x)
(ADDshiftRL [c] (SLLconst x [64-c]) x) => (RORconst [    c] x)
( ORshiftRL [c] (SLLconst x [64-c]) x) => (RORconst [    c] x)
(XORshiftRL [c] (SLLconst x [64-c]) x) => (RORconst [    c] x)

(ADDshiftLL <t> [c] (UBFX [bfc] x) x) && c < 32 && t.Size() == 4 && bfc == armBFAuxInt(32-c, c)
 => (RORWconst [32-c] x)
( ORshiftLL <t> [c] (UBFX [bfc] x) x) && c < 32 && t.Size() == 4 && bfc == armBFAuxInt(32-c, c)
 => (RORWconst [32-c] x)
(XORshiftLL <t> [c] (UBFX [bfc] x) x) && c < 32 && t.Size() == 4 && bfc == armBFAuxInt(32-c, c)
 => (RORWconst [32-c] x)
(ADDshiftRL <t> [c] (SLLconst x [32-c]) (MOVWUreg x)) && c < 32 && t.Size() == 4 => (RORWconst [c] x)
( ORshiftRL <t> [c] (SLLconst x [32-c]) (MOVWUreg x)) && c < 32 && t.Size() == 4 => (RORWconst [c] x)
(XORshiftRL <t> [c] (SLLconst x [32-c]) (MOVWUreg x)) && c < 32 && t.Size() == 4 => (RORWconst [c] x)

(RORconst [c] (RORconst [d] x)) => (RORconst
 [(c+d)&63] x)
(RORWconst [c] (RORWconst [d] x)) => (RORWconst [(c+d)&31] x)

// Generate rotates with non-const shift.
// These rules match the Go source code like
// y &= 63
// x << y | x >> (64-y)
// "|" can also be "^" or "+".
// As arm64 does not have a ROL instruction, so ROL(x, y) is replaced by ROR(x, -y).
((ADD|OR|XOR) (SLL x (ANDconst <t> [63] y))
 (CSEL0 <typ.UInt64> [cc] (SRL <typ.UInt64> x (SUB <t> (MOVDconst [64]) (ANDconst <t> [63] y)))
  (CMPconst [64] (SUB <t> (MOVDconst [64]) (ANDconst <t> [63] y))))) && cc == OpARM64LessThanU
 => (ROR x (NEG <t> y))
((ADD|OR|XOR) (SRL <typ.UInt64> x (ANDconst <t> [63] y))
 (CSEL0 <typ.UInt64> [cc] (SLL x (SUB <t> (MOVDconst [64]) (ANDconst <t> [63] y)))
  (CMPconst [64] (SUB <t> (MOVDconst [64]) (ANDconst <t> [63] y))))) && cc == OpARM64LessThanU
 => (ROR x y)
```

```
// These rules match the Go source code like
// y &= 31
// x << y | x >> (32-y)
// "|" can also be "^" or "+".
// As arm64 does not have a ROLW instruction, so ROLW(x,
 y) is replaced by RORW(x, -y).
((ADD|OR|XOR) (SLL x (ANDconst <t> [31] y))
 (CSEL0 <typ.UInt32> [cc] (SRL <typ.UInt32> (MOVWUreg x) (SUB <t> (MOVDconst [32]) (ANDconst <t> [31]
y)))
  (CMPconst [64]  (SUB <t> (MOVDconst [32]) (ANDconst <t> [31] y))))) && cc == OpARM64LessThanU
 => (RORW x (NEG <t> y))
((ADD|OR|XOR) (SRL <typ.UInt32> (MOVWUreg x) (ANDconst <t> [31] y))
 (CSEL0 <typ.UInt32> [cc] (SLL x (SUB <t> (MOVDconst [32]) (ANDconst <t> [31] y)))
  (CMPconst [64]  (SUB <t> (MOVDconst [32]) (ANDconst <t> [31] y))))) && cc == OpARM64LessThanU
 => (RORW x y)

// rev16w | rev16
// ((x>>8) | (x<<8)) => (REV16W x), the type of x is uint16, "|" can also be "^" or "+".
((ADDshiftLL|ORshiftLL|XORshiftLL) <typ.UInt16> [8] (UBFX <typ.UInt16> [armBFAuxInt(8, 8)] x) x) =>
(REV16W x)

// ((x & 0xff00ff00)>>8) | ((x & 0x00ff00ff)<<8), "|" can also be "^" or "+".
((ADDshiftLL|ORshiftLL|XORshiftLL) [8] (UBFX [armBFAuxInt(8, 24)] (ANDconst [c1] x)) (ANDconst [c2] x))
 && uint32(c1) == 0xff00ff00 &&
 uint32(c2) == 0x00ff00ff
 => (REV16W x)

// ((x & 0xff00ff00ff00ff00)>>8) | ((x & 0x00ff00ff00ff00ff)<<8), "|" can also be "^" or "+".
((ADDshiftLL|ORshiftLL|XORshiftLL) [8] (SRLconst [8] (ANDconst [c1] x)) (ANDconst [c2] x))
 && (uint64(c1) == 0xff00ff00ff00ff00 && uint64(c2) == 0x00ff00ff00ff00ff)
 => (REV16 x)

// ((x & 0xff00ff00)>>8) | ((x & 0x00ff00ff)<<8), "|" can also be "^" or "+".
((ADDshiftLL|ORshiftLL|XORshiftLL) [8] (SRLconst [8] (ANDconst [c1] x)) (ANDconst [c2] x))
 && (uint64(c1) == 0xff00ff00 && uint64(c2) == 0x00ff00ff)
 => (REV16 (ANDconst <x.Type> [0xffffffff] x))

// Extract from reg pair
(ADDshiftLL [c] (SRLconst x [64-c]) x2) => (EXTRconst [64-c] x2 x)
( ORshiftLL [c] (SRLconst x [64-c]) x2) => (EXTRconst [64-c] x2 x)
(XORshiftLL [c] (SRLconst x [64-c]) x2) => (EXTRconst [64-c] x2 x)

(ADDshiftLL <t> [c] (UBFX [bfc] x) x2) && c < 32 && t.Size() == 4 && bfc == armBFAuxInt(32-c, c)
 => (EXTRWconst [32-c] x2 x)
( ORshiftLL <t> [c] (UBFX [bfc] x) x2) && c < 32 && t.Size()
 == 4 && bfc == armBFAuxInt(32-c, c)
 => (EXTRWconst [32-c] x2 x)
(XORshiftLL <t> [c] (UBFX [bfc] x) x2) && c < 32 && t.Size() == 4 && bfc == armBFAuxInt(32-c, c)
```

```
 => (EXTRWconst [32-c] x2 x)

// Rewrite special pairs of shifts to AND.
// On ARM64 the bitmask can fit into an instruction.
(SRLconst [c] (SLLconst [c] x)) && 0 < c && c < 64 => (ANDconst [1<<uint(64-c)-1] x) // mask out high bits
(SLLconst [c] (SRLconst [c] x)) && 0 < c && c < 64 => (ANDconst [^(1<<uint(c)-1)] x) // mask out low bits

// Special case setting bit as 1. An example is math.Copysign(c,-1)
(ORconst [c1] (ANDconst [c2] x)) && c2|c1 == ^0  => (ORconst [c1] x)

// If the shift amount is larger than the datasize(32, 16, 8), we can optimize to constant 0.
(MOVWUreg (SLLconst [lc] x)) && lc >= 32 => (MOVDconst [0])
(MOVHUreg (SLLconst [lc] x)) && lc >= 16 => (MOVDconst [0])
(MOVBUreg (SLLconst [lc] x)) && lc >= 8 => (MOVDconst [0])

// After zero extension, the upper (64-datasize(32|16|8)) bits are zero, we can
 optimiza to constant 0.
(SRLconst [rc] (MOVWUreg x)) && rc >= 32 => (MOVDconst [0])
(SRLconst [rc] (MOVHUreg x)) && rc >= 16 => (MOVDconst [0])
(SRLconst [rc] (MOVBUreg x)) && rc >= 8 => (MOVDconst [0])

// bitfield ops

// sbfiz
// (x << lc) >> rc
(SRAconst [rc] (SLLconst [lc] x)) && lc > rc => (SBFIZ [armBFAuxInt(lc-rc, 64-lc)] x)
// int64(x << lc)
(MOVWreg (SLLconst [lc] x)) && lc < 32 => (SBFIZ [armBFAuxInt(lc, 32-lc)] x)
(MOVHreg (SLLconst [lc] x)) && lc < 16 => (SBFIZ [armBFAuxInt(lc, 16-lc)] x)
(MOVBreg (SLLconst [lc] x)) && lc < 8 => (SBFIZ [armBFAuxInt(lc, 8-lc)] x)
// int64(x) << lc
(SLLconst [lc] (MOVWreg x))  => (SBFIZ [armBFAuxInt(lc, min(32, 64-lc))] x)
(SLLconst [lc] (MOVHreg x))  => (SBFIZ [armBFAuxInt(lc, min(16, 64-lc))] x)
(SLLconst [lc] (MOVBreg x))  => (SBFIZ [armBFAuxInt(lc, min(8, 64-lc))] x)

// sbfx
// (x << lc) >> rc
(SRAconst [rc] (SLLconst [lc] x)) && lc <= rc => (SBFX [armBFAuxInt(rc-lc, 64-rc)] x)
// int64(x) >> rc
(SRAconst [rc] (MOVWreg x)) && rc < 32 =>
 (SBFX [armBFAuxInt(rc, 32-rc)] x)
(SRAconst [rc] (MOVHreg x)) && rc < 16 => (SBFX [armBFAuxInt(rc, 16-rc)] x)
(SRAconst [rc] (MOVBreg x)) && rc < 8 => (SBFX [armBFAuxInt(rc, 8-rc)] x)
// merge sbfx and sign-extension into sbfx
(MOVWreg (SBFX [bfc] x)) && bfc.getARM64BFwidth() <= 32 => (SBFX [bfc] x)
(MOVHreg (SBFX [bfc] x)) && bfc.getARM64BFwidth() <= 16 => (SBFX [bfc] x)
(MOVBreg (SBFX [bfc] x)) && bfc.getARM64BFwidth() <=  8 => (SBFX [bfc] x)
```

```
// sbfiz/sbfx combinations: merge shifts into bitfield ops
(SRAconst [sc] (SBFIZ [bfc] x)) && sc < bfc.getARM64BFlsb()
 => (SBFIZ [armBFAuxInt(bfc.getARM64BFlsb()-sc, bfc.getARM64BFwidth())] x)
(SRAconst [sc] (SBFIZ [bfc] x)) && sc >= bfc.getARM64BFlsb()
 && sc < bfc.getARM64BFlsb()+bfc.getARM64BFwidth()
 => (SBFX [armBFAuxInt(sc-bfc.getARM64BFlsb(), bfc.getARM64BFlsb()+bfc.getARM64BFwidth()-sc)] x)

// ubfiz
// (x << lc) >> rc
(SRLconst [rc] (SLLconst [lc] x)) && lc > rc => (UBFIZ [armBFAuxInt(lc-rc, 64-lc)] x)
// uint64(x) << lc
(SLLconst [lc]
 (MOVWUreg x))  => (UBFIZ [armBFAuxInt(lc, min(32, 64-lc))] x)
(SLLconst [lc] (MOVHUreg x))  => (UBFIZ [armBFAuxInt(lc, min(16, 64-lc))] x)
(SLLconst [lc] (MOVBUreg x))  => (UBFIZ [armBFAuxInt(lc, min(8, 64-lc))] x)
// uint64(x << lc)
(MOVWUreg (SLLconst [lc] x)) && lc < 32 => (UBFIZ [armBFAuxInt(lc, 32-lc)] x)
(MOVHUreg (SLLconst [lc] x)) && lc < 16 => (UBFIZ [armBFAuxInt(lc, 16-lc)] x)
(MOVBUreg (SLLconst [lc] x)) && lc < 8 => (UBFIZ [armBFAuxInt(lc, 8-lc)] x)

// merge ANDconst into ubfiz
// (x & ac) << sc
(SLLconst [sc] (ANDconst [ac] x)) && isARM64BFMask(sc, ac, 0)
 => (UBFIZ [armBFAuxInt(sc, arm64BFWidth(ac, 0))] x)
// (x << sc) & ac
(ANDconst [ac] (SLLconst [sc] x)) && isARM64BFMask(sc, ac, sc)
 => (UBFIZ [armBFAuxInt(sc, arm64BFWidth(ac, sc))] x)

// ubfx
// (x << lc) >> rc
(SRLconst [rc] (SLLconst [lc] x)) && lc < rc => (UBFX [armBFAuxInt(rc-lc, 64-rc)] x)
// uint64(x) >> rc
(SRLconst [rc] (MOVWUreg x)) && rc < 32 => (UBFX [armBFAuxInt(rc, 32-rc)] x)
(SRLconst [rc] (MOVHUreg
 x)) && rc < 16 => (UBFX [armBFAuxInt(rc, 16-rc)] x)
(SRLconst [rc] (MOVBUreg x)) && rc < 8 => (UBFX [armBFAuxInt(rc, 8-rc)] x)
// uint64(x >> rc)
(MOVWUreg (SRLconst [rc] x)) && rc < 32 => (UBFX [armBFAuxInt(rc, 32)] x)
(MOVHUreg (SRLconst [rc] x)) && rc < 16 => (UBFX [armBFAuxInt(rc, 16)] x)
(MOVBUreg (SRLconst [rc] x)) && rc < 8 => (UBFX [armBFAuxInt(rc, 8)] x)
// merge ANDconst into ubfx
// (x >> sc) & ac
(ANDconst [ac] (SRLconst [sc] x)) && isARM64BFMask(sc, ac, 0)
 => (UBFX [armBFAuxInt(sc, arm64BFWidth(ac, 0))] x)
// (x & ac) >> sc
(SRLconst [sc] (ANDconst [ac] x)) && isARM64BFMask(sc, ac, sc)
 => (UBFX [armBFAuxInt(sc, arm64BFWidth(ac, sc))] x)
// merge ANDconst and ubfx into ubfx
```

```
(ANDconst [c] (UBFX [bfc] x)) && isARM64BFMask(0, c, 0) =>
 (UBFX [armBFAuxInt(bfc.getARM64BFlsb(), min(bfc.getARM64BFwidth(), arm64BFWidth(c, 0)))] x)
(UBFX [bfc] (ANDconst [c] x)) && isARM64BFMask(0, c, 0) && bfc.getARM64BFlsb() +
bfc.getARM64BFwidth() <= arm64BFWidth(c, 0) =>
 (UBFX [bfc] x)
// merge
 ubfx and zerso-extension into ubfx
(MOVWUreg (UBFX [bfc] x)) && bfc.getARM64BFwidth() <= 32 => (UBFX [bfc] x)
(MOVHUreg (UBFX [bfc] x)) && bfc.getARM64BFwidth() <= 16 => (UBFX [bfc] x)
(MOVBUreg (UBFX [bfc] x)) && bfc.getARM64BFwidth() <=  8 => (UBFX [bfc] x)

// ubfiz/ubfx combinations: merge shifts into bitfield ops
(SRLconst [sc] (UBFX [bfc] x)) && sc < bfc.getARM64BFwidth()
 => (UBFX [armBFAuxInt(bfc.getARM64BFlsb()+sc, bfc.getARM64BFwidth()-sc)] x)
(UBFX [bfc] (SRLconst [sc] x)) && sc+bfc.getARM64BFwidth()+bfc.getARM64BFlsb() < 64
 => (UBFX [armBFAuxInt(bfc.getARM64BFlsb()+sc, bfc.getARM64BFwidth())] x)
(SLLconst [sc] (UBFIZ [bfc] x)) && sc+bfc.getARM64BFwidth()+bfc.getARM64BFlsb() < 64
 => (UBFIZ [armBFAuxInt(bfc.getARM64BFlsb()+sc, bfc.getARM64BFwidth())] x)
(UBFIZ [bfc] (SLLconst [sc] x)) && sc < bfc.getARM64BFwidth()
 => (UBFIZ [armBFAuxInt(bfc.getARM64BFlsb()+sc, bfc.getARM64BFwidth()-sc)] x)
// ((x << c1) >> c2) >> c3
(SRLconst [sc] (UBFIZ [bfc] x)) && sc == bfc.getARM64BFlsb()
 =>
 (ANDconst [1<<uint(bfc.getARM64BFwidth())-1] x)
(SRLconst [sc] (UBFIZ [bfc] x)) && sc < bfc.getARM64BFlsb()
 => (UBFIZ [armBFAuxInt(bfc.getARM64BFlsb()-sc, bfc.getARM64BFwidth())] x)
(SRLconst [sc] (UBFIZ [bfc] x)) && sc > bfc.getARM64BFlsb()
 && sc < bfc.getARM64BFlsb()+bfc.getARM64BFwidth()
 => (UBFX [armBFAuxInt(sc-bfc.getARM64BFlsb(), bfc.getARM64BFlsb()+bfc.getARM64BFwidth()-sc)] x)
// ((x << c1) << c2) >> c3
(UBFX [bfc] (SLLconst [sc] x)) && sc == bfc.getARM64BFlsb()
 => (ANDconst [1<<uint(bfc.getARM64BFwidth())-1] x)
(UBFX [bfc] (SLLconst [sc] x)) && sc < bfc.getARM64BFlsb()
 => (UBFX [armBFAuxInt(bfc.getARM64BFlsb()-sc, bfc.getARM64BFwidth())] x)
(UBFX [bfc] (SLLconst [sc] x)) && sc > bfc.getARM64BFlsb()
 && sc < bfc.getARM64BFlsb()+bfc.getARM64BFwidth()
 => (UBFIZ [armBFAuxInt(sc-bfc.getARM64BFlsb(), bfc.getARM64BFlsb()+bfc.getARM64BFwidth()-sc)] x)

// bfi
(OR (UBFIZ [bfc] x) (ANDconst [ac] y))
 && ac == ^((1<<uint(bfc.getARM64BFwidth())-1) << uint(bfc.getARM64BFlsb()))
 =>
 (BFI [bfc] y x)
(ORshiftRL [rc] (ANDconst [ac] x) (SLLconst [lc] y))
 && lc > rc && ac == ^((1<<uint(64-lc)-1) << uint64(lc-rc))
 => (BFI [armBFAuxInt(lc-rc, 64-lc)] x y)
// bfxil
(OR (UBFX [bfc] x) (ANDconst [ac] y)) && ac == ^(1<<uint(bfc.getARM64BFwidth())-1)
```

```
 => (BFXIL [bfc] y x)
(ORshiftLL [sc] (UBFX [bfc] x) (SRLconst [sc] y)) && sc == bfc.getARM64BFwidth()
 => (BFXIL [bfc] y x)
(ORshiftRL [rc] (ANDconst [ac] y) (SLLconst [lc] x)) && lc < rc && ac == ^((1<<uint(64-rc)-1))
 => (BFXIL [armBFAuxInt(rc-lc, 64-rc)] y x)

// do combined loads
// little endian loads
// b[0] | b[1]<<8 => load 16-bit
(ORshiftLL <t> [8]
 y0:(MOVDnop x0:(MOVBUload [i0] {s} p mem))
 y1:(MOVDnop x1:(MOVBUload [i1] {s} p mem)))
 && i1 == i0+1
 && x0.Uses == 1 && x1.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, y0, y1)
 => @mergePoint(b,x0,x1) (MOVHUload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem)
(ORshiftLL <t> [8]
 y0:(MOVDnop x0:(MOVBUloadidx ptr0 idx0
 mem))
 y1:(MOVDnop x1:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x0, x1, y0, y1)
 => @mergePoint(b,x0,x1) (MOVHUloadidx <t> ptr0 idx0 mem)
(ORshiftLL <t> [8]
 y0:(MOVDnop x0:(MOVBUloadidx ptr idx mem))
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [1] idx) mem)))
 && x0.Uses == 1 && x1.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, y0, y1)
 => @mergePoint(b,x0,x1) (MOVHUloadidx <t> ptr idx mem)

// b[0] | b[1]<<8 | b[2]<<16 | b[3]<<24 => load 32-bit
(ORshiftLL <t> [24] o0:(ORshiftLL [16]
         x0:(MOVHUload [i0] {s} p mem)
 y1:(MOVDnop x1:(MOVBUload [i2] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [i3] {s} p mem)))
 && i2 == i0+2
 && i3 == i0+3
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && y1.Uses == 1 &&
```

```
 y2.Uses == 1
 && o0.Uses == 1
 && mergePoint(b,x0,x1,x2) != nil
 && clobber(x0, x1, x2, y1, y2, o0)
 => @mergePoint(b,x0,x1,x2) (MOVWUload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem)
(ORshiftLL <t> [24] o0:(ORshiftLL [16]
        x0:(MOVHUloadidx ptr0 idx0 mem)
 y1:(MOVDnop x1:(MOVBUload [2] {s} p1:(ADD ptr1 idx1) mem)))
 y2:(MOVDnop x2:(MOVBUload [3] {s} p mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && y1.Uses == 1 && y2.Uses == 1
 && o0.Uses == 1
 && mergePoint(b,x0,x1,x2) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, y1, y2, o0)
 => @mergePoint(b,x0,x1,x2) (MOVWUloadidx <t> ptr0 idx0 mem)
(ORshiftLL <t> [24] o0:(ORshiftLL [16]
        x0:(MOVHUloadidx ptr idx mem)
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [2] idx) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr (ADDconst [3] idx) mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && y1.Uses
 == 1 && y2.Uses == 1
 && o0.Uses == 1
 && mergePoint(b,x0,x1,x2) != nil
 && clobber(x0, x1, x2, y1, y2, o0)
 => @mergePoint(b,x0,x1,x2) (MOVWUloadidx <t> ptr idx mem)
(ORshiftLL <t> [24] o0:(ORshiftLL [16]
        x0:(MOVHUloadidx2 ptr0 idx0 mem)
 y1:(MOVDnop x1:(MOVBUload [2] {s} p1:(ADDshiftLL [1] ptr1 idx1) mem)))
 y2:(MOVDnop x2:(MOVBUload [3] {s} p mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && y1.Uses == 1 && y2.Uses == 1
 && o0.Uses == 1
 && mergePoint(b,x0,x1,x2) != nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, y1, y2, o0)
 => @mergePoint(b,x0,x1,x2) (MOVWUloadidx <t> ptr0 (SLLconst <idx0.Type> [1] idx0) mem)

// b[0] | b[1]<<8 | b[2]<<16 | b[3]<<24 | b[4]<<32 | b[5]<<40 | b[6]<<48 | b[7]<<56 => load 64-bit
(ORshiftLL <t> [56] o0:(ORshiftLL [48] o1:(ORshiftLL [40] o2:(ORshiftLL [32]
        x0:(MOVWUload [i0] {s} p mem)
 y1:(MOVDnop x1:(MOVBUload [i4] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload
```

```
 [i5] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [i6] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [i7] {s} p mem)))
 && i4 == i0+4
 && i5 == i0+5
 && i6 == i0+6
 && i7 == i0+7
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1 && x4.Uses == 1
 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1 && y4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4) != nil
 && clobber(x0, x1, x2, x3, x4, y1, y2, y3, y4, o0, o1, o2)
 => @mergePoint(b,x0,x1,x2,x3,x4) (MOVDload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem)
(ORshiftLL <t> [56] o0:(ORshiftLL [48] o1:(ORshiftLL [40] o2:(ORshiftLL [32]
        x0:(MOVWUloadidx ptr0 idx0 mem)
 y1:(MOVDnop x1:(MOVBUload [4] {s} p1:(ADD ptr1 idx1) mem)))
 y2:(MOVDnop x2:(MOVBUload [5] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [6] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [7] {s} p mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1 && x4.Uses == 1
 && y1.Uses == 1 && y2.Uses == 1 &&
 y3.Uses == 1 && y4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, x3, x4, y1, y2, y3, y4, o0, o1, o2)
 => @mergePoint(b,x0,x1,x2,x3,x4) (MOVDloadidx <t> ptr0 idx0 mem)
(ORshiftLL <t> [56] o0:(ORshiftLL [48] o1:(ORshiftLL [40] o2:(ORshiftLL [32]
        x0:(MOVWUloadidx4 ptr0 idx0 mem)
 y1:(MOVDnop x1:(MOVBUload [4] {s} p1:(ADDshiftLL [2] ptr1 idx1) mem)))
 y2:(MOVDnop x2:(MOVBUload [5] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [6] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [7] {s} p mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1 && x4.Uses == 1
 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1 && y4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4) != nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 &&
 isSamePtr(p1, p)
 && clobber(x0, x1, x2, x3, x4, y1, y2, y3, y4, o0, o1, o2)
 => @mergePoint(b,x0,x1,x2,x3,x4) (MOVDloadidx <t> ptr0 (SLLconst <idx0.Type> [2] idx0) mem)
(ORshiftLL <t> [56] o0:(ORshiftLL [48] o1:(ORshiftLL [40] o2:(ORshiftLL [32]
        x0:(MOVWUloadidx ptr idx mem)
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [4] idx) mem)))
```

```
 y2:(MOVDnop x2:(MOVBUloadidx ptr (ADDconst [5] idx) mem)))
 y3:(MOVDnop x3:(MOVBUloadidx ptr (ADDconst [6] idx) mem)))
 y4:(MOVDnop x4:(MOVBUloadidx ptr (ADDconst [7] idx) mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1 && x4.Uses == 1
 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1 && y4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4) != nil
 && clobber(x0, x1, x2, x3, x4, y1, y2, y3, y4, o0, o1, o2)
 => @mergePoint(b,x0,x1,x2,x3,x4) (MOVDloadidx <t> ptr idx mem)

// b[3]<<24 | b[2]<<16 | b[1]<<8 | b[0] => load 32-bit
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] s0:(SLLconst
 [24]
 y0:(MOVDnop x0:(MOVBUload [i3] {s} p mem)))
 y1:(MOVDnop x1:(MOVBUload [i2] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [i1] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [i0] {s} p mem)))
 && i1 == i0+1
 && i2 == i0+2
 && i3 == i0+3
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3) != nil
 && clobber(x0, x1, x2, x3, y0, y1, y2, y3, o0, o1, s0)
 => @mergePoint(b,x0,x1,x2,x3) (MOVWUload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem)
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] s0:(SLLconst [24]
 y0:(MOVDnop x0:(MOVBUload [3] {s} p mem)))
 y1:(MOVDnop x1:(MOVBUload [2] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem)))
 y3:(MOVDnop x3:(MOVBUloadidx ptr0 idx0 mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && o0.Uses
 == 1 && o1.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, x3, y0, y1, y2, y3, o0, o1, s0)
 => @mergePoint(b,x0,x1,x2,x3) (MOVWUloadidx <t> ptr0 idx0 mem)
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] s0:(SLLconst [24]
 y0:(MOVDnop x0:(MOVBUloadidx ptr (ADDconst [3] idx) mem)))
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [2] idx) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr (ADDconst [1] idx) mem)))
 y3:(MOVDnop x3:(MOVBUloadidx ptr idx mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
```

```
 && o0.Uses == 1 && o1.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3) != nil
 && clobber(x0, x1, x2, x3, y0, y1, y2, y3, o0, o1, s0)
 => @mergePoint(b,x0,x1,x2,x3) (MOVWUloadidx <t> ptr idx mem)

// b[7]<<56 | b[6]<<48 | b[5]<<40 | b[4]<<32 | b[3]<<24
 | b[2]<<16 | b[1]<<8 | b[0] => load 64-bit
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] o2:(ORshiftLL [24] o3:(ORshiftLL [32] o4:(ORshiftLL [40]
o5:(ORshiftLL [48] s0:(SLLconst [56]
 y0:(MOVDnop x0:(MOVBUload [i7] {s} p mem)))
 y1:(MOVDnop x1:(MOVBUload [i6] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [i5] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [i4] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [i3] {s} p mem)))
 y5:(MOVDnop x5:(MOVBUload [i2] {s} p mem)))
 y6:(MOVDnop x6:(MOVBUload [i1] {s} p mem)))
 y7:(MOVDnop x7:(MOVBUload [i0] {s} p mem)))
 && i1 == i0+1
 && i2 == i0+2
 && i3 == i0+3
 && i4 == i0+4
 && i5 == i0+5
 && i6 == i0+6
 && i7 == i0+7
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && x4.Uses == 1 && x5.Uses == 1 && x6.Uses == 1 && x7.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && y4.Uses == 1 && y5.Uses == 1 && y6.Uses == 1 && y7.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1 && o3.Uses == 1
 && o4.Uses == 1 && o5.Uses
 == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) != nil
 && clobber(x0, x1, x2, x3, x4, x5, x6, x7, y0, y1, y2, y3, y4, y5, y6, y7, o0, o1, o2, o3, o4, o5, s0)
 => @mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) (MOVDload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem)
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] o2:(ORshiftLL [24] o3:(ORshiftLL [32] o4:(ORshiftLL [40]
o5:(ORshiftLL [48] s0:(SLLconst [56]
 y0:(MOVDnop x0:(MOVBUload [7] {s} p mem)))
 y1:(MOVDnop x1:(MOVBUload [6] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [5] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [4] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [3] {s} p mem)))
 y5:(MOVDnop x5:(MOVBUload [2] {s} p mem)))
 y6:(MOVDnop x6:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem)))
 y7:(MOVDnop x7:(MOVBUloadidx ptr0 idx0 mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && x4.Uses == 1 && x5.Uses == 1 && x6.Uses == 1 && x7.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
```

```
 && y4.Uses
 == 1 && y5.Uses == 1 && y6.Uses == 1 && y7.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1 && o3.Uses == 1
 && o4.Uses == 1 && o5.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, x3, x4, x5, x6, x7, y0, y1, y2, y3, y4, y5, y6, y7, o0, o1, o2, o3, o4, o5, s0)
 => @mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) (MOVDloadidx <t> ptr0 idx0 mem)
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] o2:(ORshiftLL [24] o3:(ORshiftLL [32] o4:(ORshiftLL [40]
o5:(ORshiftLL [48] s0:(SLLconst [56]
 y0:(MOVDnop x0:(MOVBUloadidx ptr (ADDconst [7] idx) mem)))
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [6] idx) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr (ADDconst [5] idx) mem)))
 y3:(MOVDnop x3:(MOVBUloadidx ptr (ADDconst [4] idx) mem)))
 y4:(MOVDnop x4:(MOVBUloadidx ptr (ADDconst [3] idx) mem)))
 y5:(MOVDnop x5:(MOVBUloadidx ptr (ADDconst
 [2] idx) mem)))
 y6:(MOVDnop x6:(MOVBUloadidx ptr (ADDconst [1] idx) mem)))
 y7:(MOVDnop x7:(MOVBUloadidx ptr idx mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && x4.Uses == 1 && x5.Uses == 1 && x6.Uses == 1 && x7.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && y4.Uses == 1 && y5.Uses == 1 && y6.Uses == 1 && y7.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1 && o3.Uses == 1
 && o4.Uses == 1 && o5.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) != nil
 && clobber(x0, x1, x2, x3, x4, x5, x6, x7, y0, y1, y2, y3, y4, y5, y6, y7, o0, o1, o2, o3, o4, o5, s0)
 => @mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) (MOVDloadidx <t> ptr idx mem)

// big endian loads
// b[1] | b[0]<<8 => load 16-bit, reverse
(ORshiftLL <t> [8]
 y0:(MOVDnop x0:(MOVBUload [i1] {s} p mem))
 y1:(MOVDnop x1:(MOVBUload [i0] {s} p mem)))
 && i1 == i0+1
 && x0.Uses == 1 && x1.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1
 && mergePoint(b,x0,x1)
 != nil
 && clobber(x0, x1, y0, y1)
 => @mergePoint(b,x0,x1) (REV16W <t> (MOVHUload <t> [i0] {s} p mem))
(ORshiftLL <t> [8]
 y0:(MOVDnop x0:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem))
 y1:(MOVDnop x1:(MOVBUloadidx ptr0 idx0 mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1
```

```
 && mergePoint(b,x0,x1) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x0, x1, y0, y1)
 => @mergePoint(b,x0,x1) (REV16W <t> (MOVHUloadidx <t> ptr0 idx0 mem))
(ORshiftLL <t> [8]
 y0:(MOVDnop x0:(MOVBUloadidx ptr (ADDconst [1] idx) mem))
 y1:(MOVDnop x1:(MOVBUloadidx ptr idx mem)))
 && x0.Uses == 1 && x1.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, y0, y1)
 => @mergePoint(b,x0,x1) (REV16W <t> (MOVHUloadidx <t> ptr idx mem))

// b[3] | b[2]<<8 | b[1]<<16 | b[0]<<24 => load 32-bit, reverse
(ORshiftLL <t> [24] o0:(ORshiftLL [16]
 y0:(REV16W  x0:(MOVHUload [i2]
 {s} p mem))
 y1:(MOVDnop x1:(MOVBUload [i1] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [i0] {s} p mem)))
 && i1 == i0+1
 && i2 == i0+2
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1
 && o0.Uses == 1
 && mergePoint(b,x0,x1,x2) != nil
 && clobber(x0, x1, x2, y0, y1, y2, o0)
 => @mergePoint(b,x0,x1,x2) (REVW <t> (MOVWUload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem))
(ORshiftLL <t> [24] o0:(ORshiftLL [16]
 y0:(REV16W  x0:(MOVHUload [2] {s} p mem))
 y1:(MOVDnop x1:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr0 idx0 mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1
 && o0.Uses == 1
 && mergePoint(b,x0,x1,x2) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, y0, y1, y2, o0)
 => @mergePoint(b,x0,x1,x2) (REVW <t> (MOVWUloadidx <t> ptr0 idx0 mem))
(ORshiftLL
 <t> [24] o0:(ORshiftLL [16]
 y0:(REV16W  x0:(MOVHUloadidx ptr (ADDconst [2] idx) mem))
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [1] idx) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr idx mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1
 && o0.Uses == 1
```

```
 && mergePoint(b,x0,x1,x2) != nil
 && clobber(x0, x1, x2, y0, y1, y2, o0)
 => @mergePoint(b,x0,x1,x2) (REVW <t> (MOVWUloadidx <t> ptr idx mem))

// b[7] | b[6]<<8 | b[5]<<16 | b[4]<<24 | b[3]<<32 | b[2]<<40 | b[1]<<48 | b[0]<<56 => load 64-bit, reverse
(ORshiftLL <t> [56] o0:(ORshiftLL [48] o1:(ORshiftLL [40] o2:(ORshiftLL [32]
 y0:(REVW    x0:(MOVWUload [i4] {s} p mem))
 y1:(MOVDnop x1:(MOVBUload [i3] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [i2] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [i1] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [i0] {s} p mem)))
 && i1 == i0+1
 && i2 == i0+2
 && i3 == i0+3
 && i4 == i0+4
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && x4.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1 && y4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4) != nil
 && clobber(x0, x1, x2, x3, x4, y0, y1, y2, y3, y4, o0, o1, o2)
 => @mergePoint(b,x0,x1,x2,x3,x4) (REV <t> (MOVDload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem))
(ORshiftLL <t> [56] o0:(ORshiftLL [48] o1:(ORshiftLL [40] o2:(ORshiftLL [32]
 y0:(REVW    x0:(MOVWUload [4] {s} p mem))
 y1:(MOVDnop x1:(MOVBUload [3] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [2] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem)))
 y4:(MOVDnop x4:(MOVBUloadidx ptr0 idx0 mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1 && x4.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1 && y4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0,
 idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, x3, x4, y0, y1, y2, y3, y4, o0, o1, o2)
 => @mergePoint(b,x0,x1,x2,x3,x4) (REV <t> (MOVDloadidx <t> ptr0 idx0 mem))
(ORshiftLL <t> [56] o0:(ORshiftLL [48] o1:(ORshiftLL [40] o2:(ORshiftLL [32]
 y0:(REVW    x0:(MOVWUloadidx ptr (ADDconst [4] idx) mem))
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [3] idx) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr (ADDconst [2] idx) mem)))
 y3:(MOVDnop x3:(MOVBUloadidx ptr (ADDconst [1] idx) mem)))
 y4:(MOVDnop x4:(MOVBUloadidx ptr idx mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1 && x4.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1 && y4.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4) != nil
```

```
 && clobber(x0, x1, x2, x3, x4, y0, y1, y2, y3, y4, o0, o1, o2)
 => @mergePoint(b,x0,x1,x2,x3,x4) (REV <t> (MOVDloadidx <t> ptr idx mem))

// b[0]<<24 | b[1]<<16 | b[2]<<8 | b[3] => load 32-bit,
 reverse
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] s0:(SLLconst [24]
 y0:(MOVDnop x0:(MOVBUload [i0] {s} p mem)))
 y1:(MOVDnop x1:(MOVBUload [i1] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [i2] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [i3] {s} p mem)))
 && i1 == i0+1
 && i2 == i0+2
 && i3 == i0+3
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3) != nil
 && clobber(x0, x1, x2, x3, y0, y1, y2, y3, o0, o1, s0)
 => @mergePoint(b,x0,x1,x2,x3) (REVW <t> (MOVWUload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem))
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] s0:(SLLconst [24]
 y0:(MOVDnop x0:(MOVBUloadidx ptr0 idx0 mem)))
 y1:(MOVDnop x1:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem)))
 y2:(MOVDnop x2:(MOVBUload [2] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [3] {s} p mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses ==
 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, x3, y0, y1, y2, y3, o0, o1, s0)
 => @mergePoint(b,x0,x1,x2,x3) (REVW <t> (MOVWUloadidx <t> ptr0 idx0 mem))
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] s0:(SLLconst [24]
 y0:(MOVDnop x0:(MOVBUloadidx ptr idx mem)))
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [1] idx) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr (ADDconst [2] idx) mem)))
 y3:(MOVDnop x3:(MOVBUloadidx ptr (ADDconst [3] idx) mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3) != nil
 && clobber(x0, x1, x2, x3, y0, y1, y2, y3, o0, o1, s0)
 => @mergePoint(b,x0,x1,x2,x3)
 (REVW <t> (MOVWUloadidx <t> ptr idx mem))

// b[0]<<56 | b[1]<<48 | b[2]<<40 | b[3]<<32 | b[4]<<24 | b[5]<<16 | b[6]<<8 | b[7] => load 64-bit, reverse
```

```
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] o2:(ORshiftLL [24] o3:(ORshiftLL [32] o4:(ORshiftLL [40]
o5:(ORshiftLL [48] s0:(SLLconst [56]
 y0:(MOVDnop x0:(MOVBUload [i0] {s} p mem)))
 y1:(MOVDnop x1:(MOVBUload [i1] {s} p mem)))
 y2:(MOVDnop x2:(MOVBUload [i2] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [i3] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [i4] {s} p mem)))
 y5:(MOVDnop x5:(MOVBUload [i5] {s} p mem)))
 y6:(MOVDnop x6:(MOVBUload [i6] {s} p mem)))
 y7:(MOVDnop x7:(MOVBUload [i7] {s} p mem)))
 && i1 == i0+1
 && i2 == i0+2
 && i3 == i0+3
 && i4 == i0+4
 && i5 == i0+5
 && i6 == i0+6
 && i7 == i0+7
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && x4.Uses == 1 && x5.Uses == 1 && x6.Uses == 1 && x7.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && y4.Uses == 1 && y5.Uses == 1 && y6.Uses == 1
 && y7.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1 && o3.Uses == 1
 && o4.Uses == 1 && o5.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) != nil
 && clobber(x0, x1, x2, x3, x4, x5, x6, x7, y0, y1, y2, y3, y4, y5, y6, y7, o0, o1, o2, o3, o4, o5, s0)
 => @mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) (REV <t> (MOVDload <t> {s} (OffPtr <p.Type> [int64(i0)] p) mem))
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] o2:(ORshiftLL [24] o3:(ORshiftLL [32] o4:(ORshiftLL [40]
o5:(ORshiftLL [48] s0:(SLLconst [56]
 y0:(MOVDnop x0:(MOVBUloadidx ptr0 idx0 mem)))
 y1:(MOVDnop x1:(MOVBUload [1] {s} p1:(ADD ptr1 idx1) mem)))
 y2:(MOVDnop x2:(MOVBUload [2] {s} p mem)))
 y3:(MOVDnop x3:(MOVBUload [3] {s} p mem)))
 y4:(MOVDnop x4:(MOVBUload [4] {s} p mem)))
 y5:(MOVDnop x5:(MOVBUload [5] {s} p mem)))
 y6:(MOVDnop x6:(MOVBUload [6] {s} p mem)))
 y7:(MOVDnop x7:(MOVBUload [7] {s} p mem)))
 && s == nil
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && x4.Uses == 1 &&
 x5.Uses == 1 && x6.Uses == 1 && x7.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && y4.Uses == 1 && y5.Uses == 1 && y6.Uses == 1 && y7.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1 && o3.Uses == 1
 && o4.Uses == 1 && o5.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) != nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
```

```
 && clobber(x0, x1, x2, x3, x4, x5, x6, x7, y0, y1, y2, y3, y4, y5, y6, y7, o0, o1, o2, o3, o4, o5, s0)
 => @mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) (REV <t> (MOVDloadidx <t> ptr0 idx0 mem))
(OR <t> o0:(ORshiftLL [8] o1:(ORshiftLL [16] o2:(ORshiftLL [24] o3:(ORshiftLL [32] o4:(ORshiftLL [40]
o5:(ORshiftLL [48] s0:(SLLconst [56]
 y0:(MOVDnop x0:(MOVBUloadidx ptr idx mem)))
 y1:(MOVDnop x1:(MOVBUloadidx ptr (ADDconst [1] idx) mem)))
 y2:(MOVDnop x2:(MOVBUloadidx ptr (ADDconst [2] idx) mem)))
 y3:(MOVDnop x3:(MOVBUloadidx ptr (ADDconst [3]
 idx) mem)))
 y4:(MOVDnop x4:(MOVBUloadidx ptr (ADDconst [4] idx) mem)))
 y5:(MOVDnop x5:(MOVBUloadidx ptr (ADDconst [5] idx) mem)))
 y6:(MOVDnop x6:(MOVBUloadidx ptr (ADDconst [6] idx) mem)))
 y7:(MOVDnop x7:(MOVBUloadidx ptr (ADDconst [7] idx) mem)))
 && x0.Uses == 1 && x1.Uses == 1 && x2.Uses == 1 && x3.Uses == 1
 && x4.Uses == 1 && x5.Uses == 1 && x6.Uses == 1 && x7.Uses == 1
 && y0.Uses == 1 && y1.Uses == 1 && y2.Uses == 1 && y3.Uses == 1
 && y4.Uses == 1 && y5.Uses == 1 && y6.Uses == 1 && y7.Uses == 1
 && o0.Uses == 1 && o1.Uses == 1 && o2.Uses == 1 && o3.Uses == 1
 && o4.Uses == 1 && o5.Uses == 1 && s0.Uses == 1
 && mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) != nil
 && clobber(x0, x1, x2, x3, x4, x5, x6, x7, y0, y1, y2, y3, y4, y5, y6, y7, o0, o1, o2, o3, o4, o5, s0)
 => @mergePoint(b,x0,x1,x2,x3,x4,x5,x6,x7) (REV <t> (MOVDloadidx <t> ptr idx mem))

// Combine zero stores into larger (unaligned) stores.
(MOVBstorezero [i] {s} ptr0 x:(MOVBstorezero [j] {s} ptr1 mem))
 && x.Uses == 1
 &&
 areAdjacentOffsets(int64(i),int64(j),1)
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVHstorezero [int32(min(int64(i),int64(j)))] {s} ptr0 mem)
(MOVBstorezero [1] {s} (ADD ptr0 idx0) x:(MOVBstorezeroidx ptr1 idx1 mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstorezeroidx ptr1 idx1 mem)
(MOVBstorezeroidx ptr (ADDconst [1] idx) x:(MOVBstorezeroidx ptr idx mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVHstorezeroidx ptr idx mem)
(MOVHstorezero [i] {s} ptr0 x:(MOVHstorezero [j] {s} ptr1 mem))
 && x.Uses == 1
 && areAdjacentOffsets(int64(i),int64(j),2)
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVWstorezero [int32(min(int64(i),int64(j)))] {s} ptr0 mem)
(MOVHstorezero [2] {s} (ADD ptr0 idx0) x:(MOVHstorezeroidx ptr1 idx1 mem))
```

```
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 =>
 (MOVWstorezeroidx ptr1 idx1 mem)
(MOVHstorezeroidx ptr (ADDconst [2] idx) x:(MOVHstorezeroidx ptr idx mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWstorezeroidx ptr idx mem)
(MOVHstorezero [2] {s} (ADDshiftLL [1] ptr0 idx0) x:(MOVHstorezeroidx2 ptr1 idx1 mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVWstorezeroidx ptr1 (SLLconst <idx1.Type> [1] idx1) mem)
(MOVWstorezero [i] {s} ptr0 x:(MOVWstorezero [j] {s} ptr1 mem))
 && x.Uses == 1
 && areAdjacentOffsets(int64(i),int64(j),4)
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVDstorezero [int32(min(int64(i),int64(j)))] {s} ptr0 mem)
(MOVWstorezero [4] {s} (ADD ptr0 idx0) x:(MOVWstorezeroidx ptr1 idx1 mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVDstorezeroidx ptr1 idx1 mem)
(MOVWstorezeroidx ptr (ADDconst [4] idx) x:(MOVWstorezeroidx ptr idx mem))
 && x.Uses
 == 1
 && clobber(x)
 => (MOVDstorezeroidx ptr idx mem)
(MOVWstorezero [4] {s} (ADDshiftLL [2] ptr0 idx0) x:(MOVWstorezeroidx4 ptr1 idx1 mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVDstorezeroidx ptr1 (SLLconst <idx1.Type> [2] idx1) mem)
(MOVDstorezero [i] {s} ptr0 x:(MOVDstorezero [j] {s} ptr1 mem))
 && x.Uses == 1
 && areAdjacentOffsets(int64(i),int64(j),8)
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVQstorezero [int32(min(int64(i),int64(j)))] {s} ptr0 mem)
(MOVDstorezero [8] {s} p0:(ADD ptr0 idx0) x:(MOVDstorezeroidx ptr1 idx1 mem))
 && x.Uses == 1
 && s == nil
```

```
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVQstorezero [0] {s} p0 mem)
(MOVDstorezero [8] {s} p0:(ADDshiftLL [3] ptr0 idx0) x:(MOVDstorezeroidx8 ptr1 idx1 mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVQstorezero [0]
 {s} p0 mem)

// Combine stores into larger (unaligned) stores.
(MOVBstore [i] {s} ptr0 (SRLconst [8] w) x:(MOVBstore [i-1] {s} ptr1 w mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr0 w mem)
(MOVBstore [1] {s} (ADD ptr0 idx0) (SRLconst [8] w) x:(MOVBstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstoreidx ptr1 idx1 w mem)
(MOVBstoreidx ptr (ADDconst [1] idx) (SRLconst [8] w) x:(MOVBstoreidx ptr idx w mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVHstoreidx ptr idx w mem)
(MOVBstore [i] {s} ptr0 (UBFX [armBFAuxInt(8, 8)] w) x:(MOVBstore [i-1] {s} ptr1 w mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr0 w mem)
(MOVBstore [1] {s} (ADD ptr0 idx0) (UBFX [armBFAuxInt(8, 8)] w) x:(MOVBstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0,
 idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstoreidx ptr1 idx1 w mem)
(MOVBstore [i] {s} ptr0 (UBFX [armBFAuxInt(8, 24)] w) x:(MOVBstore [i-1] {s} ptr1 w mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr0 w mem)
(MOVBstore [1] {s} (ADD ptr0 idx0) (UBFX [armBFAuxInt(8, 24)] w) x:(MOVBstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
```

```
 && clobber(x)
 => (MOVHstoreidx ptr1 idx1 w mem)
(MOVBstore [i] {s} ptr0 (SRLconst [8] (MOVDreg w)) x:(MOVBstore [i-1] {s} ptr1 w mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr0 w mem)
(MOVBstore [1] {s} (ADD ptr0 idx0) (SRLconst [8] (MOVDreg w)) x:(MOVBstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 =>
 (MOVHstoreidx ptr1 idx1 w mem)
(MOVBstore [i] {s} ptr0 (SRLconst [j] w) x:(MOVBstore [i-1] {s} ptr1 w0:(SRLconst [j-8] w) mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr0 w0 mem)
(MOVBstore [1] {s} (ADD ptr0 idx0) (SRLconst [j] w) x:(MOVBstoreidx ptr1 idx1 w0:(SRLconst [j-8] w) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstoreidx ptr1 idx1 w0 mem)
(MOVBstore [i] {s} ptr0 (UBFX [bfc] w) x:(MOVBstore [i-1] {s} ptr1 w0:(UBFX [bfc2] w) mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && bfc.getARM64BFwidth() == 32 - bfc.getARM64BFlsb()
 && bfc2.getARM64BFwidth() == 32 - bfc2.getARM64BFlsb()
 && bfc2.getARM64BFlsb() == bfc.getARM64BFlsb() - 8
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr0 w0 mem)
(MOVBstore [1] {s} (ADD ptr0 idx0) (UBFX [bfc] w) x:(MOVBstoreidx ptr1 idx1 w0:(UBFX [bfc2] w) mem))
 && x.Uses == 1
 && s == nil
 &&
 (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && bfc.getARM64BFwidth() == 32 - bfc.getARM64BFlsb()
 && bfc2.getARM64BFwidth() == 32 - bfc2.getARM64BFlsb()
 && bfc2.getARM64BFlsb() == bfc.getARM64BFlsb() - 8
 && clobber(x)
 => (MOVHstoreidx ptr1 idx1 w0 mem)
(MOVBstore [i] {s} ptr0 (SRLconst [j] (MOVDreg w)) x:(MOVBstore [i-1] {s} ptr1 w0:(SRLconst [j-8]
(MOVDreg w)) mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
```

```
 => (MOVHstore [i-1] {s} ptr0 w0 mem)
(MOVBstore [1] {s} (ADD ptr0 idx0) (SRLconst [j] (MOVDreg w)) x:(MOVBstoreidx ptr1 idx1 w0:(SRLconst [j-8] (MOVDreg w)) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstoreidx ptr1 idx1 w0 mem)
(MOVHstore [i] {s} ptr0 (SRLconst [16] w) x:(MOVHstore [i-2] {s} ptr1 w mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVWstore [i-2] {s} ptr0
 w mem)
(MOVHstore [2] {s} (ADD ptr0 idx0) (SRLconst [16] w) x:(MOVHstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVWstoreidx ptr1 idx1 w mem)
(MOVHstoreidx ptr (ADDconst [2] idx) (SRLconst [16] w) x:(MOVHstoreidx ptr idx w mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWstoreidx ptr idx w mem)
(MOVHstore [2] {s} (ADDshiftLL [1] ptr0 idx0) (SRLconst [16] w) x:(MOVHstoreidx2 ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVWstoreidx ptr1 (SLLconst <idx1.Type> [1] idx1) w mem)
(MOVHstore [i] {s} ptr0 (UBFX [armBFAuxInt(16, 16)] w) x:(MOVHstore [i-2] {s} ptr1 w mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVWstore [i-2] {s} ptr0 w mem)
(MOVHstore [2] {s} (ADD ptr0 idx0) (UBFX [armBFAuxInt(16, 16)] w) x:(MOVHstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 &&
 (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVWstoreidx ptr1 idx1 w mem)
(MOVHstore [2] {s} (ADDshiftLL [1] ptr0 idx0) (UBFX [armBFAuxInt(16, 16)] w) x:(MOVHstoreidx2 ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
```

```
 => (MOVWstoreidx ptr1 (SLLconst <idx1.Type> [1] idx1) w mem)
(MOVHstore [i] {s} ptr0 (SRLconst [16] (MOVDreg w)) x:(MOVHstore [i-2] {s} ptr1 w mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVWstore [i-2] {s} ptr0 w mem)
(MOVHstore [2] {s} (ADD ptr0 idx0) (SRLconst [16] (MOVDreg w)) x:(MOVHstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVWstoreidx ptr1 idx1 w mem)
(MOVHstore [2] {s} (ADDshiftLL [1] ptr0 idx0) (SRLconst [16] (MOVDreg w)) x:(MOVHstoreidx2 ptr1 idx1 w
mem))
 && x.Uses
 == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVWstoreidx ptr1 (SLLconst <idx1.Type> [1] idx1) w mem)
(MOVHstore [i] {s} ptr0 (SRLconst [j] w) x:(MOVHstore [i-2] {s} ptr1 w0:(SRLconst [j-16] w) mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVWstore [i-2] {s} ptr0 w0 mem)
(MOVHstore [2] {s} (ADD ptr0 idx0) (SRLconst [j] w) x:(MOVHstoreidx ptr1 idx1 w0:(SRLconst [j-16] w) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVWstoreidx ptr1 idx1 w0 mem)
(MOVHstore [2] {s} (ADDshiftLL [1] ptr0 idx0) (SRLconst [j] w) x:(MOVHstoreidx2 ptr1 idx1 w0:(SRLconst [j-
16] w) mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVWstoreidx ptr1 (SLLconst <idx1.Type> [1] idx1) w0 mem)
(MOVWstore [i] {s} ptr0 (SRLconst [32] w) x:(MOVWstore [i-4] {s} ptr1 w mem))
 && x.Uses ==
 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVDstore [i-4] {s} ptr0 w mem)
(MOVWstore [4] {s} (ADD ptr0 idx0) (SRLconst [32] w) x:(MOVWstoreidx ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
```

```
 && clobber(x)
 => (MOVDstoreidx ptr1 idx1 w mem)
(MOVWstoreidx ptr (ADDconst [4] idx) (SRLconst [32] w) x:(MOVWstoreidx ptr idx w mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVDstoreidx ptr idx w mem)
(MOVWstore [4] {s} (ADDshiftLL [2] ptr0 idx0) (SRLconst [32] w) x:(MOVWstoreidx4 ptr1 idx1 w mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVDstoreidx ptr1 (SLLconst <idx1.Type> [2] idx1) w mem)
(MOVWstore [i] {s} ptr0 (SRLconst [j] w) x:(MOVWstore [i-4] {s} ptr1 w0:(SRLconst [j-32] w) mem))
 && x.Uses == 1
 && isSamePtr(ptr0, ptr1)
 && clobber(x)
 => (MOVDstore [i-4] {s} ptr0 w0 mem)
(MOVWstore [4] {s} (ADD ptr0 idx0) (SRLconst [j] w)
 x:(MOVWstoreidx ptr1 idx1 w0:(SRLconst [j-32] w) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVDstoreidx ptr1 idx1 w0 mem)
(MOVWstore [4] {s} (ADDshiftLL [2] ptr0 idx0) (SRLconst [j] w) x:(MOVWstoreidx4 ptr1 idx1 w0:(SRLconst [j-
32] w) mem))
 && x.Uses == 1
 && s == nil
 && isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1)
 && clobber(x)
 => (MOVDstoreidx ptr1 (SLLconst <idx1.Type> [2] idx1) w0 mem)
(MOVBstore [i] {s} ptr w
 x0:(MOVBstore [i-1] {s} ptr (SRLconst [8] w)
 x1:(MOVBstore [i-2] {s} ptr (SRLconst [16] w)
 x2:(MOVBstore [i-3] {s} ptr (SRLconst [24] w)
 x3:(MOVBstore [i-4] {s} ptr (SRLconst [32] w)
 x4:(MOVBstore [i-5] {s} ptr (SRLconst [40] w)
 x5:(MOVBstore [i-6] {s} ptr (SRLconst [48] w)
 x6:(MOVBstore [i-7] {s} ptr (SRLconst [56] w) mem))))))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && x3.Uses == 1
 && x4.Uses == 1
 && x5.Uses == 1
 && x6.Uses == 1
 &&
```

```
 clobber(x0, x1, x2, x3, x4, x5, x6)
 => (MOVDstore [i-7] {s} ptr (REV <typ.UInt64> w) mem)
(MOVBstore [7] {s} p w
 x0:(MOVBstore [6] {s} p (SRLconst [8] w)
 x1:(MOVBstore [5] {s} p (SRLconst [16] w)
 x2:(MOVBstore [4] {s} p (SRLconst [24] w)
 x3:(MOVBstore [3] {s} p (SRLconst [32] w)
 x4:(MOVBstore [2] {s} p (SRLconst [40] w)
 x5:(MOVBstore [1] {s} p1:(ADD ptr1 idx1) (SRLconst [48] w)
 x6:(MOVBstoreidx ptr0 idx0 (SRLconst [56] w) mem)))))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && x3.Uses == 1
 && x4.Uses == 1
 && x5.Uses == 1
 && x6.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2, x3, x4, x5, x6)
 => (MOVDstoreidx ptr0 idx0 (REV <typ.UInt64> w) mem)
(MOVBstore [i] {s} ptr w
 x0:(MOVBstore [i-1] {s} ptr (UBFX [armBFAuxInt(8, 24)] w)
 x1:(MOVBstore [i-2] {s} ptr (UBFX [armBFAuxInt(16, 16)] w)
 x2:(MOVBstore [i-3] {s} ptr (UBFX [armBFAuxInt(24, 8)]
 w) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && clobber(x0, x1, x2)
 => (MOVWstore [i-3] {s} ptr (REVW <typ.UInt32> w) mem)
(MOVBstore [3] {s} p w
 x0:(MOVBstore [2] {s} p (UBFX [armBFAuxInt(8, 24)] w)
 x1:(MOVBstore [1] {s} p1:(ADD ptr1 idx1) (UBFX [armBFAuxInt(16, 16)] w)
 x2:(MOVBstoreidx ptr0 idx0 (UBFX [armBFAuxInt(24, 8)] w) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2)
 => (MOVWstoreidx ptr0 idx0 (REVW <typ.UInt32> w) mem)
(MOVBstoreidx ptr (ADDconst [3] idx) w
 x0:(MOVBstoreidx ptr (ADDconst [2] idx) (UBFX [armBFAuxInt(8, 24)] w)
 x1:(MOVBstoreidx ptr (ADDconst [1] idx) (UBFX [armBFAuxInt(16, 16)] w)
 x2:(MOVBstoreidx ptr idx (UBFX [armBFAuxInt(24, 8)] w) mem))))
```

```
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && clobber(x0, x1, x2)
 => (MOVWstoreidx ptr idx (REVW <typ.UInt32> w) mem)
(MOVBstoreidx
 ptr idx w
 x0:(MOVBstoreidx ptr (ADDconst [1] idx) (UBFX [armBFAuxInt(8, 24)] w)
 x1:(MOVBstoreidx ptr (ADDconst [2] idx) (UBFX [armBFAuxInt(16, 16)] w)
 x2:(MOVBstoreidx ptr (ADDconst [3] idx) (UBFX [armBFAuxInt(24, 8)] w) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && clobber(x0, x1, x2)
 => (MOVWstoreidx ptr idx w mem)
(MOVBstore [i] {s} ptr w
 x0:(MOVBstore [i-1] {s} ptr (SRLconst [8] (MOVDreg w))
 x1:(MOVBstore [i-2] {s} ptr (SRLconst [16] (MOVDreg w))
 x2:(MOVBstore [i-3] {s} ptr (SRLconst [24] (MOVDreg w)) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && clobber(x0, x1, x2)
 => (MOVWstore [i-3] {s} ptr (REVW <typ.UInt32> w) mem)
(MOVBstore [3] {s} p w
 x0:(MOVBstore [2] {s} p (SRLconst [8] (MOVDreg w))
 x1:(MOVBstore [1] {s} p1:(ADD ptr1 idx1) (SRLconst [16] (MOVDreg w))
 x2:(MOVBstoreidx ptr0 idx0 (SRLconst [24] (MOVDreg w)) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0,
 idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2)
 => (MOVWstoreidx ptr0 idx0 (REVW <typ.UInt32> w) mem)
(MOVBstore [i] {s} ptr w
 x0:(MOVBstore [i-1] {s} ptr (SRLconst [8] w)
 x1:(MOVBstore [i-2] {s} ptr (SRLconst [16] w)
 x2:(MOVBstore [i-3] {s} ptr (SRLconst [24] w) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && clobber(x0, x1, x2)
 => (MOVWstore [i-3] {s} ptr (REVW <typ.UInt32> w) mem)
(MOVBstore [3] {s} p w
 x0:(MOVBstore [2] {s} p (SRLconst [8] w)
```

```
 x1:(MOVBstore [1] {s} p1:(ADD ptr1 idx1) (SRLconst [16] w)
 x2:(MOVBstoreidx ptr0 idx0 (SRLconst [24] w) mem))))
 && x0.Uses == 1
 && x1.Uses == 1
 && x2.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && isSamePtr(p1, p)
 && clobber(x0, x1, x2)
 => (MOVWstoreidx ptr0 idx0 (REVW <typ.UInt32> w) mem)
(MOVBstore [i] {s} ptr w x:(MOVBstore [i-1] {s} ptr (SRLconst [8] w) mem))
 && x.Uses
 == 1
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr (REV16W <typ.UInt16> w) mem)
(MOVBstore [1] {s} (ADD ptr1 idx1) w x:(MOVBstoreidx ptr0 idx0 (SRLconst [8] w) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstoreidx ptr0 idx0 (REV16W <typ.UInt16> w) mem)
(MOVBstore [i] {s} ptr w x:(MOVBstore [i-1] {s} ptr (UBFX [armBFAuxInt(8, 8)] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr (REV16W <typ.UInt16> w) mem)
(MOVBstore [1] {s} (ADD ptr1 idx1) w x:(MOVBstoreidx ptr0 idx0 (UBFX [armBFAuxInt(8, 8)] w) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstoreidx ptr0 idx0 (REV16W <typ.UInt16> w) mem)
(MOVBstoreidx ptr (ADDconst [1] idx) w x:(MOVBstoreidx ptr idx (UBFX [armBFAuxInt(8, 8)] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVHstoreidx ptr idx
 (REV16W <typ.UInt16> w) mem)
(MOVBstoreidx ptr idx w x:(MOVBstoreidx ptr (ADDconst [1] idx) (UBFX [armBFAuxInt(8, 8)] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVHstoreidx ptr idx w mem)
(MOVBstore [i] {s} ptr w x:(MOVBstore [i-1] {s} ptr (SRLconst [8] (MOVDreg w)) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr (REV16W <typ.UInt16> w) mem)
(MOVBstore [1] {s} (ADD ptr1 idx1) w x:(MOVBstoreidx ptr0 idx0 (SRLconst [8] (MOVDreg w)) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) && isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
```

```
 && clobber(x)
 => (MOVHstoreidx ptr0 idx0 (REV16W <typ.UInt16> w) mem)
(MOVBstore [i] {s} ptr w x:(MOVBstore [i-1] {s} ptr (UBFX [armBFAuxInt(8, 24)] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVHstore [i-1] {s} ptr (REV16W <typ.UInt16> w) mem)
(MOVBstore [1] {s} (ADD ptr1 idx1) w x:(MOVBstoreidx ptr0 idx0 (UBFX [armBFAuxInt(8, 24)] w) mem))
 && x.Uses == 1
 && s == nil
 && (isSamePtr(ptr0, ptr1) &&
 isSamePtr(idx0, idx1) || isSamePtr(ptr0, idx1) && isSamePtr(idx0, ptr1))
 && clobber(x)
 => (MOVHstoreidx ptr0 idx0 (REV16W <typ.UInt16> w) mem)

// FP simplification
(FNEGS (FMULS x y)) => (FNMULS x y)
(FNEGD (FMULD x y)) => (FNMULD x y)
(FMULS (FNEGS x) y) => (FNMULS x y)
(FMULD (FNEGD x) y) => (FNMULD x y)
(FNEGS (FNMULS x y)) => (FMULS x y)
(FNEGD (FNMULD x y)) => (FMULD x y)
(FNMULS (FNEGS x) y) => (FMULS x y)
(FNMULD (FNEGD x) y) => (FMULD x y)
(FADDS a (FMULS x y)) => (FMADDS a x y)
(FADDD a (FMULD x y)) => (FMADDD a x y)
(FSUBS a (FMULS x y)) => (FMSUBS a x y)
(FSUBD a (FMULD x y)) => (FMSUBD a x y)
(FSUBS (FMULS x y) a) => (FNMSUBS a x y)
(FSUBD (FMULD x y) a) => (FNMSUBD a x y)
(FADDS a (FNMULS x y)) => (FMSUBS a x y)
(FADDD a (FNMULD x y)) => (FMSUBD a x y)
(FSUBS a (FNMULS x y)) => (FMADDS a x y)
(FSUBD a (FNMULD x y)) => (FMADDD a x y)
(FSUBS (FNMULS x y) a) => (FNMADDS a x y)
(FSUBD (FNMULD x y) a) => (FNMADDD a x y)

(MOVBUload [off] {sym} (SB) _) && symIsRO(sym) => (MOVDconst
 [int64(read8(sym, int64(off)))])
(MOVHUload [off] {sym} (SB) _) && symIsRO(sym) => (MOVDconst [int64(read16(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVWUload [off] {sym} (SB) _) && symIsRO(sym) => (MOVDconst [int64(read32(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVDload  [off] {sym} (SB) _) && symIsRO(sym) => (MOVDconst [int64(read64(sym, int64(off),
config.ctxt.Arch.ByteOrder))])

// Prefetch instructions (aux is option: 0 - PLDL1KEEP; 1 - PLDL1STRM)
(PrefetchCache addr mem)          => (PRFM [0] addr mem)
(PrefetchCacheStreamed addr mem) => (PRFM [1] addr mem)
```

```
// Arch-specific inlining for small or disjoint runtime.memmove
(SelectN [0] call:(CALLstatic {sym} s1:(MOVDstore _ (MOVDconst [sz]) s2:(MOVDstore  _ src s3:(MOVDstore {t} _ dst mem)))))
 && sz >= 0
 && isSameCall(sym, "runtime.memmove")
 && s1.Uses == 1 && s2.Uses == 1 && s3.Uses == 1
 && isInlinableMemmove(dst, src, sz, config)
 && clobber(s1, s2, s3, call)
 => (Move [sz] dst src mem)

// Match post-lowering
 calls, register version.
(SelectN [0] call:(CALLstatic {sym} dst src (MOVDconst [sz]) mem))
 && sz >= 0
 && isSameCall(sym, "runtime.memmove")
 && call.Uses == 1
 && isInlinableMemmove(dst, src, sz, config)
 && clobber(call)
 => (Move [sz] dst src mem)

((REV|REVW) ((REV|REVW) p)) => p
```

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/ARM64.rules
No license file was found, but licenses were detected in source scan.

```
<!---
// Copyright 2018 The Go Authors. All rights reserved.
// Use of this source code is governed by a BSD-style
// license that can be found in the LICENSE file.
-->
```

Introduction to the Go compiler's SSA backend

This package contains the compiler's Static Single Assignment form component. If you're not familiar with SSA, its [Wikipedia article](https://en.wikipedia.org/wiki/Static_single_assignment_form) is a good starting point.

It is recommended that you first read [cmd/compile/README.md](../../README.md) if you are not familiar with the Go compiler already. That document gives an overview of the compiler, and explains what is SSA's part and purpose in it.

Key concepts

The names described below may be loosely related to their Go counterparts, but note that they are not equivalent. For example, a Go block statement has a

variable scope, yet SSA has no notion of variables nor variable scopes.

It may also
be surprising that values and blocks are named after their unique
sequential IDs. They rarely correspond to named entities in the original code,
such as variables or function parameters. The sequential IDs also allow the
compiler to avoid maps, and it is always possible to track back the values to Go
code using debug and position information.

Values

Values are the basic building blocks of SSA. Per SSA's very definition, a
value is defined exactly once, but it may be used any number of times. A value
mainly consists of a unique identifier, an operator, a type, and some arguments.

An operator or `Op` describes the operation that computes the value. The
semantics of each operator can be found in `gen/*Ops.go`. For example, `OpAdd8`
takes two value arguments holding 8-bit integers and results in their addition.
Here is a possible SSA representation of the addition of two `uint8` values:

```
// var c uint8 = a + b
v4 = Add8 <uint8> v2 v3
```

A value's type will usually be a Go type.
For example, the value in the example
above has a `uint8` type, and a constant boolean value will have a `bool` type.
However, certain types don't come from Go and are special; below we will cover
`memory`, the most common of them.

See value.go for more information.

Memory types

`memory` represents the global memory state. An `Op` that takes a memory
argument depends on that memory state, and an `Op` which has the memory type
impacts the state of memory. This ensures that memory operations are kept in the
right order. For example:

```
// *a = 3
// *b = *a
v10 = Store <mem> {int} v6 v8 v1
v14 = Store <mem> {int} v7 v8 v10
```

Here, `Store` stores its second argument (of type `int`) into the first argument
(of type `*int`). The last argument is the memory state; since the second store
depends on the memory value defined by the first store, the two stores cannot be
reordered.

See [cmd/compile/internal/types/type.go](../types/type.go) for more information.

Blocks

A
 block represents a basic block in the control flow graph of a function. It is,
essentially, a list of values that define the operation of this block. Besides
the list of values, blocks mainly consist of a unique identifier, a kind, and a
list of successor blocks.

The simplest kind is a `plain` block; it simply hands the control flow to
another block, thus its successors list contains one block.

Another common block kind is the `exit` block. These have a final value, called
control value, which must return a memory state. This is necessary for functions
to return some values, for example - the caller needs some memory state to
depend on, to ensure that it receives those return values correctly.

The last important block kind we will mention is the `if` block. It has a single
control value that must be a boolean value, and it has exactly two successor
blocks. The control flow is handed to the first successor if the bool is true,
and to the second otherwise.

Here is a sample if-else
 control flow represented with basic blocks:

```
// func(b bool) int {
//  if b {
//   return 2
//  }
//  return 3
// }
b1:
  v1 = InitMem <mem>
  v2 = SP <uintptr>
  v5 = Addr <*int> {~r1} v2
  v6 = Arg <bool> {b}
  v8 = Const64 <int> [2]
  v12 = Const64 <int> [3]
  If v6 -> b2 b3
b2: <- b1
  v10 = VarDef <mem> {~r1} v1
  v11 = Store <mem> {int} v5 v8 v10
  Ret v11
b3: <- b1
  v14 = VarDef <mem> {~r1} v1
  v15 = Store <mem> {int} v5 v12 v14
  Ret v15
```

<!---
TODO: can we come up with a shorter example that still shows the control flow?
-->

See block.go for more information.

Functions

A function represents a function declaration along with its body. It mainly
consists of a name, a type (its signature), a list of blocks that form its body,
and the entry block within said list.

When a function is called, the control flow is handed to its entry block. If the
function terminates, the control flow will eventually reach an exit block, thus
ending the function
call.

Note that a function may have zero or multiple exit blocks, just like a Go
function can have any number of return points, but it must have exactly one
entry point block.

Also note that some SSA functions are autogenerated, such as the hash functions
for each type used as a map key.

For example, this is what an empty function can look like in SSA, with a single
exit block that returns an uninteresting memory state:

```
 foo func()
   b1:
     v1 = InitMem <mem>
     Ret v1
```

See func.go for more information.

Compiler passes

Having a program in SSA form is not very useful on its own. Its advantage lies
in how easy it is to write optimizations that modify the program to make it
better. The way the Go compiler accomplishes this is via a list of passes.

Each pass transforms a SSA function in some way. For example, a dead code
elimination pass will remove blocks and values that it can prove will never be
executed, and a nil check elimination pass will remove nil
 checks which it can
prove to be redundant.

Compiler passes work on one function at a time, and by default run sequentially

and exactly once.

The `lower` pass is special; it converts the SSA representation from being
machine-independent to being machine-dependent. That is, some abstract operators
are replaced with their non-generic counterparts, potentially reducing or
increasing the final number of values.

<!---
TODO: Probably explain here why the ordering of the passes matters, and why some
passes like deadstore have multiple variants at different stages.
-->

See the `passes` list defined in compile.go for more information.

Playing with SSA

A good way to see and get used to the compiler's SSA in action is via
`GOSSAFUNC`. For example, to see func `Foo`'s initial SSA form and final
generated assembly, one can run:

```
GOSSAFUNC=Foo go build
```

The generated `ssa.html` file will also contain the SSA func at each of the
compile passes, making it easy to see what each
pass does to a particular
program. You can also click on values and blocks to highlight them, to help
follow the control flow and values.

The value specified in GOSSAFUNC can also be a package-qualified function
name, e.g.

```
GOSSAFUNC=blah.Foo go build
```

This will match any function named "Foo" within a package whose final
suffix is "blah" (e.g. something/blah.Foo, anotherthing/extra/blah.Foo).

If non-HTML dumps are needed, append a "+" to the GOSSAFUNC value
and dumps will be written to stdout:

```
GOSSAFUNC=Bar+ go build
```

<!---
TODO: need more ideas for this section
-->

Hacking on SSA

While most compiler passes are implemented directly in Go code, some others are

code generated. This is currently done via rewrite rules, which have their own
syntax and are maintained in `gen/*.rules`. Simpler optimizations can be written
easily and quickly this way, but rewrite rules are not suitable for more complex
optimizations.

To read more on rewrite rules, have a look at the top comments
 in
gen/generic.rules and gen/rulegen.go.

Similarly, the code to manage operators is also code generated from
`gen/*Ops.go`, as it is easier to maintain a few tables than a lot of code.
After changing the rules or operators, see gen/README for
instructions on how to generate the Go code again.

<!---
TODO: more tips and info could likely go here
-->

Found in path(s):
* /compile-zip/compile/internal/ssa/README.md
No license file was found, but licenses were detected in source scan.

// Copyright 2018 The Go Authors. All rights reserved.
// Use of this source code is governed by a BSD-style
// license that can be found in the LICENSE file.

```
// Lowering arithmetic
(Add(64|32|16|8|Ptr) ...) => (I64Add ...)
(Add(64|32)F ...) => (F(64|32)Add ...)

(Sub(64|32|16|8|Ptr) ...) => (I64Sub ...)
(Sub(64|32)F ...) => (F(64|32)Sub ...)

(Mul(64|32|16|8) ...) => (I64Mul ...)
(Mul(64|32)F ...) => (F(64|32)Mul ...)

(Div64 [false] x y) => (I64DivS x y)
(Div32 [false] x y) => (I64DivS (SignExt32to64 x) (SignExt32to64 y))
(Div16 [false] x y) => (I64DivS (SignExt16to64 x) (SignExt16to64 y))
(Div8          x y) => (I64DivS (SignExt8to64 x) (SignExt8to64 y))
(Div64u ...) => (I64DivU ...)
(Div32u x y) => (I64DivU (ZeroExt32to64 x) (ZeroExt32to64 y))
(Div16u x y) => (I64DivU (ZeroExt16to64 x) (ZeroExt16to64 y))
(Div8u  x y) => (I64DivU (ZeroExt8to64 x) (ZeroExt8to64 y))
(Div(64|32)F ...) => (F(64|32)Div ...)

(Mod64 [false]
```

```
 x y) => (I64RemS x y)
(Mod32 [false] x y) => (I64RemS (SignExt32to64 x) (SignExt32to64 y))
(Mod16 [false] x y) => (I64RemS (SignExt16to64 x) (SignExt16to64 y))
(Mod8          x y) => (I64RemS (SignExt8to64  x) (SignExt8to64  y))
(Mod64u ...) => (I64RemU ...)
(Mod32u x y) => (I64RemU (ZeroExt32to64 x) (ZeroExt32to64 y))
(Mod16u x y) => (I64RemU (ZeroExt16to64 x) (ZeroExt16to64 y))
(Mod8u  x y) => (I64RemU (ZeroExt8to64  x) (ZeroExt8to64  y))

(And(64|32|16|8|B) ...) => (I64And ...)

(Or(64|32|16|8|B) ...) => (I64Or ...)

(Xor(64|32|16|8) ...) => (I64Xor ...)

(Neg(64|32|16|8) x) => (I64Sub (I64Const [0]) x)
(Neg(64|32)F ...) => (F(64|32)Neg ...)

(Com(64|32|16|8) x) => (I64Xor x (I64Const [-1]))

(Not ...) => (I64Eqz ...)

// Lowering pointer arithmetic
(OffPtr ...) => (I64AddConst ...)

// Lowering extension
// It is unnecessary to extend loads
(SignExt32to64        x:(I64Load32S _ _)) => x
(SignExt16to(64|32)   x:(I64Load16S _ _)) => x
(SignExt8to(64|32|16) x:(I64Load8S  _ _)) =>
 x
(ZeroExt32to64        x:(I64Load32U _ _)) => x
(ZeroExt16to(64|32)   x:(I64Load16U _ _)) => x
(ZeroExt8to(64|32|16) x:(I64Load8U  _ _)) => x
(SignExt32to64        x) && buildcfg.GOWASM.SignExt => (I64Extend32S x)
(SignExt8to(64|32|16) x) && buildcfg.GOWASM.SignExt => (I64Extend8S x)
(SignExt16to(64|32)   x) && buildcfg.GOWASM.SignExt => (I64Extend16S x)
(SignExt32to64        x) => (I64ShrS (I64Shl x (I64Const [32])) (I64Const [32]))
(SignExt16to(64|32)   x) => (I64ShrS (I64Shl x (I64Const [48])) (I64Const [48]))
(SignExt8to(64|32|16) x) => (I64ShrS (I64Shl x (I64Const [56])) (I64Const [56]))
(ZeroExt32to64        x) => (I64And x (I64Const [0xffffffff]))
(ZeroExt16to(64|32)   x) => (I64And x (I64Const [0xffff]))
(ZeroExt8to(64|32|16) x) => (I64And x (I64Const [0xff]))

(Slicemask x) => (I64ShrS (I64Sub (I64Const [0]) x) (I64Const [63]))

// Lowering truncation
// Because we ignore the high parts, truncates are just copies.
```

```
(Trunc64to(32|16|8) ...) => (Copy ...)
(Trunc32to(16|8)    ...)
 => (Copy ...)
(Trunc16to8         ...) => (Copy ...)

// Lowering float <=> int
(Cvt32to(64|32)F x) => (F(64|32)ConvertI64S (SignExt32to64 x))
(Cvt64to(64|32)F ...) => (F(64|32)ConvertI64S ...)
(Cvt32Uto(64|32)F x) => (F(64|32)ConvertI64U (ZeroExt32to64 x))
(Cvt64Uto(64|32)F ...) => (F(64|32)ConvertI64U ...)

(Cvt32Fto32 ...) => (I64TruncSatF32S ...)
(Cvt32Fto64 ...) => (I64TruncSatF32S ...)
(Cvt64Fto32 ...) => (I64TruncSatF64S ...)
(Cvt64Fto64 ...) => (I64TruncSatF64S ...)
(Cvt32Fto32U ...) => (I64TruncSatF32U ...)
(Cvt32Fto64U ...) => (I64TruncSatF32U ...)
(Cvt64Fto32U ...) => (I64TruncSatF64U ...)
(Cvt64Fto64U ...) => (I64TruncSatF64U ...)

(Cvt32Fto64F ...) => (F64PromoteF32 ...)
(Cvt64Fto32F ...) => (F32DemoteF64 ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round32F ...) => (Copy ...)
(Round64F ...) => (Copy ...)

// Lowering shifts
// Unsigned shifts need to return 0 if shift amount is >= width of shifted value.

(Lsh64x64 x y) && shiftIsBounded(v) => (I64Shl x y)
(Lsh64x64 x (I64Const
 [c])) && uint64(c) < 64 => (I64Shl x (I64Const [c]))
(Lsh64x64 x (I64Const [c])) && uint64(c) >= 64 => (I64Const [0])
(Lsh64x64 x y) => (Select (I64Shl x y) (I64Const [0]) (I64LtU y (I64Const [64])))
(Lsh64x(32|16|8) [c] x y) => (Lsh64x64 [c] x (ZeroExt(32|16|8)to64 y))

(Lsh32x64 ...) => (Lsh64x64 ...)
(Lsh32x(32|16|8) [c] x y) => (Lsh64x64 [c] x (ZeroExt(32|16|8)to64 y))

(Lsh16x64 ...) => (Lsh64x64 ...)
(Lsh16x(32|16|8) [c] x y) => (Lsh64x64 [c] x (ZeroExt(32|16|8)to64 y))

(Lsh8x64 ...) => (Lsh64x64 ...)
(Lsh8x(32|16|8) [c] x y) => (Lsh64x64 [c] x (ZeroExt(32|16|8)to64 y))

(Rsh64Ux64 x y) && shiftIsBounded(v) => (I64ShrU x y)
```

```
(Rsh64Ux64 x (I64Const [c])) && uint64(c) < 64 => (I64ShrU x (I64Const [c]))
(Rsh64Ux64 x (I64Const [c])) && uint64(c) >= 64 => (I64Const [0])
(Rsh64Ux64 x y) => (Select (I64ShrU x y) (I64Const [0]) (I64LtU y (I64Const [64])))
(Rsh64Ux(32|16|8) [c] x y) => (Rsh64Ux64 [c] x (ZeroExt(32|16|8)to64 y))

(Rsh32Ux64 [c] x y) => (Rsh64Ux64 [c] (ZeroExt32to64
 x) y)
(Rsh32Ux(32|16|8) [c] x y) => (Rsh64Ux64 [c] (ZeroExt32to64 x) (ZeroExt(32|16|8)to64 y))

(Rsh16Ux64 [c] x y) => (Rsh64Ux64 [c] (ZeroExt16to64 x) y)
(Rsh16Ux(32|16|8) [c] x y) => (Rsh64Ux64 [c] (ZeroExt16to64 x) (ZeroExt(32|16|8)to64 y))

(Rsh8Ux64 [c] x y) => (Rsh64Ux64 [c] (ZeroExt8to64 x) y)
(Rsh8Ux(32|16|8) [c] x y) => (Rsh64Ux64 [c] (ZeroExt8to64 x) (ZeroExt(32|16|8)to64 y))

// Signed right shift needs to return 0/-1 if shift amount is >= width of shifted value.
// We implement this by setting the shift value to (width - 1) if the shift value is >= width.

(Rsh64x64 x y) && shiftIsBounded(v) => (I64ShrS x y)
(Rsh64x64 x (I64Const [c])) && uint64(c) < 64 => (I64ShrS x (I64Const [c]))
(Rsh64x64 x (I64Const [c])) && uint64(c) >= 64 => (I64ShrS x (I64Const [63]))
(Rsh64x64 x y) => (I64ShrS x (Select <typ.Int64> y (I64Const [63]) (I64LtU y (I64Const [64]))))
(Rsh64x(32|16|8) [c] x y) => (Rsh64x64 [c] x (ZeroExt(32|16|8)to64 y))

(Rsh32x64 [c] x y) => (Rsh64x64 [c] (SignExt32to64
 x) y)
(Rsh32x(32|16|8) [c] x y) => (Rsh64x64 [c] (SignExt32to64 x) (ZeroExt(32|16|8)to64 y))

(Rsh16x64 [c] x y) => (Rsh64x64 [c] (SignExt16to64 x) y)
(Rsh16x(32|16|8) [c] x y) => (Rsh64x64 [c] (SignExt16to64 x) (ZeroExt(32|16|8)to64 y))

(Rsh8x64 [c] x y)  => (Rsh64x64 [c] (SignExt8to64 x) y)
(Rsh8x(32|16|8) [c] x y)  => (Rsh64x64 [c] (SignExt8to64 x) (ZeroExt(32|16|8)to64 y))

// Lowering rotates
(RotateLeft8 <t> x (I64Const [c])) => (Or8 (Lsh8x64 <t> x (I64Const [c&7])) (Rsh8Ux64 <t> x (I64Const [-
c&7])))
(RotateLeft16 <t> x (I64Const [c])) => (Or16 (Lsh16x64 <t> x (I64Const [c&15])) (Rsh16Ux64 <t> x (I64Const [-
c&15])))
(RotateLeft32 ...) => (I32Rotl ...)
(RotateLeft64 ...) => (I64Rotl ...)

// Lowering comparisons
(Less64  ...) => (I64LtS ...)
(Less32  x y) => (I64LtS (SignExt32to64 x) (SignExt32to64 y))
(Less16  x y) => (I64LtS (SignExt16to64 x) (SignExt16to64 y))
(Less8   x y) => (I64LtS (SignExt8to64  x) (SignExt8to64  y))
(Less64U ...) => (I64LtU ...)
```

```
(Less32U x y) => (I64LtU
 (ZeroExt32to64 x) (ZeroExt32to64 y))
(Less16U x y) => (I64LtU (ZeroExt16to64 x) (ZeroExt16to64 y))
(Less8U  x y) => (I64LtU (ZeroExt8to64  x) (ZeroExt8to64  y))
(Less(64|32)F ...) => (F(64|32)Lt ...)

(Leq64  ...) => (I64LeS ...)
(Leq32  x y) => (I64LeS (SignExt32to64 x) (SignExt32to64 y))
(Leq16  x y) => (I64LeS (SignExt16to64 x) (SignExt16to64 y))
(Leq8   x y) => (I64LeS (SignExt8to64  x) (SignExt8to64  y))
(Leq64U ...) => (I64LeU ...)
(Leq32U x y) => (I64LeU (ZeroExt32to64 x) (ZeroExt32to64 y))
(Leq16U x y) => (I64LeU (ZeroExt16to64 x) (ZeroExt16to64 y))
(Leq8U  x y) => (I64LeU (ZeroExt8to64  x) (ZeroExt8to64  y))
(Leq(64|32)F ...) => (F(64|32)Le ...)

(Eq64  ...) => (I64Eq ...)
(Eq32  x y) => (I64Eq (ZeroExt32to64 x) (ZeroExt32to64 y))
(Eq16  x y) => (I64Eq (ZeroExt16to64 x) (ZeroExt16to64 y))
(Eq8   x y) => (I64Eq (ZeroExt8to64  x) (ZeroExt8to64  y))
(EqB   ...) => (I64Eq ...)
(EqPtr ...) => (I64Eq ...)
(Eq(64|32)F ...) => (F(64|32)Eq ...)

(Neq64  ...) => (I64Ne ...)
(Neq32  x
 y) => (I64Ne (ZeroExt32to64 x) (ZeroExt32to64 y))
(Neq16  x y) => (I64Ne (ZeroExt16to64 x) (ZeroExt16to64 y))
(Neq8   x y) => (I64Ne (ZeroExt8to64  x) (ZeroExt8to64  y))
(NeqB   ...) => (I64Ne ...)
(NeqPtr ...) => (I64Ne ...)
(Neq(64|32)F ...) => (F(64|32)Ne ...)

// Lowering loads
(Load <t> ptr mem) && is32BitFloat(t) => (F32Load ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (F64Load ptr mem)
(Load <t> ptr mem) && t.Size() == 8 => (I64Load ptr mem)
(Load <t> ptr mem) && t.Size() == 4 && !t.IsSigned() => (I64Load32U ptr mem)
(Load <t> ptr mem) && t.Size() == 4 &&  t.IsSigned() => (I64Load32S ptr mem)
(Load <t> ptr mem) && t.Size() == 2 && !t.IsSigned() => (I64Load16U ptr mem)
(Load <t> ptr mem) && t.Size() == 2 &&  t.IsSigned() => (I64Load16S ptr mem)
(Load <t> ptr mem) && t.Size() == 1 && !t.IsSigned() => (I64Load8U ptr mem)
(Load <t> ptr mem) && t.Size() == 1 &&  t.IsSigned() => (I64Load8S ptr mem)

// Lowering stores
(Store {t} ptr val mem) && is64BitFloat(t) => (F64Store ptr val
 mem)
(Store {t} ptr val mem) && is32BitFloat(t) => (F32Store ptr val mem)
```

```
(Store {t} ptr val mem) && t.Size() == 8 => (I64Store ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 => (I64Store32 ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (I64Store16 ptr val mem)
(Store {t} ptr val mem) && t.Size() == 1 => (I64Store8 ptr val mem)

// Lowering moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (I64Store8 dst (I64Load8U src mem) mem)
(Move [2] dst src mem) => (I64Store16 dst (I64Load16U src mem) mem)
(Move [4] dst src mem) => (I64Store32 dst (I64Load32U src mem) mem)
(Move [8] dst src mem) => (I64Store dst (I64Load src mem) mem)
(Move [16] dst src mem) =>
 (I64Store [8] dst (I64Load [8] src mem)
  (I64Store dst (I64Load src mem) mem))
(Move [3] dst src mem) =>
 (I64Store8 [2] dst (I64Load8U [2] src mem)
  (I64Store16 dst (I64Load16U src mem) mem))
(Move [5] dst src mem) =>
 (I64Store8 [4] dst (I64Load8U [4] src mem)
  (I64Store32 dst (I64Load32U src mem) mem))
(Move
 [6] dst src mem) =>
 (I64Store16 [4] dst (I64Load16U [4] src mem)
  (I64Store32 dst (I64Load32U src mem) mem))
(Move [7] dst src mem) =>
 (I64Store32 [3] dst (I64Load32U [3] src mem)
  (I64Store32 dst (I64Load32U src mem) mem))
(Move [s] dst src mem) && s > 8 && s < 16 =>
 (I64Store [s-8] dst (I64Load [s-8] src mem)
  (I64Store dst (I64Load src mem) mem))

// Adjust moves to be a multiple of 16 bytes.
(Move [s] dst src mem)
 && s > 16 && s%16 != 0 && s%16 <= 8 =>
 (Move [s-s%16]
  (OffPtr <dst.Type> dst [s%16])
  (OffPtr <src.Type> src [s%16])
  (I64Store dst (I64Load src mem) mem))
(Move [s] dst src mem)
 && s > 16 && s%16 != 0 && s%16 > 8 =>
 (Move [s-s%16]
  (OffPtr <dst.Type> dst [s%16])
  (OffPtr <src.Type> src [s%16])
  (I64Store [8] dst (I64Load [8] src mem)
   (I64Store dst (I64Load src mem) mem)))

// Large copying uses helper.
(Move [s] dst src mem) && s%8 == 0 && logLargeCopy(v, s) =>
```

```
 (LoweredMove [s/8] dst src mem)

// Lowering Zero instructions
(Zero [0] _ mem) => mem
(Zero
 [1] destptr mem) => (I64Store8 destptr (I64Const [0]) mem)
(Zero [2] destptr mem) => (I64Store16 destptr (I64Const [0]) mem)
(Zero [4] destptr mem) => (I64Store32 destptr (I64Const [0]) mem)
(Zero [8] destptr mem) => (I64Store destptr (I64Const [0]) mem)

(Zero [3] destptr mem) =>
 (I64Store8 [2] destptr (I64Const [0])
  (I64Store16 destptr (I64Const [0]) mem))
(Zero [5] destptr mem) =>
 (I64Store8 [4] destptr (I64Const [0])
  (I64Store32 destptr (I64Const [0]) mem))
(Zero [6] destptr mem) =>
 (I64Store16 [4] destptr (I64Const [0])
  (I64Store32 destptr (I64Const [0]) mem))
(Zero [7] destptr mem) =>
 (I64Store32 [3] destptr (I64Const [0])
  (I64Store32 destptr (I64Const [0]) mem))

// Strip off any fractional word zeroing.
(Zero [s] destptr mem) && s%8 != 0 && s > 8 =>
 (Zero [s-s%8] (OffPtr <destptr.Type> destptr [s%8])
  (I64Store destptr (I64Const [0]) mem))

// Zero small numbers of words directly.
(Zero [16] destptr mem) =>
 (I64Store [8] destptr (I64Const [0])
  (I64Store
 destptr (I64Const [0]) mem))
(Zero [24] destptr mem) =>
 (I64Store [16] destptr (I64Const [0])
  (I64Store [8] destptr (I64Const [0])
   (I64Store destptr (I64Const [0]) mem)))
(Zero [32] destptr mem) =>
 (I64Store [24] destptr (I64Const [0])
  (I64Store [16] destptr (I64Const [0])
   (I64Store [8] destptr (I64Const [0])
    (I64Store destptr (I64Const [0]) mem))))

// Large zeroing uses helper.
(Zero [s] destptr mem) && s%8 == 0 && s > 32 =>
 (LoweredZero [s/8] destptr mem)

// Lowering constants
```

```
(Const64 ...) => (I64Const ...)
(Const(32|16|8) [c]) => (I64Const [int64(c)])
(Const(64|32)F ...) => (F(64|32)Const ...)
(ConstNil) => (I64Const [0])
(ConstBool [c]) => (I64Const [b2i(c)])

// Lowering calls
(StaticCall ...) => (LoweredStaticCall ...)
(ClosureCall ...) => (LoweredClosureCall ...)
(InterCall ...) => (LoweredInterCall ...)
(TailCall ...) => (LoweredTailCall ...)

// Miscellaneous
(Convert ...) => (LoweredConvert ...)
(IsNonNil p) => (I64Eqz (I64Eqz p))
(IsInBounds ...) => (I64LtU
 ...)
(IsSliceInBounds ...) => (I64LeU ...)
(NilCheck ...) => (LoweredNilCheck ...)
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(Addr {sym} base) => (LoweredAddr {sym} [0] base)
(LocalAddr {sym} base _) => (LoweredAddr {sym} base)

// Write barrier.
(WB ...) => (LoweredWB ...)

// --- Intrinsics ---
(Sqrt ...) => (F64Sqrt ...)
(Trunc ...) => (F64Trunc ...)
(Ceil ...) => (F64Ceil ...)
(Floor ...) => (F64Floor ...)
(RoundToEven ...) => (F64Nearest ...)
(Abs ...) => (F64Abs ...)
(Copysign ...) => (F64Copysign ...)

(Sqrt32 ...) => (F32Sqrt ...)

(Ctz64 ...) => (I64Ctz ...)
(Ctz32 x) => (I64Ctz (I64Or x (I64Const [0x100000000])))
(Ctz16 x) => (I64Ctz (I64Or x (I64Const [0x10000])))
(Ctz8  x) => (I64Ctz (I64Or x (I64Const [0x100])))

(Ctz(64|32|16|8)NonZero ...) => (I64Ctz ...)

(BitLen64 x) => (I64Sub (I64Const [64]) (I64Clz x))
```

```
(PopCount64 ...) => (I64Popcnt ...)
(PopCount32 x) => (I64Popcnt
 (ZeroExt32to64 x))
(PopCount16 x) => (I64Popcnt (ZeroExt16to64 x))
(PopCount8  x) => (I64Popcnt (ZeroExt8to64  x))

(CondSelect ...) => (Select ...)

// --- Optimizations ---
(I64Add (I64Const [x]) (I64Const [y])) => (I64Const [x + y])
(I64Mul (I64Const [x]) (I64Const [y])) => (I64Const [x * y])
(I64And (I64Const [x]) (I64Const [y])) => (I64Const [x & y])
(I64Or  (I64Const [x]) (I64Const [y])) => (I64Const [x | y])
(I64Xor (I64Const [x]) (I64Const [y])) => (I64Const [x ^ y])
(F64Add (F64Const [x]) (F64Const [y])) => (F64Const [x + y])
(F64Mul (F64Const [x]) (F64Const [y])) && !math.IsNaN(x * y) => (F64Const [x * y])
(I64Eq  (I64Const [x]) (I64Const [y])) && x == y => (I64Const [1])
(I64Eq  (I64Const [x]) (I64Const [y])) && x != y => (I64Const [0])
(I64Ne  (I64Const [x]) (I64Const [y])) && x == y => (I64Const [0])
(I64Ne  (I64Const [x]) (I64Const [y])) && x != y => (I64Const [1])

(I64Shl (I64Const [x]) (I64Const [y])) => (I64Const [x << uint64(y)])
(I64ShrU (I64Const [x]) (I64Const
 [y])) => (I64Const [int64(uint64(x) >> uint64(y))])
(I64ShrS (I64Const [x]) (I64Const [y])) => (I64Const [x >> uint64(y)])

// TODO: declare these operations as commutative and get rid of these rules?
(I64Add (I64Const [x]) y) && y.Op != OpWasmI64Const => (I64Add y (I64Const [x]))
(I64Mul (I64Const [x]) y) && y.Op != OpWasmI64Const => (I64Mul y (I64Const [x]))
(I64And (I64Const [x]) y) && y.Op != OpWasmI64Const => (I64And y (I64Const [x]))
(I64Or  (I64Const [x]) y) && y.Op != OpWasmI64Const => (I64Or  y (I64Const [x]))
(I64Xor (I64Const [x]) y) && y.Op != OpWasmI64Const => (I64Xor y (I64Const [x]))
(F64Add (F64Const [x]) y) && y.Op != OpWasmF64Const => (F64Add y (F64Const [x]))
(F64Mul (F64Const [x]) y) && y.Op != OpWasmF64Const => (F64Mul y (F64Const [x]))
(I64Eq  (I64Const [x]) y) && y.Op != OpWasmI64Const => (I64Eq y  (I64Const [x]))
(I64Ne  (I64Const [x]) y) && y.Op != OpWasmI64Const => (I64Ne y  (I64Const [x]))

(I64Eq x (I64Const [0])) => (I64Eqz x)
(I64LtU (I64Const [0]) x) => (I64Eqz
 (I64Eqz x))
(I64LeU x (I64Const [0])) => (I64Eqz x)
(I64LtU x (I64Const [1])) => (I64Eqz x)
(I64LeU (I64Const [1]) x) => (I64Eqz (I64Eqz x))
(I64Ne x (I64Const [0])) => (I64Eqz (I64Eqz x))

(I64Add x (I64Const [y])) => (I64AddConst [y] x)
(I64AddConst [0] x) => x
(I64Eqz (I64Eqz (I64Eqz x))) => (I64Eqz x)
```

```
// folding offset into load/store
((I64Load|I64Load32U|I64Load32S|I64Load16U|I64Load16S|I64Load8U|I64Load8S) [off] (I64AddConst [off2] ptr) mem)
 && isU32Bit(off+off2) =>
 ((I64Load|I64Load32U|I64Load32S|I64Load16U|I64Load16S|I64Load8U|I64Load8S) [off+off2] ptr mem)

((I64Store|I64Store32|I64Store16|I64Store8) [off] (I64AddConst [off2] ptr) val mem)
 && isU32Bit(off+off2) =>
 ((I64Store|I64Store32|I64Store16|I64Store8) [off+off2] ptr val mem)

// folding offset into address
(I64AddConst [off] (LoweredAddr {sym} [off2] base)) && isU32Bit(off+int64(off2)) =>
 (LoweredAddr {sym} [int32(off)+off2] base)
(I64AddConst [off] x:(SP)) && isU32Bit(off) => (LoweredAddr [int32(off)] x) //
 so it is rematerializeable

// transforming readonly globals into constants
(I64Load [off] (LoweredAddr {sym} [off2] (SB)) _) && symIsRO(sym) && isU32Bit(off+int64(off2)) =>
(I64Const [int64(read64(sym, off+int64(off2), config.ctxt.Arch.ByteOrder))])
(I64Load32U [off] (LoweredAddr {sym} [off2] (SB)) _) && symIsRO(sym) && isU32Bit(off+int64(off2)) =>
(I64Const [int64(read32(sym, off+int64(off2), config.ctxt.Arch.ByteOrder))])
(I64Load16U [off] (LoweredAddr {sym} [off2] (SB)) _) && symIsRO(sym) && isU32Bit(off+int64(off2)) =>
(I64Const [int64(read16(sym, off+int64(off2), config.ctxt.Arch.ByteOrder))])
(I64Load8U [off] (LoweredAddr {sym} [off2] (SB)) _) && symIsRO(sym) && isU32Bit(off+int64(off2)) =>
(I64Const [int64(read8(sym, off+int64(off2)))])

Found in path(s):
* /compile-zip/compile/internal/ssa/gen/Wasm.rules
No license file was found, but licenses were detected in source scan.

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// Lowering arithmetic
(Add(64|Ptr) ...) => (ADD ...)
(Add(32|16|8) ...) => (ADDW ...)
(Add32F x y) => (Select0 (FADDS x y))
(Add64F x y) => (Select0 (FADD x y))

(Sub(64|Ptr) ...) => (SUB ...)
(Sub(32|16|8) ...) => (SUBW ...)
(Sub32F x y) => (Select0 (FSUBS x y))
(Sub64F x y) => (Select0 (FSUB x y))

(Mul64 ...) => (MULLD ...)
(Mul(32|16|8) ...) => (MULLW ...)
```

```
(Mul32F ...) => (FMULS ...)
(Mul64F ...) => (FMUL ...)
(Mul64uhilo ...) => (MLGR ...)

(Div32F ...) => (FDIVS ...)
(Div64F ...) => (FDIV ...)

(Div64 x y) => (DIVD x y)
(Div64u ...) => (DIVDU ...)
// DIVW/DIVWU has a 64-bit dividend and a 32-bit divisor,
// so a sign/zero extension of the dividend is required.
(Div32  x y) => (DIVW  (MOVWreg x) y)
(Div32u x y) => (DIVWU (MOVWZreg x) y)
(Div16  x y) => (DIVW
  (MOVHreg x) (MOVHreg y))
(Div16u x y) => (DIVWU (MOVHZreg x) (MOVHZreg y))
(Div8   x y) => (DIVW  (MOVBreg x) (MOVBreg y))
(Div8u  x y) => (DIVWU (MOVBZreg x) (MOVBZreg y))

(Hmul(64|64u) ...) => (MULH(D|DU) ...)
(Hmul32  x y) => (SRDconst [32] (MULLD (MOVWreg x) (MOVWreg y)))
(Hmul32u x y) => (SRDconst [32] (MULLD (MOVWZreg x) (MOVWZreg y)))

(Mod64 x y) => (MODD x y)
(Mod64u ...) => (MODDU ...)
// MODW/MODWU has a 64-bit dividend and a 32-bit divisor,
// so a sign/zero extension of the dividend is required.
(Mod32  x y) => (MODW  (MOVWreg x) y)
(Mod32u x y) => (MODWU (MOVWZreg x) y)
(Mod16  x y) => (MODW  (MOVHreg x) (MOVHreg y))
(Mod16u x y) => (MODWU (MOVHZreg x) (MOVHZreg y))
(Mod8   x y) => (MODW  (MOVBreg x) (MOVBreg y))
(Mod8u  x y) => (MODWU (MOVBZreg x) (MOVBZreg y))

// (x + y) / 2 with x>=y -> (x - y) / 2 + y
(Avg64u <t> x y) => (ADD (SRDconst <t> (SUB <t> x y) [1]) y)

(And64 ...) => (AND ...)
(And(32|16|8) ...) => (ANDW ...)

(Or64 ...) => (OR ...)
(Or(32|16|8) ...)
 => (ORW ...)

(Xor64 ...) => (XOR ...)
(Xor(32|16|8) ...) => (XORW ...)

(Neg64 ...) => (NEG ...)
```

```
(Neg(32|16|8) ...) => (NEGW ...)
(Neg32F ...) => (FNEGS ...)
(Neg64F ...) => (FNEG ...)

(Com64 ...) => (NOT ...)
(Com(32|16|8) ...) => (NOTW ...)
(NOT x) => (XOR (MOVDconst [-1]) x)
(NOTW x) => (XORWconst [-1] x)

// Lowering boolean ops
(AndB ...) => (ANDW ...)
(OrB ...) => (ORW ...)
(Not x) => (XORWconst [1] x)

// Lowering pointer arithmetic
(OffPtr [off] ptr:(SP)) => (MOVDaddr [int32(off)] ptr)
(OffPtr [off] ptr) && is32Bit(off) => (ADDconst [int32(off)] ptr)
(OffPtr [off] ptr) => (ADD (MOVDconst [off]) ptr)

// TODO: optimize these cases?
(Ctz64NonZero ...) => (Ctz64 ...)
(Ctz32NonZero ...) => (Ctz32 ...)

// Ctz(x) = 64 - findLeftmostOne((x-1)&^x)
(Ctz64 <t> x) => (SUB (MOVDconst [64]) (FLOGR (AND <t> (SUBconst <t> [1] x) (NOT <t> x))))
(Ctz32 <t> x) => (SUB (MOVDconst [64]) (FLOGR (MOVWZreg (ANDW <t> (SUBWconst <t> [1] x) (NOTW
<t> x)))))

(BitLen64 x) => (SUB (MOVDconst [64]) (FLOGR
 x))

// POPCNT treats the input register as a vector of 8 bytes, producing
// a population count for each individual byte. For inputs larger than
// a single byte we therefore need to sum the individual bytes produced
// by the POPCNT instruction. For example, the following instruction
// sequence could be used to calculate the population count of a 4-byte
// value:
//
//     MOVD   $0x12345678, R1 // R1=0x12345678 <-- input
//     POPCNT R1, R2          // R2=0x02030404
//     SRW    $16, R2, R3     // R3=0x00000203
//     ADDW   R2, R3, R4      // R4=0x02030607
//     SRW    $8, R4, R5      // R5=0x00020306
//     ADDW   R4, R5, R6      // R6=0x0205090d
//     MOVBZ  R6, R7          // R7=0x0000000d <-- result is 13
//
(PopCount8  x) => (POPCNT (MOVBZreg x))
(PopCount16 x) => (MOVBZreg (SumBytes2 (POPCNT <typ.UInt16> x)))
```

```
(PopCount32 x) => (MOVBZreg (SumBytes4 (POPCNT <typ.UInt32> x)))
(PopCount64 x) => (MOVBZreg (SumBytes8 (POPCNT <typ.UInt64> x)))

// SumBytes{2,4,8} pseudo operations
 sum the values of the rightmost
// 2, 4 or 8 bytes respectively. The result is a single byte however
// other bytes might contain junk so a zero extension is required if
// the desired output type is larger than 1 byte.
(SumBytes2 x) => (ADDW (SRWconst <typ.UInt8> x [8]) x)
(SumBytes4 x) => (SumBytes2 (ADDW <typ.UInt16> (SRWconst <typ.UInt16> x [16]) x))
(SumBytes8 x) => (SumBytes4 (ADDW <typ.UInt32> (SRDconst <typ.UInt32> x [32]) x))

(Bswap64 ...) => (MOVDBR ...)
(Bswap32 ...) => (MOVWBR ...)

// add with carry
(Select0 (Add64carry x y c))
 => (Select0 <typ.UInt64> (ADDE x y (Select1 <types.TypeFlags> (ADDCconst c [-1]))))
(Select1 (Add64carry x y c))
 => (Select0 <typ.UInt64> (ADDE (MOVDconst [0]) (MOVDconst [0]) (Select1 <types.TypeFlags> (ADDE x y
(Select1 <types.TypeFlags> (ADDCconst c [-1])))))

// subtract with borrow
(Select0 (Sub64borrow x y c))
 => (Select0 <typ.UInt64> (SUBE x y (Select1 <types.TypeFlags> (SUBC (MOVDconst [0]) c))))
(Select1 (Sub64borrow x y c))
  => (NEG (Select0 <typ.UInt64> (SUBE (MOVDconst [0]) (MOVDconst [0]) (Select1 <types.TypeFlags> (SUBE
x y (Select1 <types.TypeFlags> (SUBC (MOVDconst [0]) c)))))

// math package intrinsics
(Sqrt      ...) => (FSQRT ...)
(Floor       x) => (FIDBR [7] x)
(Ceil        x) => (FIDBR [6] x)
(Trunc       x) => (FIDBR [5] x)
(RoundToEven x) => (FIDBR [4] x)
(Round       x) => (FIDBR [1] x)
(FMA     x y z) => (FMADD z x y)

(Sqrt32    ...) => (FSQRTS ...)

// Atomic loads and stores.
// The SYNC instruction (fast-BCR-serialization) prevents store-load
// reordering. Other sequences of memory operations (load-load,
// store-store and load-store) are already guaranteed not to be reordered.
(AtomicLoad(8|32|Acq32|64|Ptr) ptr mem) => (MOV(BZ|WZ|WZ|D|D)atomicload ptr mem)
(AtomicStore(8|32|64|PtrNoWB) ptr val mem) => (SYNC (MOV(B|W|D|D)atomicstore ptr val mem))

// Store-release doesn't require store-load ordering.
```

```
(AtomicStoreRel32 ptr val mem) => (MOVWatomicstore ptr val mem)

// Atomic adds.
(AtomicAdd32
 ptr val mem) => (AddTupleFirst32 val (LAA ptr val mem))
(AtomicAdd64 ptr val mem) => (AddTupleFirst64 val (LAAG ptr val mem))
(Select0 <t> (AddTupleFirst32 val tuple)) => (ADDW val (Select0 <t> tuple))
(Select1     (AddTupleFirst32   _ tuple)) => (Select1 tuple)
(Select0 <t> (AddTupleFirst64 val tuple)) => (ADD val (Select0 <t> tuple))
(Select1     (AddTupleFirst64   _ tuple)) => (Select1 tuple)

// Atomic exchanges.
(AtomicExchange32 ptr val mem) => (LoweredAtomicExchange32 ptr val mem)
(AtomicExchange64 ptr val mem) => (LoweredAtomicExchange64 ptr val mem)

// Atomic compare and swap.
(AtomicCompareAndSwap32 ptr old new_ mem) => (LoweredAtomicCas32 ptr old new_ mem)
(AtomicCompareAndSwap64 ptr old new_ mem) => (LoweredAtomicCas64 ptr old new_ mem)

// Atomic and: *(*uint8)(ptr) &= val
//
// Round pointer down to nearest word boundary and pad value with ones before
// applying atomic AND operation to target word.
//
// *(*uint32)(ptr &^ 3) &= rotateleft(uint32(val) | 0xffffff00,
 ((3 << 3) ^ ((ptr & 3) << 3))
//
(AtomicAnd8 ptr val mem)
 => (LANfloor
     ptr
     (RLL <typ.UInt32>
       (ORWconst <typ.UInt32> val [-1<<8])
       (RXSBG <typ.UInt32> {s390x.NewRotateParams(59, 60, 3)} (MOVDconst [3<<3]) ptr))
     mem)

// Atomic or: *(*uint8)(ptr) |= val
//
// Round pointer down to nearest word boundary and pad value with zeros before
// applying atomic OR operation to target word.
//
// *(*uint32)(ptr &^ 3) |= uint32(val) << ((3 << 3) ^ ((ptr & 3) << 3))
//
(AtomicOr8  ptr val mem)
 => (LAOfloor
     ptr
     (SLW <typ.UInt32>
       (MOVBZreg <typ.UInt32> val)
       (RXSBG <typ.UInt32> {s390x.NewRotateParams(59, 60, 3)} (MOVDconst [3<<3]) ptr))
```

```
    mem)

(AtomicAnd32 ...) => (LAN ...)
(AtomicOr32  ...) => (LAO ...)

// Lowering extension
// Note: we always extend to 64 bits even though some ops don't need that many result bits.
(SignExt8to(16|32|64) ...) => (MOVBreg ...)
(SignExt16to(32|64) ...) => (MOVHreg ...)
(SignExt32to64
 ...) => (MOVWreg ...)

(ZeroExt8to(16|32|64) ...) => (MOVBZreg ...)
(ZeroExt16to(32|64) ...) => (MOVHZreg ...)
(ZeroExt32to64 ...) => (MOVWZreg ...)

(Slicemask <t> x) => (SRADconst (NEG <t> x) [63])

// Lowering truncation
// Because we ignore high parts of registers, truncates are just copies.
(Trunc(16|32|64)to8 ...) => (Copy ...)
(Trunc(32|64)to16 ...) => (Copy ...)
(Trunc64to32 ...) => (Copy ...)

// Lowering float <-> int
(Cvt32to32F ...) => (CEFBRA ...)
(Cvt32to64F ...) => (CDFBRA ...)
(Cvt64to32F ...) => (CEGBRA ...)
(Cvt64to64F ...) => (CDGBRA ...)

(Cvt32Fto32 ...) => (CFEBRA ...)
(Cvt32Fto64 ...) => (CGEBRA ...)
(Cvt64Fto32 ...) => (CFDBRA ...)
(Cvt64Fto64 ...) => (CGDBRA ...)

// Lowering float <-> uint
(Cvt32Uto32F ...) => (CELFBR ...)
(Cvt32Uto64F ...) => (CDLFBR ...)
(Cvt64Uto32F ...) => (CELGBR ...)
(Cvt64Uto64F ...) => (CDLGBR ...)

(Cvt32Fto32U ...) => (CLFEBR ...)
(Cvt32Fto64U ...) => (CLGEBR ...)
(Cvt64Fto32U ...) => (CLFDBR ...)
(Cvt64Fto64U ...) => (CLGDBR ...)

//
```

```
 Lowering float32 <-> float64
(Cvt32Fto64F ...) => (LDEBR ...)
(Cvt64Fto32F ...) => (LEDBR ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round(32|64)F ...) => (LoweredRound(32|64)F ...)

// Lowering shifts

// Lower bounded shifts first. No need to check shift value.
(Lsh64x(64|32|16|8)  x y) && shiftIsBounded(v) => (SLD x y)
(Lsh32x(64|32|16|8)  x y) && shiftIsBounded(v) => (SLW x y)
(Lsh16x(64|32|16|8)  x y) && shiftIsBounded(v) => (SLW x y)
(Lsh8x(64|32|16|8)   x y) && shiftIsBounded(v) => (SLW x y)
(Rsh64Ux(64|32|16|8) x y) && shiftIsBounded(v) => (SRD x y)
(Rsh32Ux(64|32|16|8) x y) && shiftIsBounded(v) => (SRW x y)
(Rsh16Ux(64|32|16|8) x y) && shiftIsBounded(v) => (SRW (MOVHZreg x) y)
(Rsh8Ux(64|32|16|8)  x y) && shiftIsBounded(v) => (SRW (MOVBZreg x) y)
(Rsh64x(64|32|16|8)  x y) && shiftIsBounded(v) => (SRAD x y)
(Rsh32x(64|32|16|8)  x y) && shiftIsBounded(v) => (SRAW x y)
(Rsh16x(64|32|16|8)  x y) && shiftIsBounded(v) => (SRAW (MOVHreg x) y)
(Rsh8x(64|32|16|8)   x y) && shiftIsBounded(v)
 => (SRAW (MOVBreg x) y)

// Unsigned shifts need to return 0 if shift amount is >= width of shifted value.
//   result = shift >= 64 ? 0 : arg << shift
(Lsh(64|32|16|8)x64 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SL(D|W|W|W) <t> x y) (MOVDconst [0])
(CMPUconst y [64]))
(Lsh(64|32|16|8)x32 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SL(D|W|W|W) <t> x y) (MOVDconst [0])
(CMPWUconst y [64]))
(Lsh(64|32|16|8)x16 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SL(D|W|W|W) <t> x y) (MOVDconst [0])
(CMPWUconst (MOVHZreg y) [64]))
(Lsh(64|32|16|8)x8  <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SL(D|W|W|W) <t> x y) (MOVDconst [0])
(CMPWUconst (MOVBZreg y) [64]))

(Rsh(64|32)Ux64 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SR(D|W) <t> x y) (MOVDconst [0])
(CMPUconst y [64]))
(Rsh(64|32)Ux32 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SR(D|W) <t> x y) (MOVDconst [0])
(CMPWUconst y [64]))
(Rsh(64|32)Ux16 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SR(D|W) <t> x y) (MOVDconst
 [0]) (CMPWUconst (MOVHZreg y) [64]))
(Rsh(64|32)Ux8  <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SR(D|W) <t> x y) (MOVDconst [0])
(CMPWUconst (MOVBZreg y) [64]))

(Rsh(16|8)Ux64 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SRW <t> (MOV(H|B)Zreg x) y) (MOVDconst
[0]) (CMPUconst y [64]))
(Rsh(16|8)Ux32 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SRW <t> (MOV(H|B)Zreg x) y) (MOVDconst
```

```
[0]) (CMPWUconst y [64]))
(Rsh(16|8)Ux16 <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SRW <t> (MOV(H|B)Zreg x) y) (MOVDconst [0]) (CMPWUconst (MOVHZreg y) [64]))
(Rsh(16|8)Ux8  <t> x y) => (LOCGR {s390x.GreaterOrEqual} <t> (SRW <t> (MOV(H|B)Zreg x) y) (MOVDconst [0]) (CMPWUconst (MOVBZreg y) [64]))

// Signed right shift needs to return 0/-1 if shift amount is >= width of shifted value.
// We implement this by setting the shift value to 63 (all ones) if the shift value is more than 63.
//   result = arg >> (shift >= 64 ? 63 : shift)
(Rsh(64|32)x64 x y) => (SRA(D|W) x (LOCGR {s390x.GreaterOrEqual}
 <y.Type> y (MOVDconst <y.Type> [63]) (CMPUconst  y [64])))
(Rsh(64|32)x32 x y) => (SRA(D|W) x (LOCGR {s390x.GreaterOrEqual} <y.Type> y (MOVDconst <y.Type> [63]) (CMPWUconst y [64])))
(Rsh(64|32)x16 x y) => (SRA(D|W) x (LOCGR {s390x.GreaterOrEqual} <y.Type> y (MOVDconst <y.Type> [63]) (CMPWUconst (MOVHZreg y) [64])))
(Rsh(64|32)x8  x y) => (SRA(D|W) x (LOCGR {s390x.GreaterOrEqual} <y.Type> y (MOVDconst <y.Type> [63]) (CMPWUconst (MOVBZreg y) [64])))

(Rsh(16|8)x64 x y) => (SRAW (MOV(H|B)reg x) (LOCGR {s390x.GreaterOrEqual} <y.Type> y (MOVDconst <y.Type> [63]) (CMPUconst  y [64])))
(Rsh(16|8)x32 x y) => (SRAW (MOV(H|B)reg x) (LOCGR {s390x.GreaterOrEqual} <y.Type> y (MOVDconst <y.Type> [63]) (CMPWUconst y [64])))
(Rsh(16|8)x16 x y) => (SRAW (MOV(H|B)reg x) (LOCGR {s390x.GreaterOrEqual} <y.Type> y (MOVDconst <y.Type> [63]) (CMPWUconst (MOVHZreg y) [64])))
(Rsh(16|8)x8  x y) => (SRAW (MOV(H|B)reg x) (LOCGR {s390x.GreaterOrEqual} <y.Type> y (MOVDconst <y.Type> [63]) (CMPWUconst (MOVBZreg
 y) [64])))

// Lowering rotates
(RotateLeft8 <t> x (MOVDconst [c])) => (Or8 (Lsh8x64 <t> x (MOVDconst [c&7])) (Rsh8Ux64 <t> x (MOVDconst [-c&7])))
(RotateLeft16 <t> x (MOVDconst [c])) => (Or16 (Lsh16x64 <t> x (MOVDconst [c&15])) (Rsh16Ux64 <t> x (MOVDconst [-c&15])))
(RotateLeft32 ...) => (RLL  ...)
(RotateLeft64 ...) => (RLLG ...)

// Lowering comparisons
(Less64      x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (CMP x y))
(Less32      x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (CMPW x y))
(Less(16|8)  x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (CMPW (MOV(H|B)reg x) (MOV(H|B)reg y)))
(Less64U     x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (CMPU x y))
(Less32U     x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (CMPWU x y))
(Less(16|8)U x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (CMPWU (MOV(H|B)Zreg x) (MOV(H|B)Zreg y)))
(Less64F     x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst
 [1]) (FCMP x y))
(Less32F     x y) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (FCMPS x y))
```

```
(Leq64      x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (CMP x y))
(Leq32      x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPW x y))
(Leq(16|8)  x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPW (MOV(H|B)reg
x) (MOV(H|B)reg y)))
(Leq64U     x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPU x y))
(Leq32U     x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPWU x y))
(Leq(16|8)U x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPWU
(MOV(H|B)Zreg x) (MOV(H|B)Zreg y)))
(Leq64F     x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (FCMP x y))
(Leq32F     x y) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (FCMPS x y))

(Eq(64|Ptr) x y) => (LOCGR {s390x.Equal} (MOVDconst [0]) (MOVDconst [1]) (CMP x y))
(Eq32       x y) => (LOCGR
 {s390x.Equal} (MOVDconst [0]) (MOVDconst [1]) (CMPW x y))
(Eq(16|8|B) x y) => (LOCGR {s390x.Equal} (MOVDconst [0]) (MOVDconst [1]) (CMPW (MOV(H|B|B)reg x)
(MOV(H|B|B)reg y)))
(Eq64F      x y) => (LOCGR {s390x.Equal} (MOVDconst [0]) (MOVDconst [1]) (FCMP x y))
(Eq32F      x y) => (LOCGR {s390x.Equal} (MOVDconst [0]) (MOVDconst [1]) (FCMPS x y))

(Neq(64|Ptr) x y) => (LOCGR {s390x.NotEqual} (MOVDconst [0]) (MOVDconst [1]) (CMP x y))
(Neq32       x y) => (LOCGR {s390x.NotEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPW x y))
(Neq(16|8|B) x y) => (LOCGR {s390x.NotEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPW (MOV(H|B|B)reg
x) (MOV(H|B|B)reg y)))
(Neq64F      x y) => (LOCGR {s390x.NotEqual} (MOVDconst [0]) (MOVDconst [1]) (FCMP x y))
(Neq32F      x y) => (LOCGR {s390x.NotEqual} (MOVDconst [0]) (MOVDconst [1]) (FCMPS x y))

// Lowering loads
(Load <t> ptr mem) && (is64BitInt(t) || isPtr(t)) => (MOVDload ptr mem)
(Load <t> ptr mem) && is32BitInt(t) && isSigned(t) => (MOVWload ptr mem)
(Load <t>
 ptr mem) && is32BitInt(t) && !isSigned(t) => (MOVWZload ptr mem)
(Load <t> ptr mem) && is16BitInt(t) && isSigned(t) => (MOVHload ptr mem)
(Load <t> ptr mem) && is16BitInt(t) && !isSigned(t) => (MOVHZload ptr mem)
(Load <t> ptr mem) && is8BitInt(t) && isSigned(t) => (MOVBload ptr mem)
(Load <t> ptr mem) && (t.IsBoolean() || (is8BitInt(t) && !isSigned(t))) => (MOVBZload ptr mem)
(Load <t> ptr mem) && is32BitFloat(t) => (FMOVSload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (FMOVDload ptr mem)

// Lowering stores
// These more-specific FP versions of Store pattern should come first.
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (FMOVDstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && is32BitFloat(val.Type) => (FMOVSstore ptr val mem)

(Store {t} ptr val mem) && t.Size() == 8 => (MOVDstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVHstore ptr val mem)
(Store {t}
```

```
 ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)

// Lowering moves

// Load and store for small copies.
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBZload src mem) mem)
(Move [2] dst src mem) => (MOVHstore dst (MOVHZload src mem) mem)
(Move [4] dst src mem) => (MOVWstore dst (MOVWZload src mem) mem)
(Move [8] dst src mem) => (MOVDstore dst (MOVDload src mem) mem)
(Move [16] dst src mem) =>
 (MOVDstore [8] dst (MOVDload [8] src mem)
  (MOVDstore dst (MOVDload src mem) mem))
(Move [24] dst src mem) =>
      (MOVDstore [16] dst (MOVDload [16] src mem)
        (MOVDstore [8] dst (MOVDload [8] src mem)
            (MOVDstore dst (MOVDload src mem) mem)))
(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBZload [2] src mem)
  (MOVHstore dst (MOVHZload src mem) mem))
(Move [5] dst src mem) =>
 (MOVBstore [4] dst (MOVBZload [4] src mem)
  (MOVWstore dst (MOVWZload src mem) mem))
(Move [6] dst src mem) =>
 (MOVHstore [4] dst (MOVHZload [4] src mem)
  (MOVWstore
 dst (MOVWZload src mem) mem))
(Move [7] dst src mem) =>
 (MOVBstore [6] dst (MOVBZload [6] src mem)
  (MOVHstore [4] dst (MOVHZload [4] src mem)
   (MOVWstore dst (MOVWZload src mem) mem)))

// MVC for other moves. Use up to 4 instructions (sizes up to 1024 bytes).
(Move [s] dst src mem) && s > 0 && s <= 256 && logLargeCopy(v, s) =>
 (MVC [makeValAndOff(int32(s), 0)] dst src mem)
(Move [s] dst src mem) && s > 256 && s <= 512 && logLargeCopy(v, s) =>
 (MVC [makeValAndOff(int32(s)-256, 256)] dst src (MVC [makeValAndOff(256, 0)] dst src mem))
(Move [s] dst src mem) && s > 512 && s <= 768 && logLargeCopy(v, s) =>
 (MVC [makeValAndOff(int32(s)-512, 512)] dst src (MVC [makeValAndOff(256, 256)] dst src (MVC
[makeValAndOff(256, 0)] dst src mem)))
(Move [s] dst src mem) && s > 768 && s <= 1024 && logLargeCopy(v, s) =>
 (MVC [makeValAndOff(int32(s)-768, 768)] dst src (MVC [makeValAndOff(256, 512)] dst src (MVC
[makeValAndOff(256, 256)] dst src (MVC [makeValAndOff(256, 0)] dst src mem))))

//
 Move more than 1024 bytes using a loop.
(Move [s] dst src mem) && s > 1024 && logLargeCopy(v, s) =>
 (LoweredMove [s%256] dst src (ADD <src.Type> src (MOVDconst [(s/256)*256])) mem)
```

```
// Lowering Zero instructions
(Zero [0] _ mem) => mem
(Zero [1] destptr mem) => (MOVBstoreconst [0] destptr mem)
(Zero [2] destptr mem) => (MOVHstoreconst [0] destptr mem)
(Zero [4] destptr mem) => (MOVWstoreconst [0] destptr mem)
(Zero [8] destptr mem) => (MOVDstoreconst [0] destptr mem)
(Zero [3] destptr mem) =>
 (MOVBstoreconst [makeValAndOff(0,2)] destptr
  (MOVHstoreconst [0] destptr mem))
(Zero [5] destptr mem) =>
 (MOVBstoreconst [makeValAndOff(0,4)] destptr
  (MOVWstoreconst [0] destptr mem))
(Zero [6] destptr mem) =>
 (MOVHstoreconst [makeValAndOff(0,4)] destptr
  (MOVWstoreconst [0] destptr mem))
(Zero [7] destptr mem) =>
 (MOVWstoreconst [makeValAndOff(0,3)] destptr
  (MOVWstoreconst [0] destptr mem))

(Zero [s] destptr mem) && s > 0 && s <= 1024 =>
 (CLEAR [makeValAndOff(int32(s), 0)] destptr
 mem)

// Zero more than 1024 bytes using a loop.
(Zero [s] destptr mem) && s > 1024 =>
 (LoweredZero [s%256] destptr (ADDconst <destptr.Type> destptr [(int32(s)/256)*256]) mem)

// Lowering constants
(Const(64|32|16|8) [val]) => (MOVDconst [int64(val)])
(Const(32|64)F ...) => (FMOV(S|D)const ...)
(ConstNil) => (MOVDconst [0])
(ConstBool [t]) => (MOVDconst [b2i(t)])

// Lowering calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall ...) => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// Miscellaneous
(IsNonNil p) => (LOCGR {s390x.NotEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPconst p [0]))
(IsInBounds idx len) => (LOCGR {s390x.Less} (MOVDconst [0]) (MOVDconst [1]) (CMPU idx len))
(IsSliceInBounds idx len) => (LOCGR {s390x.LessOrEqual} (MOVDconst [0]) (MOVDconst [1]) (CMPU idx len))
(NilCheck ...) => (LoweredNilCheck ...)
(GetG ...) => (LoweredGetG ...)
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP
```

...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)
(Addr {sym} base) => (MOVDaddr {sym} base)
(LocalAddr {sym} base _) => (MOVDaddr {sym} base)
(ITab (Load ptr mem)) => (MOVDload ptr mem)

// block rewrites
(If cond yes no) => (CLIJ {s390x.LessOrGreater} (MOVBZreg <typ.Bool> cond) [0] yes no)

// Write barrier.
(WB ...) => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

// **************************
// Above: lowering rules
// Below: optimizations
// **************************
// TODO: Should the optimizations be a separate pass?

// Note: when removing unnecessary sign/zero extensions.
//
// After a value is spilled it is restored using a sign- or zero-extension
// to register-width as appropriate for its type. For example, a uint8 will
//
 be restored using a MOVBZ (llgc) instruction which will zero extend the
// 8-bit value to 64-bits.
//
// This is a hazard when folding sign- and zero-extensions since we need to
// ensure not only that the value in the argument register is correctly
// extended but also that it will still be correctly extended if it is
// spilled and restored.
//
// In general this means we need type checks when the RHS of a rule is an
// OpCopy (i.e. "(... x:(...) ...) -> x").

// Merge double extensions.
(MOV(H|HZ)reg e:(MOV(B|BZ)reg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(W|WZ)reg e:(MOV(B|BZ)reg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(W|WZ)reg e:(MOV(H|HZ)reg x)) && clobberIfDead(e) => (MOV(H|HZ)reg x)

// Bypass redundant sign extensions.
(MOV(B|BZ)reg e:(MOVBreg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(B|BZ)reg e:(MOVHreg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(B|BZ)reg e:(MOVWreg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(H|HZ)reg e:(MOVHreg x)) &&

```
 clobberIfDead(e) => (MOV(H|HZ)reg x)
(MOV(H|HZ)reg e:(MOVWreg x)) && clobberIfDead(e) => (MOV(H|HZ)reg x)
(MOV(W|WZ)reg e:(MOVWreg x)) && clobberIfDead(e) => (MOV(W|WZ)reg x)

// Bypass redundant zero extensions.
(MOV(B|BZ)reg e:(MOVBZreg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(B|BZ)reg e:(MOVHZreg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(B|BZ)reg e:(MOVWZreg x)) && clobberIfDead(e) => (MOV(B|BZ)reg x)
(MOV(H|HZ)reg e:(MOVHZreg x)) && clobberIfDead(e) => (MOV(H|HZ)reg x)
(MOV(H|HZ)reg e:(MOVWZreg x)) && clobberIfDead(e) => (MOV(H|HZ)reg x)
(MOV(W|WZ)reg e:(MOVWZreg x)) && clobberIfDead(e) => (MOV(W|WZ)reg x)

// Remove zero extensions after zero extending load.
// Note: take care that if x is spilled it is restored correctly.
(MOV(B|H|W)Zreg x:(MOVBZload  _  _)) && (!x.Type.IsSigned() || x.Type.Size() > 1) => x
(MOV(H|W)Zreg  x:(MOVHZload  _  _)) && (!x.Type.IsSigned() || x.Type.Size() > 2) => x
(MOVWZreg      x:(MOVWZload  _  _)) && (!x.Type.IsSigned() ||
 x.Type.Size() > 4) => x

// Remove sign extensions after sign extending load.
// Note: take care that if x is spilled it is restored correctly.
(MOV(B|H|W)reg x:(MOVBload  _  _)) && (x.Type.IsSigned() || x.Type.Size() == 8) => x
(MOV(H|W)reg  x:(MOVHload  _  _)) && (x.Type.IsSigned() || x.Type.Size() == 8) => x
(MOVWreg      x:(MOVWload  _  _)) && (x.Type.IsSigned() || x.Type.Size() == 8) => x

// Remove sign extensions after zero extending load.
// These type checks are probably unnecessary but do them anyway just in case.
(MOV(H|W)reg x:(MOVBZload  _  _)) && (!x.Type.IsSigned() || x.Type.Size() > 1) => x
(MOVWreg     x:(MOVHZload  _  _)) && (!x.Type.IsSigned() || x.Type.Size() > 2) => x

// Fold sign and zero extensions into loads.
//
// Note: The combined instruction must end up in the same block
// as the original load. If not, we end up making a value with
// memory type live in two different blocks, which can lead to
// multiple memory values alive simultaneously.
//
//
 Make sure we don't combine these ops if the load has another use.
// This prevents a single load from being split into multiple loads
// which then might return different values.  See test/atomicload.go.
(MOV(B|H|W)Zreg <t> x:(MOV(B|H|W)load [o] {s} p mem))
 && x.Uses == 1
 && clobber(x)
 => @x.Block (MOV(B|H|W)Zload <t> [o] {s} p mem)
(MOV(B|H|W)reg <t> x:(MOV(B|H|W)Zload [o] {s} p mem))
 && x.Uses == 1
 && clobber(x)
```

```
 => @x.Block (MOV(B|H|W)load <t> [o] {s} p mem)

// Remove zero extensions after argument load.
(MOVBZreg x:(Arg <t>)) && !t.IsSigned() && t.Size() == 1 => x
(MOVHZreg x:(Arg <t>)) && !t.IsSigned() && t.Size() <= 2 => x
(MOVWZreg x:(Arg <t>)) && !t.IsSigned() && t.Size() <= 4 => x

// Remove sign extensions after argument load.
(MOVBreg x:(Arg <t>)) && t.IsSigned() && t.Size() == 1 => x
(MOVHreg x:(Arg <t>)) && t.IsSigned() && t.Size() <= 2 => x
(MOVWreg x:(Arg <t>)) && t.IsSigned() && t.Size() <= 4 => x

// Fold zero extensions into constants.
(MOVBZreg (MOVDconst
 [c])) => (MOVDconst [int64( uint8(c))])
(MOVHZreg (MOVDconst [c])) => (MOVDconst [int64(uint16(c))])
(MOVWZreg (MOVDconst [c])) => (MOVDconst [int64(uint32(c))])

// Fold sign extensions into constants.
(MOVBreg (MOVDconst [c])) => (MOVDconst [int64( int8(c))])
(MOVHreg (MOVDconst [c])) => (MOVDconst [int64(int16(c))])
(MOVWreg (MOVDconst [c])) => (MOVDconst [int64(int32(c))])

// Remove zero extension of conditional move.
// Note: only for MOVBZreg for now since it is added as part of 'if' statement lowering.
(MOVBZreg x:(LOCGR (MOVDconst [c]) (MOVDconst [d]) _))
 && int64(uint8(c)) == c
 && int64(uint8(d)) == d
 && (!x.Type.IsSigned() || x.Type.Size() > 1)
 => x

// Fold boolean tests into blocks.
// Note: this must match If statement lowering.
(CLIJ {s390x.LessOrGreater} (LOCGR {d} (MOVDconst [0]) (MOVDconst [x]) cmp) [0] yes no)
 && int32(x) != 0
 => (BRC {d} cmp yes no)

// Canonicalize BRC condition code mask by removing impossible conditions.
// Integer comparisons
 cannot generate the unordered condition.
(BRC {c} x:((CMP|CMPW|CMPU|CMPWU)    _ _) yes no) && c&s390x.Unordered != 0 => (BRC
{c&^s390x.Unordered} x yes no)
(BRC {c} x:((CMP|CMPW|CMPU|CMPWU)const _) yes no) && c&s390x.Unordered != 0 => (BRC
{c&^s390x.Unordered} x yes no)

// Compare-and-branch.
// Note: bit 3 (unordered) must not be set so we mask out s390x.Unordered.
(BRC {c} (CMP   x y) yes no) => (CGRJ  {c&^s390x.Unordered} x y yes no)
```

```
(BRC {c} (CMPW  x y) yes no) => (CRJ   {c&^s390x.Unordered} x y yes no)
(BRC {c} (CMPU  x y) yes no) => (CLGRJ {c&^s390x.Unordered} x y yes no)
(BRC {c} (CMPWU x y) yes no) => (CLRJ  {c&^s390x.Unordered} x y yes no)

// Compare-and-branch (immediate).
// Note: bit 3 (unordered) must not be set so we mask out s390x.Unordered.
(BRC {c} (CMPconst   x [y]) yes no) && y == int32( int8(y)) => (CGIJ  {c&^s390x.Unordered} x [ int8(y)] yes no)
(BRC {c} (CMPWconst  x [y]) yes no) && y == int32( int8(y)) => (CIJ   {c&^s390x.Unordered} x [ int8(y)] yes
no)
(BRC
 {c} (CMPUconst  x [y]) yes no) && y == int32(uint8(y)) => (CLGIJ {c&^s390x.Unordered} x [uint8(y)] yes no)
(BRC {c} (CMPWUconst x [y]) yes no) && y == int32(uint8(y)) => (CLIJ  {c&^s390x.Unordered} x [uint8(y)] yes
no)

// Absorb immediate into compare-and-branch.
(C(R|GR)J  {c} x (MOVDconst [y]) yes no) && is8Bit(y)  => (C(I|GI)J  {c} x [ int8(y)] yes no)
(CL(R|GR)J {c} x (MOVDconst [y]) yes no) && isU8Bit(y) => (CL(I|GI)J {c} x [uint8(y)] yes no)
(C(R|GR)J  {c} (MOVDconst [x]) y yes no) && is8Bit(x)  => (C(I|GI)J  {c.ReverseComparison()} y [ int8(x)] yes
no)
(CL(R|GR)J {c} (MOVDconst [x]) y yes no) && isU8Bit(x) => (CL(I|GI)J {c.ReverseComparison()} y [uint8(x)]
yes no)

// Prefer comparison with immediate to compare-and-branch.
(CGRJ  {c} x (MOVDconst [y]) yes no) && !is8Bit(y)  && is32Bit(y)  => (BRC {c} (CMPconst   x [int32(y)]) yes
no)
(CRJ   {c} x (MOVDconst [y]) yes no) && !is8Bit(y)  && is32Bit(y)  => (BRC {c} (CMPWconst  x [int32(y)]) yes
no)
(CLGRJ {c} x (MOVDconst [y]) yes
 no) && !isU8Bit(y) && isU32Bit(y) => (BRC {c} (CMPUconst  x [int32(y)]) yes no)
(CLRJ  {c} x (MOVDconst [y]) yes no) && !isU8Bit(y) && isU32Bit(y) => (BRC {c} (CMPWUconst x [int32(y)])
yes no)
(CGRJ  {c} (MOVDconst [x]) y yes no) && !is8Bit(x)  && is32Bit(x)  => (BRC {c.ReverseComparison()}
(CMPconst   y [int32(x)]) yes no)
(CRJ   {c} (MOVDconst [x]) y yes no) && !is8Bit(x)  && is32Bit(x)  => (BRC {c.ReverseComparison()}
(CMPWconst  y [int32(x)]) yes no)
(CLGRJ {c} (MOVDconst [x]) y yes no) && !isU8Bit(x) && isU32Bit(x) => (BRC {c.ReverseComparison()}
(CMPUconst  y [int32(x)]) yes no)
(CLRJ  {c} (MOVDconst [x]) y yes no) && !isU8Bit(x) && isU32Bit(x) => (BRC {c.ReverseComparison()}
(CMPWUconst y [int32(x)]) yes no)

// Absorb sign/zero extensions into 32-bit compare-and-branch.
(CIJ  {c} (MOV(W|WZ)reg x) [y] yes no) => (CIJ  {c} x [y] yes no)
(CLIJ {c} (MOV(W|WZ)reg x) [y] yes no) => (CLIJ {c} x [y] yes no)

// Bring out-of-range signed immediates into range by varying branch condition.
(BRC
 {s390x.Less}          (CMPconst  x [ 128]) yes no) => (CGIJ {s390x.LessOrEqual}    x [ 127] yes no)
(BRC {s390x.Less}          (CMPWconst x [ 128]) yes no) => (CIJ  {s390x.LessOrEqual}    x [ 127] yes no)
```

```
(BRC {s390x.LessOrEqual}    (CMPconst  x [-129]) yes no) => (CGIJ {s390x.Less}          x [-128] yes no)
(BRC {s390x.LessOrEqual}    (CMPWconst x [-129]) yes no) => (CIJ  {s390x.Less}          x [-128] yes no)
(BRC {s390x.Greater}        (CMPconst  x [-129]) yes no) => (CGIJ {s390x.GreaterOrEqual} x [-128] yes no)
(BRC {s390x.Greater}        (CMPWconst x [-129]) yes no) => (CIJ  {s390x.GreaterOrEqual} x [-128] yes no)
(BRC {s390x.GreaterOrEqual} (CMPconst  x [ 128]) yes no) => (CGIJ {s390x.Greater}       x [ 127] yes no)
(BRC {s390x.GreaterOrEqual} (CMPWconst x [ 128]) yes no) => (CIJ  {s390x.Greater}       x [ 127] yes no)

// Bring out-of-range unsigned immediates into range by varying branch condition.
(BRC {s390x.Less}          (CMP(WU|U)const  x [256]) yes no) => (C(L|LG)IJ
 {s390x.LessOrEqual} x [255] yes no)
(BRC {s390x.GreaterOrEqual} (CMP(WU|U)const  x [256]) yes no) => (C(L|LG)IJ {s390x.Greater}     x [255] yes
no)

// Bring out-of-range immediates into range by switching signedness (only == and !=).
(BRC {c} (CMPconst   x [y]) yes no) && y == int32(uint8(y)) && (c == s390x.Equal || c == s390x.LessOrGreater)
=> (CLGIJ {c} x [uint8(y)] yes no)
(BRC {c} (CMPWconst  x [y]) yes no) && y == int32(uint8(y)) && (c == s390x.Equal || c ==
s390x.LessOrGreater) => (CLIJ  {c} x [uint8(y)] yes no)
(BRC {c} (CMPUconst  x [y]) yes no) && y == int32( int8(y)) && (c == s390x.Equal || c == s390x.LessOrGreater)
=> (CGIJ  {c} x [ int8(y)] yes no)
(BRC {c} (CMPWUconst x [y]) yes no) && y == int32( int8(y)) && (c == s390x.Equal || c ==
s390x.LessOrGreater) => (CIJ   {c} x [ int8(y)] yes no)

// Fold constants into instructions.
(ADD x (MOVDconst [c])) && is32Bit(c) => (ADDconst [int32(c)] x)
(ADDW x (MOVDconst [c])) => (ADDWconst [int32(c)] x)

(SUB x (MOVDconst [c]))
 && is32Bit(c) => (SUBconst x [int32(c)])
(SUB (MOVDconst [c]) x) && is32Bit(c) => (NEG (SUBconst <v.Type> x [int32(c)]))
(SUBW x (MOVDconst [c])) => (SUBWconst x [int32(c)])
(SUBW (MOVDconst [c]) x) => (NEGW (SUBWconst <v.Type> x [int32(c)]))

(MULLD x (MOVDconst [c])) && is32Bit(c) => (MULLDconst [int32(c)] x)
(MULLW x (MOVDconst [c])) => (MULLWconst [int32(c)] x)

// NILF instructions leave the high 32 bits unchanged which is
// equivalent to the leftmost 32 bits being set.
// TODO(mundaym): modify the assembler to accept 64-bit values
// and use isU32Bit(^c).
(AND x (MOVDconst [c]))
 && s390x.NewRotateParams(0, 63, 0).OutMerge(uint64(c)) != nil
 => (RISBGZ x {*s390x.NewRotateParams(0, 63, 0).OutMerge(uint64(c))})
(AND x (MOVDconst [c]))
 && is32Bit(c)
 && c < 0
 => (ANDconst [c] x)
(AND x (MOVDconst [c]))
```

```
 && is32Bit(c)
 && c >= 0
 => (MOVWZreg (ANDWconst <typ.UInt32> [int32(c)] x))

(ANDW x (MOVDconst [c])) => (ANDWconst [int32(c)] x)

((AND|ANDW)const [c] ((AND|ANDW)const
 [d] x)) => ((AND|ANDW)const [c&d] x)

((OR|XOR) x (MOVDconst [c])) && isU32Bit(c) => ((OR|XOR)const [c] x)
((OR|XOR)W x (MOVDconst [c])) => ((OR|XOR)Wconst [int32(c)] x)

// Constant shifts.
(S(LD|RD|RAD) x (MOVDconst [c])) => (S(LD|RD|RAD)const x [uint8(c&63)])
(S(LW|RW|RAW) x (MOVDconst [c])) && c&32 == 0 => (S(LW|RW|RAW)const x [uint8(c&31)])
(S(LW|RW)     _ (MOVDconst [c])) && c&32 != 0 => (MOVDconst [0])
(SRAW         x (MOVDconst [c])) && c&32 != 0 => (SRAWconst x [31])

// Shifts only use the rightmost 6 bits of the shift value.
(S(LD|RD|RAD|LW|RW|RAW) x (RISBGZ y {r}))
 && r.Amount == 0
 && r.OutMask()&63 == 63
 => (S(LD|RD|RAD|LW|RW|RAW) x y)
(S(LD|RD|RAD|LW|RW|RAW) x (AND (MOVDconst [c]) y))
 => (S(LD|RD|RAD|LW|RW|RAW) x (ANDWconst <typ.UInt32> [int32(c&63)] y))
(S(LD|RD|RAD|LW|RW|RAW) x (ANDWconst [c] y)) && c&63 == 63
 => (S(LD|RD|RAD|LW|RW|RAW) x y)
(SLD  x (MOV(W|H|B|WZ|HZ|BZ)reg y)) => (SLD  x y)
(SRD  x (MOV(W|H|B|WZ|HZ|BZ)reg y)) => (SRD  x y)
(SRAD x (MOV(W|H|B|WZ|HZ|BZ)reg
 y)) => (SRAD x y)
(SLW  x (MOV(W|H|B|WZ|HZ|BZ)reg y)) => (SLW  x y)
(SRW  x (MOV(W|H|B|WZ|HZ|BZ)reg y)) => (SRW  x y)
(SRAW x (MOV(W|H|B|WZ|HZ|BZ)reg y)) => (SRAW x y)

// Match rotate by constant.
(RLLG x (MOVDconst [c])) => (RISBGZ x {s390x.NewRotateParams(0, 63, uint8(c&63))})
(RLL  x (MOVDconst [c])) => (RLLconst x [uint8(c&31)])

// Match rotate by constant pattern.
((ADD|OR|XOR)  (SLDconst x [c]) (SRDconst x [64-c])) => (RISBGZ x {s390x.NewRotateParams(0, 63, c)})
((ADD|OR|XOR)W (SLWconst x [c]) (SRWconst x [32-c])) => (RLLconst x [c])

// Signed 64-bit comparison with immediate.
(CMP x (MOVDconst [c])) && is32Bit(c) => (CMPconst x [int32(c)])
(CMP (MOVDconst [c]) x) && is32Bit(c) => (InvertFlags (CMPconst x [int32(c)]))

// Unsigned 64-bit comparison with immediate.
```

```
(CMPU x (MOVDconst [c])) && isU32Bit(c) => (CMPUconst x [int32(c)])
(CMPU (MOVDconst [c]) x) && isU32Bit(c) => (InvertFlags (CMPUconst x [int32(c)]))

// Signed and unsigned 32-bit comparison with immediate.
(CMP(W|WU)
 x (MOVDconst [c])) => (CMP(W|WU)const x [int32(c)])
(CMP(W|WU) (MOVDconst [c]) x) => (InvertFlags (CMP(W|WU)const x [int32(c)]))

// Match (x >> c) << d to 'rotate then insert selected bits [into zero]'.
(SLDconst (SRDconst x [c]) [d]) => (RISBGZ x {s390x.NewRotateParams(uint8(max8(0, int8(c-d))), 63-d,
uint8(int8(d-c)&63))})

// Match (x << c) >> d to 'rotate then insert selected bits [into zero]'.
(SRDconst (SLDconst x [c]) [d]) => (RISBGZ x {s390x.NewRotateParams(d, uint8(min8(63, int8(63-c+d))),
uint8(int8(c-d)&63))})

// Absorb input zero extension into 'rotate then insert selected bits [into zero]'.
(RISBGZ (MOVWZreg x) {r}) && r.InMerge(0xffffffff) != nil => (RISBGZ x {*r.InMerge(0xffffffff)})
(RISBGZ (MOVHZreg x) {r}) && r.InMerge(0x0000ffff) != nil => (RISBGZ x {*r.InMerge(0x0000ffff)})
(RISBGZ (MOVBZreg x) {r}) && r.InMerge(0x000000ff) != nil => (RISBGZ x {*r.InMerge(0x000000ff)})

// Absorb 'rotate then insert selected bits [into zero]' into zero extension.
(MOVWZreg
 (RISBGZ x {r})) && r.OutMerge(0xffffffff) != nil => (RISBGZ x {*r.OutMerge(0xffffffff)})
(MOVHZreg (RISBGZ x {r})) && r.OutMerge(0x0000ffff) != nil => (RISBGZ x {*r.OutMerge(0x0000ffff)})
(MOVBZreg (RISBGZ x {r})) && r.OutMerge(0x000000ff) != nil => (RISBGZ x {*r.OutMerge(0x000000ff)})

// Absorb shift into 'rotate then insert selected bits [into zero]'.
//
// Any unsigned shift can be represented as a rotate and mask operation:
//
//   x << c => RotateLeft64(x, c) & (^uint64(0) << c)
//   x >> c => RotateLeft64(x, -c) & (^uint64(0) >> c)
//
// Therefore when a shift is used as the input to a rotate then insert
// selected bits instruction we can merge the two together. We just have
// to be careful that the resultant mask is representable (non-zero and
// contiguous). For example, assuming that x is variable and c, y and m
// are constants, a shift followed by a rotate then insert selected bits
// could be represented as:
//
//   RotateLeft64(RotateLeft64(x, c) & (^uint64(0)
 << c), y) & m
//
// We can split the rotation by y into two, one rotate for x and one for
// the mask:
//
//   RotateLeft64(RotateLeft64(x, c), y) & (RotateLeft64(^uint64(0) << c, y)) & m
```

```
//
// The rotations of x by c followed by y can then be combined:
//
//   RotateLeft64(x, c+y) & (RotateLeft64(^uint64(0) << c, y)) & m
//   ^^^^^^^^^^^^^^^^^^^^   ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
//         rotate                      mask
//
// To perform this optimization we therefore just need to check that it
// is valid to merge the shift mask (^(uint64(0)<<c)) into the selected
// bits mask (i.e. that the resultant mask is non-zero and contiguous).
//
(RISBGZ (SLDconst x [c]) {r}) && r.InMerge(^uint64(0)<<c) != nil => (RISBGZ x
{(*r.InMerge(^uint64(0)<<c)).RotateLeft(c)})
(RISBGZ (SRDconst x [c]) {r}) && r.InMerge(^uint64(0)>>c) != nil => (RISBGZ x
{(*r.InMerge(^uint64(0)>>c)).RotateLeft(-c)})

// Absorb 'rotate then insert selected bits [into zero]' into left shift.
(SLDconst (RISBGZ
 x {r}) [c])
 && s390x.NewRotateParams(0, 63-c, c).InMerge(r.OutMask()) != nil
 => (RISBGZ x {(*s390x.NewRotateParams(0, 63-c, c).InMerge(r.OutMask())).RotateLeft(r.Amount)})

// Absorb 'rotate then insert selected bits [into zero]' into right shift.
(SRDconst (RISBGZ x {r}) [c])
 && s390x.NewRotateParams(c, 63, -c&63).InMerge(r.OutMask()) != nil
 => (RISBGZ x {(*s390x.NewRotateParams(c, 63, -c&63).InMerge(r.OutMask())).RotateLeft(r.Amount)})

// Merge 'rotate then insert selected bits [into zero]' instructions together.
(RISBGZ (RISBGZ x {y}) {z})
 && z.InMerge(y.OutMask()) != nil
 => (RISBGZ x {(*z.InMerge(y.OutMask())).RotateLeft(y.Amount)})

// Convert RISBGZ into 64-bit shift (helps CSE).
(RISBGZ x {r}) && r.End == 63 && r.Start == -r.Amount&63 => (SRDconst x [-r.Amount&63])
(RISBGZ x {r}) && r.Start == 0 && r.End == 63-r.Amount => (SLDconst x [r.Amount])

// Optimize single bit isolation when it is known to be equivalent to
// the most significant bit due to mask produced
 by arithmetic shift.
// Simply isolate the most significant bit itself and place it in the
// correct position.
//
// Example: (int64(x) >> 63) & 0x8 -> RISBGZ $60, $60, $4, Rsrc, Rdst
(RISBGZ (SRADconst x [c]) {r})
 && r.Start == r.End          // single bit selected
 && (r.Start+r.Amount)&63 <= c // equivalent to most significant bit of x
 => (RISBGZ x {s390x.NewRotateParams(r.Start, r.Start, -r.Start&63)})
```

```
// Canonicalize the order of arguments to comparisons - helps with CSE.
((CMP|CMPW|CMPU|CMPWU) x y) && canonLessThan(x,y) => (InvertFlags ((CMP|CMPW|CMPU|CMPWU) y x))

// Use sign/zero extend instead of RISBGZ.
(RISBGZ x {r}) && r == s390x.NewRotateParams(56, 63, 0) => (MOVBZreg x)
(RISBGZ x {r}) && r == s390x.NewRotateParams(48, 63, 0) => (MOVHZreg x)
(RISBGZ x {r}) && r == s390x.NewRotateParams(32, 63, 0) => (MOVWZreg x)

// Use sign/zero extend instead of ANDW.
(ANDWconst [0x00ff] x) => (MOVBZreg x)
(ANDWconst [0xffff] x) => (MOVHZreg x)

// Strength reduce multiplication
 to the sum (or difference) of two powers of two.
//
// Examples:
//     5x -> 4x + 1x
//    10x -> 8x + 2x
//   120x -> 128x - 8x
//  -120x -> 8x - 128x
//
// We know that the rightmost bit of any positive value, once isolated, must either
// be a power of 2 (because it is a single bit) or 0 (if the original value is 0).
// In all of these rules we use a rightmost bit calculation to determine one operand
// for the addition or subtraction. We then just need to calculate if the other
// operand is a valid power of 2 before we can match the rule.
//
// Notes:
//   - the generic rules have already matched single powers of two so we ignore them here
//   - isPowerOfTwo32 asserts that its argument is greater than 0
//   - c&(c-1) = clear rightmost bit
//   - c&^(c-1) = isolate rightmost bit

// c = 2 + 2 => c - 2 = 2
(MULL(D|W)const <t> x [c]) && isPowerOfTwo32(c&(c-1))
 => ((ADD|ADDW) (SL(D|W)const <t> x [uint8(log32(c&(c-1)))])
             (SL(D|W)const <t> x [uint8(log32(c&^(c-1)))]))

//
 c = 2 - 2 => c + 2 = 2
(MULL(D|W)const <t> x [c]) && isPowerOfTwo32(c+(c&^(c-1)))
 => ((SUB|SUBW) (SL(D|W)const <t> x [uint8(log32(c+(c&^(c-1))))])
             (SL(D|W)const <t> x [uint8(log32(c&^(c-1)))]))

// c = 2 - 2 => -c + 2 = 2
(MULL(D|W)const <t> x [c]) && isPowerOfTwo32(-c+(-c&^(-c-1)))
 => ((SUB|SUBW) (SL(D|W)const <t> x [uint8(log32(-c&^(-c-1)))])
```

```
(SL(D|W)const <t> x [uint8(log32(-c+(-c&^(-c-1))))]))

// Fold ADD into MOVDaddr. Odd offsets from SB shouldn't be folded (LARL can't handle them).
(ADDconst [c] (MOVDaddr [d] {s} x:(SB))) && ((c+d)&1 == 0) && is32Bit(int64(c)+int64(d)) => (MOVDaddr [c+d] {s} x)
(ADDconst [c] (MOVDaddr [d] {s} x)) && x.Op != OpSB && is20Bit(int64(c)+int64(d)) => (MOVDaddr [c+d] {s} x)
(ADD idx (MOVDaddr [c] {s} ptr)) && ptr.Op != OpSB => (MOVDaddridx [c] {s} ptr idx)

// fold ADDconst into MOVDaddrx
(ADDconst [c] (MOVDaddridx [d] {s} x y)) && is20Bit(int64(c)+int64(d)) => (MOVDaddridx [c+d] {s} x y)
(MOVDaddridx
 [c] {s} (ADDconst [d] x) y) && is20Bit(int64(c)+int64(d)) => (MOVDaddridx [c+d] {s} x y)
(MOVDaddridx [c] {s} x (ADDconst [d] y)) && is20Bit(int64(c)+int64(d)) => (MOVDaddridx [c+d] {s} x y)

// reverse ordering of compare instruction
(LOCGR {c} x y (InvertFlags cmp)) => (LOCGR {c.ReverseComparison()} x y cmp)

// replace load from same location as preceding store with copy
(MOVDload  [off] {sym} ptr1 (MOVDstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => x
(MOVWload  [off] {sym} ptr1 (MOVWstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (MOVWreg x)
(MOVHload  [off] {sym} ptr1 (MOVHstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (MOVHreg x)
(MOVBload  [off] {sym} ptr1 (MOVBstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (MOVBreg x)
(MOVWZload [off] {sym} ptr1 (MOVWstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (MOVWZreg x)
(MOVHZload [off] {sym} ptr1 (MOVHstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (MOVHZreg x)
(MOVBZload
 [off] {sym} ptr1 (MOVBstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (MOVBZreg x)
(MOVDload  [off] {sym} ptr1 (FMOVDstore [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (LGDR x)
(FMOVDload [off] {sym} ptr1 (MOVDstore  [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => (LDGR x)
(FMOVDload [off] {sym} ptr1 (FMOVDstore [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => x
(FMOVSload [off] {sym} ptr1 (FMOVSstore [off] {sym} ptr2 x _)) && isSamePtr(ptr1, ptr2) => x

// prefer FPR <-> GPR moves over combined load ops
(MULLDload <t> [off] {sym} x ptr1 (FMOVDstore [off] {sym} ptr2 y _)) && isSamePtr(ptr1, ptr2) => (MULLD x (LGDR <t> y))
(ADDload   <t> [off] {sym} x ptr1 (FMOVDstore [off] {sym} ptr2 y _)) && isSamePtr(ptr1, ptr2) => (ADD   x (LGDR <t> y))
(SUBload   <t> [off] {sym} x ptr1 (FMOVDstore [off] {sym} ptr2 y _)) && isSamePtr(ptr1, ptr2) => (SUB   x (LGDR <t> y))
(ORload    <t> [off] {sym} x ptr1 (FMOVDstore [off] {sym} ptr2 y _)) && isSamePtr(ptr1, ptr2) => (OR
   x (LGDR <t> y))
(ANDload   <t> [off] {sym} x ptr1 (FMOVDstore [off] {sym} ptr2 y _)) && isSamePtr(ptr1, ptr2) => (AND   x (LGDR <t> y))
(XORload   <t> [off] {sym} x ptr1 (FMOVDstore [off] {sym} ptr2 y _)) && isSamePtr(ptr1, ptr2) => (XOR   x (LGDR <t> y))

// detect attempts to set/clear the sign bit
// may need to be reworked when NIHH/OIHH are added
```

```
(RISBGZ (LGDR <t> x) {r}) && r == s390x.NewRotateParams(1, 63, 0) => (LGDR <t> (LPDFR <x.Type> x))
(LDGR <t> (RISBGZ x {r})) && r == s390x.NewRotateParams(1, 63, 0) => (LPDFR (LDGR <t> x))
(OR (MOVDconst [-1<<63]) (LGDR <t> x)) => (LGDR <t> (LNDFR <x.Type> x))
(LDGR <t> (OR (MOVDconst [-1<<63]) x)) => (LNDFR (LDGR <t> x))

// detect attempts to set the sign bit with load
(LDGR <t> x:(ORload <t1> [off] {sym} (MOVDconst [-1<<63]) ptr mem)) && x.Uses == 1 && clobber(x) =>
@x.Block (LNDFR <t> (LDGR <t> (MOVDload <t1> [off] {sym} ptr mem)))

// detect copysign
(OR (RISBGZ (LGDR x) {r}) (LGDR (LPDFR <t> y)))
 && r == s390x.NewRotateParams(0,
 0, 0)
 => (LGDR (CPSDR <t> y x))
(OR (RISBGZ (LGDR x) {r}) (MOVDconst [c]))
 && c >= 0
 && r == s390x.NewRotateParams(0, 0, 0)
 => (LGDR (CPSDR <x.Type> (FMOVDconst <x.Type> [math.Float64frombits(uint64(c))]) x))
(CPSDR y (FMOVDconst [c])) && !math.Signbit(c) => (LPDFR y)
(CPSDR y (FMOVDconst [c])) && math.Signbit(c)  => (LNDFR y)

// absorb negations into set/clear sign bit
(FNEG  (LPDFR x)) => (LNDFR x)
(FNEG  (LNDFR x)) => (LPDFR x)
(FNEGS (LPDFR x)) => (LNDFR x)
(FNEGS (LNDFR x)) => (LPDFR x)

// no need to convert float32 to float64 to set/clear sign bit
(LEDBR (LPDFR (LDEBR x))) => (LPDFR x)
(LEDBR (LNDFR (LDEBR x))) => (LNDFR x)

// remove unnecessary FPR <-> GPR moves
(LDGR (LGDR x)) => x
(LGDR (LDGR x)) => x

// Don't extend before storing
(MOVWstore [off] {sym} ptr (MOVWreg x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBreg x) mem) => (MOVBstore [off] {sym} ptr
 x mem)
(MOVWstore [off] {sym} ptr (MOVWZreg x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHZreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBZreg x) mem) => (MOVBstore [off] {sym} ptr x mem)

// Fold constants into memory operations.
// Note that this is not always a good idea because if not all the uses of
// the ADDconst get eliminated, we still have to compute the ADDconst and we now
// have potentially two live values (ptr and (ADDconst [off] ptr)) instead of one.
```

```
// Nevertheless, let's do it!
(MOVDload   [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (MOVDload
[off1+off2] {sym} ptr mem)
(MOVWload   [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (MOVWload
[off1+off2] {sym} ptr mem)
(MOVHload   [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (MOVHload
[off1+off2] {sym} ptr mem)
(MOVBload   [off1] {sym} (ADDconst [off2] ptr)
 mem) && is20Bit(int64(off1)+int64(off2)) => (MOVBload  [off1+off2] {sym} ptr mem)
(MOVWZload  [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (MOVWZload
[off1+off2] {sym} ptr mem)
(MOVHZload  [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (MOVHZload
[off1+off2] {sym} ptr mem)
(MOVBZload  [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (MOVBZload
[off1+off2] {sym} ptr mem)
(FMOVSload  [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (FMOVSload
[off1+off2] {sym} ptr mem)
(FMOVDload  [off1] {sym} (ADDconst [off2] ptr) mem) && is20Bit(int64(off1)+int64(off2)) => (FMOVDload
[off1+off2] {sym} ptr mem)

(MOVDstore  [off1] {sym} (ADDconst [off2] ptr) val mem) && is20Bit(int64(off1)+int64(off2)) => (MOVDstore
[off1+off2] {sym} ptr val mem)
(MOVWstore  [off1] {sym} (ADDconst [off2] ptr) val mem) && is20Bit(int64(off1)+int64(off2)) => (MOVWstore
[off1+off2] {sym} ptr val
 mem)
(MOVHstore  [off1] {sym} (ADDconst [off2] ptr) val mem) && is20Bit(int64(off1)+int64(off2)) => (MOVHstore
[off1+off2] {sym} ptr val mem)
(MOVBstore  [off1] {sym} (ADDconst [off2] ptr) val mem) && is20Bit(int64(off1)+int64(off2)) => (MOVBstore
[off1+off2] {sym} ptr val mem)
(FMOVSstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is20Bit(int64(off1)+int64(off2)) => (FMOVSstore
[off1+off2] {sym} ptr val mem)
(FMOVDstore [off1] {sym} (ADDconst [off2] ptr) val mem) && is20Bit(int64(off1)+int64(off2)) =>
(FMOVDstore [off1+off2] {sym} ptr val mem)

(ADDload   [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (ADDload   [off1+off2] {sym} x ptr mem)
(ADDWload  [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (ADDWload  [off1+off2] {sym} x ptr mem)
(MULLDload [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB &&
is20Bit(int64(off1)+int64(off2)) => (MULLDload [off1+off2] {sym} x
 ptr mem)
(MULLWload [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB &&
is20Bit(int64(off1)+int64(off2)) => (MULLWload [off1+off2] {sym} x ptr mem)
(SUBload   [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (SUBload   [off1+off2] {sym} x ptr mem)
(SUBWload  [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (SUBWload  [off1+off2] {sym} x ptr mem)
```

```
(ANDload   [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (ANDload   [off1+off2] {sym} x ptr mem)
(ANDWload  [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (ANDWload  [off1+off2] {sym} x ptr mem)
(ORload    [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (ORload    [off1+off2] {sym} x ptr mem)
(ORWload   [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
 => (ORWload   [off1+off2] {sym} x ptr mem)
(XORload   [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (XORload   [off1+off2] {sym} x ptr mem)
(XORWload  [off1] {sym} x (ADDconst [off2] ptr) mem) && ptr.Op != OpSB && is20Bit(int64(off1)+int64(off2))
=> (XORWload  [off1+off2] {sym} x ptr mem)

// Fold constants into stores.
(MOVDstore [off] {sym} ptr (MOVDconst [c]) mem) && is16Bit(c) && isU12Bit(int64(off)) && ptr.Op != OpSB
=>
 (MOVDstoreconst [makeValAndOff(int32(c),off)] {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOVDconst [c]) mem) && is16Bit(c) && isU12Bit(int64(off)) && ptr.Op != OpSB
=>
 (MOVWstoreconst [makeValAndOff(int32(c),off)] {sym} ptr mem)
(MOVHstore [off] {sym} ptr (MOVDconst [c]) mem) && isU12Bit(int64(off)) && ptr.Op != OpSB =>
 (MOVHstoreconst [makeValAndOff(int32(int16(c)),off)] {sym} ptr mem)
(MOVBstore [off] {sym} ptr (MOVDconst [c]) mem) && is20Bit(int64(off)) && ptr.Op != OpSB =>
 (MOVBstoreconst
 [makeValAndOff(int32(int8(c)),off)] {sym} ptr mem)

// Fold address offsets into constant stores.
(MOVDstoreconst [sc] {s} (ADDconst [off] ptr) mem) && isU12Bit(sc.Off64()+int64(off)) =>
 (MOVDstoreconst [sc.addOffset32(off)] {s} ptr mem)
(MOVWstoreconst [sc] {s} (ADDconst [off] ptr) mem) && isU12Bit(sc.Off64()+int64(off)) =>
 (MOVWstoreconst [sc.addOffset32(off)] {s} ptr mem)
(MOVHstoreconst [sc] {s} (ADDconst [off] ptr) mem) && isU12Bit(sc.Off64()+int64(off)) =>
 (MOVHstoreconst [sc.addOffset32(off)] {s} ptr mem)
(MOVBstoreconst [sc] {s} (ADDconst [off] ptr) mem) && is20Bit(sc.Off64()+int64(off)) =>
 (MOVBstoreconst [sc.addOffset32(off)] {s} ptr mem)

// Merge address calculations into loads and stores.
// Offsets from SB must not be merged into unaligned memory accesses because
// loads/stores using PC-relative addressing directly must be aligned to the
// size of the target.
(MOVDload   [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1,
 sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%8 == 0 && (off1+off2)%8 == 0)) =>
 (MOVDload  [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVWZload  [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2))
&& canMergeSym(sym1, sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%4 == 0 &&
(off1+off2)%4 == 0)) =>
 (MOVWZload  [off1+off2] {mergeSym(sym1,sym2)} base mem)
```

```
(MOVHZload  [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%2 == 0 &&
(off1+off2)%2 == 0)) =>
 (MOVHZload  [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVBZload  [off1] {sym1} (MOVDaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVBZload  [off1+off2] {mergeSym(sym1,sym2)} base mem)
(FMOVSload [off1] {sym1} (MOVDaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2))
 && canMergeSym(sym1, sym2) =>
 (FMOVSload [off1+off2] {mergeSym(sym1,sym2)} base mem)
(FMOVDload [off1] {sym1} (MOVDaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (FMOVDload [off1+off2] {mergeSym(sym1,sym2)} base mem)

(MOVWload [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%4 == 0 &&
(off1+off2)%4 == 0)) =>
 (MOVWload [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVHload [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%2 == 0 &&
(off1+off2)%2 == 0)) =>
 (MOVHload [off1+off2] {mergeSym(sym1,sym2)} base mem)
(MOVBload [off1] {sym1} (MOVDaddr [off2] {sym2} base) mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVBload [off1+off2] {mergeSym(sym1,sym2)} base mem)

(MOVDstore
  [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%8 == 0 &&
(off1+off2)%8 == 0)) =>
 (MOVDstore  [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOVWstore  [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2))
&& canMergeSym(sym1, sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%4 == 0 &&
(off1+off2)%4 == 0)) =>
 (MOVWstore  [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOVHstore  [off1] {sym1} (MOVDaddr <t> [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2))
&& canMergeSym(sym1, sym2) && (base.Op != OpSB || (t.IsPtr() && t.Elem().Alignment()%2 == 0 &&
(off1+off2)%2 == 0)) =>
 (MOVHstore  [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(MOVBstore  [off1] {sym1} (MOVDaddr [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (MOVBstore  [off1+off2]
 {mergeSym(sym1,sym2)} base val mem)
(FMOVSstore [off1] {sym1} (MOVDaddr [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
 (FMOVSstore [off1+off2] {mergeSym(sym1,sym2)} base val mem)
(FMOVDstore [off1] {sym1} (MOVDaddr [off2] {sym2} base) val mem) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) =>
```

```
(FMOVDstore [off1+off2] {mergeSym(sym1,sym2)} base val mem)

(ADDload   [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (ADDload   [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(ADDWload  [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (ADDWload  [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(MULLDload [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (MULLDload [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(MULLWload [o1] {s1} x (MOVDaddr [o2]
 {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2)) && canMergeSym(s1, s2) => (MULLWload
[o1+o2] {mergeSym(s1, s2)} x ptr mem)
(SUBload   [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (SUBload   [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(SUBWload  [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (SUBWload  [o1+o2] {mergeSym(s1, s2)} x ptr mem)

(ANDload   [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (ANDload   [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(ANDWload  [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (ANDWload  [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(ORload    [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2)) &&
canMergeSym(s1, s2) => (ORload    [o1+o2]
 {mergeSym(s1, s2)} x ptr mem)
(ORWload   [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (ORWload   [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(XORload   [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (XORload   [o1+o2] {mergeSym(s1, s2)} x ptr mem)
(XORWload  [o1] {s1} x (MOVDaddr [o2] {s2} ptr) mem) && ptr.Op != OpSB && is20Bit(int64(o1)+int64(o2))
&& canMergeSym(s1, s2) => (XORWload  [o1+o2] {mergeSym(s1, s2)} x ptr mem)

// Cannot store constant to SB directly (no 'move relative long immediate' instructions).
(MOVDstoreconst [sc] {sym1} (MOVDaddr [off] {sym2} ptr) mem) && ptr.Op != OpSB &&
canMergeSym(sym1, sym2) && sc.canAdd32(off) =>
 (MOVDstoreconst [sc.addOffset32(off)] {mergeSym(sym1, sym2)} ptr mem)
(MOVWstoreconst [sc] {sym1} (MOVDaddr [off] {sym2} ptr) mem) && ptr.Op != OpSB &&
canMergeSym(sym1, sym2) && sc.canAdd32(off) =>
 (MOVWstoreconst
 [sc.addOffset32(off)] {mergeSym(sym1, sym2)} ptr mem)
(MOVHstoreconst [sc] {sym1} (MOVDaddr [off] {sym2} ptr) mem) && ptr.Op != OpSB &&
canMergeSym(sym1, sym2) && sc.canAdd32(off) =>
 (MOVHstoreconst [sc.addOffset32(off)] {mergeSym(sym1, sym2)} ptr mem)
(MOVBstoreconst [sc] {sym1} (MOVDaddr [off] {sym2} ptr) mem) && ptr.Op != OpSB && canMergeSym(sym1,
sym2) && sc.canAdd32(off) =>
 (MOVBstoreconst [sc.addOffset32(off)] {mergeSym(sym1, sym2)} ptr mem)

// MOVDaddr into MOVDaddridx
(MOVDaddridx [off1] {sym1} (MOVDaddr [off2] {sym2} x) y) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && x.Op != OpSB =>
```

```
    (MOVDaddridx [off1+off2] {mergeSym(sym1,sym2)} x y)
(MOVDaddridx [off1] {sym1} x (MOVDaddr [off2] {sym2} y)) && is32Bit(int64(off1)+int64(off2)) &&
canMergeSym(sym1, sym2) && y.Op != OpSB =>
    (MOVDaddridx [off1+off2] {mergeSym(sym1,sym2)} x y)

// Absorb InvertFlags into branches.
(BRC {c} (InvertFlags cmp) yes no) => (BRC {c.ReverseComparison()} cmp yes no)

//
 Constant comparisons.
(CMPconst (MOVDconst [x]) [y]) && x==int64(y) => (FlagEQ)
(CMPconst (MOVDconst [x]) [y]) && x<int64(y) => (FlagLT)
(CMPconst (MOVDconst [x]) [y]) && x>int64(y) => (FlagGT)
(CMPUconst (MOVDconst [x]) [y]) && uint64(x)==uint64(y) => (FlagEQ)
(CMPUconst (MOVDconst [x]) [y]) && uint64(x)<uint64(y) => (FlagLT)
(CMPUconst (MOVDconst [x]) [y]) && uint64(x)>uint64(y) => (FlagGT)

(CMPWconst (MOVDconst [x]) [y]) && int32(x)==int32(y) => (FlagEQ)
(CMPWconst (MOVDconst [x]) [y]) && int32(x)<int32(y) => (FlagLT)
(CMPWconst (MOVDconst [x]) [y]) && int32(x)>int32(y) => (FlagGT)
(CMPWUconst (MOVDconst [x]) [y]) && uint32(x)==uint32(y) => (FlagEQ)
(CMPWUconst (MOVDconst [x]) [y]) && uint32(x)<uint32(y) => (FlagLT)
(CMPWUconst (MOVDconst [x]) [y]) && uint32(x)>uint32(y) => (FlagGT)

(CMP(W|WU)const (MOVBZreg _) [c]) &&   0xff < c => (FlagLT)
(CMP(W|WU)const (MOVHZreg _) [c]) && 0xffff < c => (FlagLT)

(CMPconst  (SRDconst _ [c]) [n]) && c > 0 && n < 0 => (FlagGT)
(CMPWconst
 (SRWconst _ [c]) [n]) && c > 0 && n < 0 => (FlagGT)

(CMPUconst  (SRDconst _ [c]) [n]) && c > 0 && c < 64 && (1<<uint(64-c)) <= uint64(n) => (FlagLT)
(CMPWUconst (SRWconst _ [c]) [n]) && c > 0 && c < 32 && (1<<uint(32-c)) <= uint32(n) => (FlagLT)

(CMPWconst  (ANDWconst _ [m]) [n]) && int32(m) >= 0 &&  int32(m) <  int32(n) => (FlagLT)
(CMPWUconst (ANDWconst _ [m]) [n]) && uint32(m) < uint32(n) => (FlagLT)

(CMPconst  (RISBGZ x {r}) [c]) && c > 0 && r.OutMask() < uint64(c) => (FlagLT)
(CMPUconst (RISBGZ x {r}) [c]) && r.OutMask() < uint64(uint32(c)) => (FlagLT)

// Constant compare-and-branch with immediate.
(CGIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   != 0 &&  int64(x) ==  int64(y) => (First yes no)
(CGIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Less    != 0 &&  int64(x) <   int64(y) => (First yes no)
(CGIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater != 0 &&  int64(x) >   int64(y) => (First yes no)
(CIJ   {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   != 0 &&
  int32(x) ==  int32(y) => (First yes no)
(CIJ   {c} (MOVDconst [x]) [y] yes no) && c&s390x.Less    != 0 &&  int32(x) <   int32(y) => (First yes no)
(CIJ   {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater != 0 &&  int32(x) >   int32(y) => (First yes no)
```

```
(CLGIJ {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   != 0 && uint64(x) == uint64(y) => (First yes no)
(CLGIJ {c} (MOVDconst [x]) [y] yes no) && c&s390x.Less    != 0 && uint64(x) <  uint64(y) => (First yes no)
(CLGIJ {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater != 0 && uint64(x) >  uint64(y) => (First yes no)
(CLIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   != 0 && uint32(x) == uint32(y) => (First yes no)
(CLIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Less    != 0 && uint32(x) <  uint32(y) => (First yes no)
(CLIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater != 0 && uint32(x) >  uint32(y) => (First yes no)
(CGIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   == 0 &&  int64(x) ==  int64(y) => (First no
 yes)
(CGIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Less    == 0 &&  int64(x) <   int64(y) => (First no yes)
(CGIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater == 0 &&  int64(x) >   int64(y) => (First no yes)
(CIJ   {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   == 0 &&  int32(x) ==  int32(y) => (First no yes)
(CIJ   {c} (MOVDconst [x]) [y] yes no) && c&s390x.Less    == 0 &&  int32(x) <   int32(y) => (First no yes)
(CIJ   {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater == 0 &&  int32(x) >   int32(y) => (First no yes)
(CLGIJ {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   == 0 && uint64(x) == uint64(y) => (First no yes)
(CLGIJ {c} (MOVDconst [x]) [y] yes no) && c&s390x.Less    == 0 && uint64(x) <  uint64(y) => (First no yes)
(CLGIJ {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater == 0 && uint64(x) >  uint64(y) => (First no yes)
(CLIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Equal   == 0 && uint32(x) == uint32(y) => (First no yes)
(CLIJ  {c} (MOVDconst [x]) [y]
 yes no) && c&s390x.Less    == 0 && uint32(x) <  uint32(y) => (First no yes)
(CLIJ  {c} (MOVDconst [x]) [y] yes no) && c&s390x.Greater == 0 && uint32(x) >  uint32(y) => (First no yes)

// Constant compare-and-branch with immediate when unsigned comparison with zero.
(C(L|LG)IJ {s390x.GreaterOrEqual} _ [0] yes no) => (First yes no)
(C(L|LG)IJ {s390x.Less}           _ [0] yes no) => (First no yes)

// Constant compare-and-branch when operands match.
(C(GR|R|LGR|LR)J {c} x y yes no) && x == y && c&s390x.Equal != 0 => (First yes no)
(C(GR|R|LGR|LR)J {c} x y yes no) && x == y && c&s390x.Equal == 0 => (First no yes)

// Convert 64-bit comparisons to 32-bit comparisons and signed comparisons
// to unsigned comparisons.
// Helps simplify constant comparison detection.
(CM(P|PU)const (MOV(W|WZ)reg x) [c]) => (CMP(W|WU)const x [c])
(CM(P|P|PU|PU)const x:(MOV(H|HZ|H|HZ)reg _) [c]) => (CMP(W|W|WU|WU)const x [c])
(CM(P|P|PU|PU)const x:(MOV(B|BZ|B|BZ)reg _) [c]) => (CMP(W|W|WU|WU)const x [c])
(CMPconst
  (MOV(WZ|W)reg x:(ANDWconst [m] _)) [c]) && int32(m) >= 0 && c >= 0 => (CMPWUconst x [c])
(CMPUconst (MOV(WZ|W)reg x:(ANDWconst [m] _)) [c]) && int32(m) >= 0          => (CMPWUconst x [c])
(CMPconst  x:(SRDconst _ [c]) [n]) && c > 0 && n >= 0 => (CMPUconst  x [n])
(CMPWconst x:(SRWconst _ [c]) [n]) && c > 0 && n >= 0 => (CMPWUconst x [n])

// Absorb sign and zero extensions into 32-bit comparisons.
(CMP(W|W|WU|WU)      x (MOV(W|WZ|W|WZ)reg y))   => (CMP(W|W|WU|WU) x y)
(CMP(W|W|WU|WU)      (MOV(W|WZ|W|WZ)reg x) y)   => (CMP(W|W|WU|WU) x y)
(CMP(W|W|WU|WU)const (MOV(W|WZ|W|WZ)reg x) [c]) => (CMP(W|W|WU|WU)const x [c])

// Absorb flag constants into branches.
(BRC {c} (FlagEQ) yes no) && c&s390x.Equal     != 0 => (First yes no)
```

```
(BRC {c} (FlagLT) yes no) && c&s390x.Less      != 0 => (First yes no)
(BRC {c} (FlagGT) yes no) && c&s390x.Greater   != 0 => (First yes no)
(BRC {c} (FlagOV) yes no) && c&s390x.Unordered != 0 => (First yes no)

(BRC {c} (FlagEQ) yes no) && c&s390x.Equal     ==
 0 => (First no yes)
(BRC {c} (FlagLT) yes no) && c&s390x.Less      == 0 => (First no yes)
(BRC {c} (FlagGT) yes no) && c&s390x.Greater   == 0 => (First no yes)
(BRC {c} (FlagOV) yes no) && c&s390x.Unordered == 0 => (First no yes)

// Absorb flag constants into SETxx ops.
(LOCGR {c} _ x (FlagEQ)) && c&s390x.Equal     != 0 => x
(LOCGR {c} _ x (FlagLT)) && c&s390x.Less      != 0 => x
(LOCGR {c} _ x (FlagGT)) && c&s390x.Greater   != 0 => x
(LOCGR {c} _ x (FlagOV)) && c&s390x.Unordered != 0 => x

(LOCGR {c} x _ (FlagEQ)) && c&s390x.Equal     == 0 => x
(LOCGR {c} x _ (FlagLT)) && c&s390x.Less      == 0 => x
(LOCGR {c} x _ (FlagGT)) && c&s390x.Greater   == 0 => x
(LOCGR {c} x _ (FlagOV)) && c&s390x.Unordered == 0 => x

// Remove redundant *const ops
(ADDconst [0] x) => x
(ADDWconst [c] x) && int32(c)==0 => x
(SUBconst [0] x) => x
(SUBWconst [c] x) && int32(c) == 0 => x
(ANDconst [0] _)              => (MOVDconst [0])
(ANDWconst [c] _) && int32(c)==0  => (MOVDconst [0])
(ANDconst [-1] x)
            => x
(ANDWconst [c] x) && int32(c)==-1 => x
(ORconst [0] x)               => x
(ORWconst [c] x) && int32(c)==0   => x
(ORconst [-1] _)              => (MOVDconst [-1])
(ORWconst [c] _) && int32(c)==-1  => (MOVDconst [-1])
(XORconst [0] x)               => x
(XORWconst [c] x) && int32(c)==0   => x

// Shifts by zero (may be inserted during multiplication strength reduction).
((SLD|SLW|SRD|SRW|SRAD|SRAW)const x [0]) => x

// Convert constant subtracts to constant adds.
(SUBconst [c] x) && c != -(1<<31) => (ADDconst [-c] x)
(SUBWconst [c] x) => (ADDWconst [-int32(c)] x)

// generic constant folding
// TODO: more of this
(ADDconst [c] (MOVDconst [d])) => (MOVDconst [int64(c)+d])
```

```
(ADDWconst [c] (MOVDconst [d])) => (MOVDconst [int64(c)+d])
(ADDconst [c] (ADDconst [d] x)) && is32Bit(int64(c)+int64(d)) => (ADDconst [c+d] x)
(ADDWconst [c] (ADDWconst [d] x)) => (ADDWconst [int32(c+d)] x)
(SUBconst (MOVDconst [d]) [c]) => (MOVDconst [d-int64(c)])
(SUBconst (SUBconst x [d])
 [c]) && is32Bit(-int64(c)-int64(d)) => (ADDconst [-c-d] x)
(SRADconst [c] (MOVDconst [d])) => (MOVDconst [d>>uint64(c)])
(SRAWconst [c] (MOVDconst [d])) => (MOVDconst [int64(int32(d))>>uint64(c)])
(NEG (MOVDconst [c])) => (MOVDconst [-c])
(NEGW (MOVDconst [c])) => (MOVDconst [int64(int32(-c))])
(MULLDconst [c] (MOVDconst [d])) => (MOVDconst [int64(c)*d])
(MULLWconst [c] (MOVDconst [d])) => (MOVDconst [int64(c*int32(d))])
(AND (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c&d])
(ANDconst [c] (MOVDconst [d])) => (MOVDconst [c&d])
(ANDWconst [c] (MOVDconst [d])) => (MOVDconst [int64(c)&d])
(OR (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c|d])
(ORconst [c] (MOVDconst [d])) => (MOVDconst [c|d])
(ORWconst [c] (MOVDconst [d])) => (MOVDconst [int64(c)|d])
(XOR (MOVDconst [c]) (MOVDconst [d])) => (MOVDconst [c^d])
(XORconst [c] (MOVDconst [d])) => (MOVDconst [c^d])
(XORWconst [c] (MOVDconst [d])) => (MOVDconst [int64(c)^d])
(LoweredRound32F x:(FMOVSconst)) => x
(LoweredRound64F x:(FMOVDconst))
 => x

// generic simplifications
// TODO: more of this
(ADD x (NEG y)) => (SUB x y)
(ADDW x (NEGW y)) => (SUBW x y)
(SUB x x) => (MOVDconst [0])
(SUBW x x) => (MOVDconst [0])
(AND x x) => x
(ANDW x x) => x
(OR x x) => x
(ORW x x) => x
(XOR x x) => (MOVDconst [0])
(XORW x x) => (MOVDconst [0])
(NEG (ADDconst [c] (NEG x))) && c != -(1<<31) => (ADDconst [-c] x)
(MOVBZreg (ANDWconst [m] x)) => (MOVWZreg (ANDWconst <typ.UInt32> [int32( uint8(m))] x))
(MOVHZreg (ANDWconst [m] x)) => (MOVWZreg (ANDWconst <typ.UInt32> [int32(uint16(m))] x))
(MOVBreg  (ANDWconst [m] x)) &&  int8(m) >= 0 => (MOVWZreg (ANDWconst <typ.UInt32> [int32(
uint8(m))] x))
(MOVHreg  (ANDWconst [m] x)) && int16(m) >= 0 => (MOVWZreg (ANDWconst <typ.UInt32>
[int32(uint16(m))] x))

// carry flag generation
// (only constant fold carry of zero)
(Select1 (ADDCconst (MOVDconst [c]) [d]))
```

```
 && uint64(c+int64(d)) >= uint64(c) && c+int64(d) == 0
 => (FlagEQ)
(Select1 (ADDCconst (MOVDconst [c]) [d]))
 && uint64(c+int64(d))
 >= uint64(c) && c+int64(d) != 0
 => (FlagLT)

// borrow flag generation
// (only constant fold borrow of zero)
(Select1 (SUBC (MOVDconst [c]) (MOVDconst [d])))
 && uint64(d) <= uint64(c) && c-d == 0
 => (FlagGT)
(Select1 (SUBC (MOVDconst [c]) (MOVDconst [d])))
 && uint64(d) <= uint64(c) && c-d != 0
 => (FlagOV)

// add with carry
(ADDE x y (FlagEQ)) => (ADDC x y)
(ADDE x y (FlagLT)) => (ADDC x y)
(ADDC x (MOVDconst [c])) && is16Bit(c) => (ADDCconst x [int16(c)])
(Select0 (ADDCconst (MOVDconst [c]) [d])) => (MOVDconst [c+int64(d)])

// subtract with borrow
(SUBE x y (FlagGT)) => (SUBC x y)
(SUBE x y (FlagOV)) => (SUBC x y)
(Select0 (SUBC (MOVDconst [c]) (MOVDconst [d]))) => (MOVDconst [c-d])

// collapse carry chain
(ADDE x y (Select1 (ADDCconst [-1] (Select0 (ADDE (MOVDconst [0]) (MOVDconst [0]) c)))))
 => (ADDE x y c)

// collapse borrow chain
(SUBE x y (Select1 (SUBC (MOVDconst [0]) (NEG (Select0 (SUBE (MOVDconst [0]) (MOVDconst [0]) c))))))
 => (SUBE x y c)

// branch on carry
(C(G|LG)IJ
 {s390x.Equal}        (Select0 (ADDE (MOVDconst [0]) (MOVDconst [0]) carry)) [0]) => (BRC {s390x.NoCarry}
carry)
(C(G|LG)IJ {s390x.Equal}        (Select0 (ADDE (MOVDconst [0]) (MOVDconst [0]) carry)) [1]) => (BRC
{s390x.Carry}   carry)
(C(G|LG)IJ {s390x.LessOrGreater} (Select0 (ADDE (MOVDconst [0]) (MOVDconst [0]) carry)) [0]) => (BRC
{s390x.Carry}   carry)
(C(G|LG)IJ {s390x.LessOrGreater} (Select0 (ADDE (MOVDconst [0]) (MOVDconst [0]) carry)) [1]) => (BRC
{s390x.NoCarry} carry)
(C(G|LG)IJ {s390x.Greater}       (Select0 (ADDE (MOVDconst [0]) (MOVDconst [0]) carry)) [0]) => (BRC
{s390x.Carry}   carry)
```

```
// branch on borrow
(C(G|LG)IJ {s390x.Equal}        (NEG (Select0 (SUBE (MOVDconst [0]) (MOVDconst [0]) borrow))) [0]) =>
(BRC {s390x.NoBorrow} borrow)
(C(G|LG)IJ {s390x.Equal}        (NEG (Select0 (SUBE (MOVDconst [0]) (MOVDconst [0]) borrow))) [1]) =>
(BRC {s390x.Borrow}   borrow)
(C(G|LG)IJ {s390x.LessOrGreater} (NEG (Select0 (SUBE (MOVDconst [0]) (MOVDconst [0]) borrow)))
 [0]) => (BRC {s390x.Borrow}   borrow)
(C(G|LG)IJ {s390x.LessOrGreater} (NEG (Select0 (SUBE (MOVDconst [0]) (MOVDconst [0]) borrow))) [1]) =>
(BRC {s390x.NoBorrow} borrow)
(C(G|LG)IJ {s390x.Greater}      (NEG (Select0 (SUBE (MOVDconst [0]) (MOVDconst [0]) borrow))) [0]) =>
(BRC {s390x.Borrow}   borrow)

// fused multiply-add
(Select0 (F(ADD|SUB) (FMUL y z) x)) => (FM(ADD|SUB) x y z)
(Select0 (F(ADDS|SUBS) (FMULS y z) x)) => (FM(ADDS|SUBS) x y z)

// Convert floating point comparisons against zero into 'load and test' instructions.
(F(CMP|CMPS) x (FMOV(D|S)const [0.0])) => (LT(D|E)BR x)
(F(CMP|CMPS) (FMOV(D|S)const [0.0]) x) => (InvertFlags (LT(D|E)BR <v.Type> x))

// FSUB, FSUBS, FADD, FADDS now produce a condition code representing the
// comparison of the result with 0.0. If a compare with zero instruction
// (e.g. LTDBR) is following one of those instructions, we can use the
// generated flag and remove the comparison instruction.
// Note: when inserting Select1 ops we need to ensure
 they are in the
// same block as their argument. We could also use @x.Block for this
// but moving the flag generating value to a different block seems to
// increase the likelihood that the flags value will have to be regenerated
// by flagalloc which is not what we want.
(LTDBR (Select0 x:(F(ADD|SUB) _ _)))   && b == x.Block => (Select1 x)
(LTEBR (Select0 x:(F(ADDS|SUBS) _ _))) && b == x.Block => (Select1 x)

// Fold memory operations into operations.
// Exclude global data (SB) because these instructions cannot handle relative addresses.
// TODO(mundaym): indexed versions of these?
((ADD|SUB|MULLD|AND|OR|XOR) <t> x g:(MOVDload [off] {sym} ptr mem))
 && ptr.Op != OpSB
 && is20Bit(int64(off))
 && canMergeLoadClobber(v, g, x)
 && clobber(g)
 => ((ADD|SUB|MULLD|AND|OR|XOR)load <t> [off] {sym} x ptr mem)
((ADD|SUB|MULL|AND|OR|XOR)W <t> x g:(MOVWload [off] {sym} ptr mem))
 && ptr.Op != OpSB
 && is20Bit(int64(off))
 && canMergeLoadClobber(v, g, x)
 && clobber(g)
 => ((ADD|SUB|MULL|AND|OR|XOR)Wload
```

```
 <t> [off] {sym} x ptr mem)
((ADD|SUB|MULL|AND|OR|XOR)W <t> x g:(MOVWZload [off] {sym} ptr mem))
 && ptr.Op != OpSB
 && is20Bit(int64(off))
 && canMergeLoadClobber(v, g, x)
 && clobber(g)
 => ((ADD|SUB|MULL|AND|OR|XOR)Wload <t> [off] {sym} x ptr mem)

// Combine constant stores into larger (unaligned) stores.
// Avoid SB because constant stores to relative offsets are
// emulated by the assembler and also can't handle unaligned offsets.
(MOVBstoreconst [c] {s} p x:(MOVBstoreconst [a] {s} p mem))
 && p.Op != OpSB
 && x.Uses == 1
 && a.Off() + 1 == c.Off()
 && clobber(x)
 => (MOVHstoreconst [makeValAndOff(c.Val()&0xff | a.Val()<<8, a.Off())] {s} p mem)
(MOVHstoreconst [c] {s} p x:(MOVHstoreconst [a] {s} p mem))
 && p.Op != OpSB
 && x.Uses == 1
 && a.Off() + 2 == c.Off()
 && clobber(x)
 => (MOVWstore [a.Off()] {s} p (MOVDconst [int64(c.Val()&0xffff | a.Val()<<16)]) mem)
(MOVWstoreconst [c] {s} p x:(MOVWstoreconst [a] {s} p mem))
 && p.Op != OpSB
 &&
 x.Uses == 1
 && a.Off() + 4 == c.Off()
 && clobber(x)
 => (MOVDstore [a.Off()] {s} p (MOVDconst [c.Val64()&0xffffffff | a.Val64()<<32]) mem)

// Combine stores into larger (unaligned) stores.
// It doesn't work on global data (based on SB) because stores with relative addressing
// require that the memory operand be aligned.
(MOVBstore [i] {s} p w x:(MOVBstore [i-1] {s} p (SRDconst [8] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVHstore [i-1] {s} p w mem)
(MOVBstore [i] {s} p w0:(SRDconst [j] w) x:(MOVBstore [i-1] {s} p (SRDconst [j+8] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVHstore [i-1] {s} p w0 mem)
(MOVBstore [i] {s} p w x:(MOVBstore [i-1] {s} p (SRWconst [8] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
```

```
 => (MOVHstore [i-1] {s} p w mem)
(MOVBstore [i] {s} p w0:(SRWconst [j] w) x:(MOVBstore [i-1] {s} p (SRWconst [j+8] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVHstore [i-1] {s} p w0 mem)
(MOVHstore
 [i] {s} p w x:(MOVHstore [i-2] {s} p (SRDconst [16] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i-2] {s} p w mem)
(MOVHstore [i] {s} p w0:(SRDconst [j] w) x:(MOVHstore [i-2] {s} p (SRDconst [j+16] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i-2] {s} p w0 mem)
(MOVHstore [i] {s} p w x:(MOVHstore [i-2] {s} p (SRWconst [16] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i-2] {s} p w mem)
(MOVHstore [i] {s} p w0:(SRWconst [j] w) x:(MOVHstore [i-2] {s} p (SRWconst [j+16] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVWstore [i-2] {s} p w0 mem)
(MOVWstore [i] {s} p (SRDconst [32] w) x:(MOVWstore [i-4] {s} p w mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVDstore [i-4] {s} p w mem)
(MOVWstore [i] {s} p w0:(SRDconst [j] w) x:(MOVWstore [i-4] {s} p (SRDconst [j+32] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVDstore [i-4] {s}
 p w0 mem)

// Combine stores into larger (unaligned) stores with the bytes reversed (little endian).
// Store-with-bytes-reversed instructions do not support relative memory addresses,
// so these stores can't operate on global data (SB).
(MOVBstore [i] {s} p (SRDconst [8] w) x:(MOVBstore [i-1] {s} p w mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVHBRstore [i-1] {s} p w mem)
(MOVBstore [i] {s} p (SRDconst [j] w) x:(MOVBstore [i-1] {s} p w0:(SRDconst [j-8] w) mem))
```

```
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVHBRstore [i-1] {s} p w0 mem)
(MOVBstore [i] {s} p (SRWconst [8] w) x:(MOVBstore [i-1] {s} p w mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVHBRstore [i-1] {s} p w mem)
(MOVBstore [i] {s} p (SRWconst [j] w) x:(MOVBstore [i-1] {s} p w0:(SRWconst [j-8] w) mem))
 && p.Op != OpSB
 && x.Uses == 1
 && clobber(x)
 => (MOVHBRstore [i-1] {s} p w0 mem)
(MOVHBRstore [i] {s} p (SRDconst [16] w) x:(MOVHBRstore [i-2] {s} p w mem))
 &&
 x.Uses == 1
 && clobber(x)
 => (MOVWBRstore [i-2] {s} p w mem)
(MOVHBRstore [i] {s} p (SRDconst [j] w) x:(MOVHBRstore [i-2] {s} p w0:(SRDconst [j-16] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWBRstore [i-2] {s} p w0 mem)
(MOVHBRstore [i] {s} p (SRWconst [16] w) x:(MOVHBRstore [i-2] {s} p w mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWBRstore [i-2] {s} p w mem)
(MOVHBRstore [i] {s} p (SRWconst [j] w) x:(MOVHBRstore [i-2] {s} p w0:(SRWconst [j-16] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVWBRstore [i-2] {s} p w0 mem)
(MOVWBRstore [i] {s} p (SRDconst [32] w) x:(MOVWBRstore [i-4] {s} p w mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVDBRstore [i-4] {s} p w mem)
(MOVWBRstore [i] {s} p (SRDconst [j] w) x:(MOVWBRstore [i-4] {s} p w0:(SRDconst [j-32] w) mem))
 && x.Uses == 1
 && clobber(x)
 => (MOVDBRstore [i-4] {s} p w0 mem)

(MOVBstore [7] {s} p1 (SRDconst w)
 x1:(MOVHBRstore [5] {s} p1 (SRDconst w)
 x2:(MOVWBRstore [1] {s} p1 (SRDconst w)
 x3:(MOVBstore [0] {s}
 p1 w mem))))
 && x1.Uses == 1
 && x2.Uses == 1
 && x3.Uses == 1
```

```
 && clobber(x1, x2, x3)
 => (MOVDBRstore {s} p1 w mem)

// Combining byte loads into larger (unaligned) loads.

// Big-endian loads

(ORW                x1:(MOVBZload [i1] {s} p mem)
  sh:(SLWconst [8] x0:(MOVBZload [i0] {s} p mem)))
 && i1 == i0+1
 && p.Op != OpSB
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVHZload [i0] {s} p mem)

(OR                 x1:(MOVBZload [i1] {s} p mem)
  sh:(SLDconst [8] x0:(MOVBZload [i0] {s} p mem)))
 && i1 == i0+1
 && p.Op != OpSB
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVHZload [i0] {s} p mem)

(ORW                x1:(MOVHZload [i1] {s} p mem)
  sh:(SLWconst [16] x0:(MOVHZload [i0] {s} p mem)))
 && i1 == i0+2
 && p.Op != OpSB
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses
 == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVWZload [i0] {s} p mem)

(OR                 x1:(MOVHZload [i1] {s} p mem)
  sh:(SLDconst [16] x0:(MOVHZload [i0] {s} p mem)))
 && i1 == i0+2
 && p.Op != OpSB
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
```

```
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVWZload [i0] {s} p mem)

(OR                 x1:(MOVWZload [i1] {s} p mem)
  sh:(SLDconst [32] x0:(MOVWZload [i0] {s} p mem)))
 && i1 == i0+4
 && p.Op != OpSB
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVDload [i0] {s} p mem)

(ORW
  s0:(SLWconst [j0] x0:(MOVBZload [i0] {s} p mem))
  or:(ORW
     s1:(SLWconst [j1] x1:(MOVBZload [i1] {s} p mem))
 y))
 && i1 == i0+1
 && j1 == j0-8
 && j1 % 16 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 &&
 mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (ORW <v.Type> (SLWconst <v.Type> [j1] (MOVHZload [i0] {s} p mem)) y)

(OR
  s0:(SLDconst [j0] x0:(MOVBZload [i0] {s} p mem))
  or:(OR
     s1:(SLDconst [j1] x1:(MOVBZload [i1] {s} p mem))
 y))
 && i1 == i0+1
 && j1 == j0-8
 && j1 % 16 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
```

```
 => @mergePoint(b,x0,x1,y) (OR <v.Type> (SLDconst <v.Type> [j1] (MOVHZload [i0] {s} p mem)) y)

(OR
  s0:(SLDconst [j0] x0:(MOVHZload [i0] {s} p mem))
  or:(OR
     s1:(SLDconst [j1] x1:(MOVHZload [i1] {s} p mem))
 y))
 && i1 == i0+2
 && j1 == j0-16
 && j1 % 32 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (OR <v.Type> (SLDconst <v.Type> [j1] (MOVWZload
 [i0] {s} p mem)) y)

// Little-endian loads

(ORW                x0:(MOVBZload [i0] {s} p mem)
  sh:(SLWconst [8] x1:(MOVBZload [i1] {s} p mem)))
 && p.Op != OpSB
 && i1 == i0+1
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVHZreg (MOVHBRload [i0] {s} p mem))

(OR                 x0:(MOVBZload [i0] {s} p mem)
  sh:(SLDconst [8] x1:(MOVBZload [i1] {s} p mem)))
 && p.Op != OpSB
 && i1 == i0+1
 && x0.Uses == 1
 && x1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, sh)
 => @mergePoint(b,x0,x1) (MOVHZreg (MOVHBRload [i0] {s} p mem))

(ORW                r0:(MOVHZreg x0:(MOVHBRload [i0] {s} p mem))
  sh:(SLWconst [16] r1:(MOVHZreg x1:(MOVHBRload [i1] {s} p mem))))
 && i1 == i0+2
 && x0.Uses == 1
```

```
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, r0, r1, sh)
 => @mergePoint(b,x0,x1)
 (MOVWBRload [i0] {s} p mem)

(OR                 r0:(MOVHZreg x0:(MOVHBRload [i0] {s} p mem))
  sh:(SLDconst [16] r1:(MOVHZreg x1:(MOVHBRload [i1] {s} p mem))))
 && i1 == i0+2
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, r0, r1, sh)
 => @mergePoint(b,x0,x1) (MOVWZreg (MOVWBRload [i0] {s} p mem))

(OR                 r0:(MOVWZreg x0:(MOVWBRload [i0] {s} p mem))
  sh:(SLDconst [32] r1:(MOVWZreg x1:(MOVWBRload [i1] {s} p mem))))
 && i1 == i0+4
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 && sh.Uses == 1
 && mergePoint(b,x0,x1) != nil
 && clobber(x0, x1, r0, r1, sh)
 => @mergePoint(b,x0,x1) (MOVDBRload [i0] {s} p mem)

(ORW
  s1:(SLWconst [j1] x1:(MOVBZload [i1] {s} p mem))
  or:(ORW
     s0:(SLWconst [j0] x0:(MOVBZload [i0] {s} p mem))
 y))
 && p.Op != OpSB
 && i1 == i0+1
 && j1 == j0+8
 && j0 % 16 == 0
 && x0.Uses == 1
  && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
```

```
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (ORW <v.Type> (SLWconst <v.Type> [j0] (MOVHZreg (MOVHBRload [i0] {s} p
mem))) y)

(OR
   s1:(SLDconst [j1] x1:(MOVBZload [i1] {s} p mem))
   or:(OR
      s0:(SLDconst [j0] x0:(MOVBZload [i0] {s} p mem))
 y))
 && p.Op != OpSB
 && i1 == i0+1
 && j1 == j0+8
 && j0 % 16 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (OR <v.Type> (SLDconst <v.Type> [j0] (MOVHZreg (MOVHBRload [i0] {s} p
mem))) y)

(OR
   s1:(SLDconst [j1] r1:(MOVHZreg x1:(MOVHBRload [i1] {s} p mem)))
   or:(OR
      s0:(SLDconst [j0] r0:(MOVHZreg x0:(MOVHBRload [i0] {s} p mem)))
 y))
 && i1 == i0+2
 && j1 == j0+16
 && j0 % 32 == 0
 && x0.Uses == 1
 && x1.Uses == 1
 && r0.Uses == 1
 && r1.Uses == 1
 &&
 s0.Uses == 1
 && s1.Uses == 1
 && or.Uses == 1
 && mergePoint(b,x0,x1,y) != nil
 && clobber(x0, x1, r0, r1, s0, s1, or)
 => @mergePoint(b,x0,x1,y) (OR <v.Type> (SLDconst <v.Type> [j0] (MOVWZreg (MOVWBRload [i0] {s} p
mem))) y)

// Combine stores into store multiples.
// 32-bit
(MOVWstore [i] {s} p w1 x:(MOVWstore [i-4] {s} p w0 mem))
 && p.Op != OpSB
```

```
 && x.Uses == 1
 && is20Bit(int64(i)-4)
 && clobber(x)
 => (STM2 [i-4] {s} p w0 w1 mem)
(MOVWstore [i] {s} p w2 x:(STM2 [i-8] {s} p w0 w1 mem))
 && x.Uses == 1
 && is20Bit(int64(i)-8)
 && clobber(x)
 => (STM3 [i-8] {s} p w0 w1 w2 mem)
(MOVWstore [i] {s} p w3 x:(STM3 [i-12] {s} p w0 w1 w2 mem))
 && x.Uses == 1
 && is20Bit(int64(i)-12)
 && clobber(x)
 => (STM4 [i-12] {s} p w0 w1 w2 w3 mem)
(STM2 [i] {s} p w2 w3 x:(STM2 [i-8] {s} p w0 w1 mem))
 && x.Uses == 1
 && is20Bit(int64(i)-8)
 && clobber(x)
 => (STM4 [i-8] {s} p w0 w1 w2 w3 mem)
// 64-bit
(MOVDstore [i] {s} p w1 x:(MOVDstore [i-8] {s} p w0 mem))
 && p.Op != OpSB
  && x.Uses == 1
 && is20Bit(int64(i)-8)
 && clobber(x)
 => (STMG2 [i-8] {s} p w0 w1 mem)
(MOVDstore [i] {s} p w2 x:(STMG2 [i-16] {s} p w0 w1 mem))
 && x.Uses == 1
 && is20Bit(int64(i)-16)
 && clobber(x)
 => (STMG3 [i-16] {s} p w0 w1 w2 mem)
(MOVDstore [i] {s} p w3 x:(STMG3 [i-24] {s} p w0 w1 w2 mem))
 && x.Uses == 1
 && is20Bit(int64(i)-24)
 && clobber(x)
 => (STMG4 [i-24] {s} p w0 w1 w2 w3 mem)
(STMG2 [i] {s} p w2 w3 x:(STMG2 [i-16] {s} p w0 w1 mem))
 && x.Uses == 1
 && is20Bit(int64(i)-16)
 && clobber(x)
 => (STMG4 [i-16] {s} p w0 w1 w2 w3 mem)

// Convert 32-bit store multiples into 64-bit stores.
(STM2 [i] {s} p (SRDconst [32] x) x mem) => (MOVDstore [i] {s} p x mem)
```

Found in path(s):

* /compile-zip/compile/internal/ssa/gen/S390X.rules

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Found in path(s):
* /compile-zip/compile/internal/types2/testdata/check/main0.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue40056.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue40301.go
* /compile-zip/compile/internal/test/testdata/reproducible/issue38068.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39768.go
* /compile-zip/compile/internal/ssa/bench_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue46090.go
* /compile-zip/compile/internal/syntax/testing.go
* /compile-zip/compile/internal/syntax/testdata/tparams.go
* /compile-zip/compile/internal/types/type_test.go
* /compile-zip/compile/internal/types2/testdata/check/builtins1.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39699.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue42758.go
* /compile-zip/compile/internal/syntax/positions.go
*
 /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39664.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39982.go
* /compile-zip/compile/internal/ir/visit.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43190.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue42695.go
* /compile-zip/compile/internal/abi/abiutils.go
* /compile-zip/compile/internal/ssa/flags_arm64_test.s
* /compile-zip/compile/internal/staticdata/embed.go
* /compile-zip/compile/internal/ssa/rewriteCond_test.go
* /compile-zip/compile/internal/devirtualize/devirtualize.go
* /compile-zip/compile/internal/ssa/flags_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39693.go
* /compile-zip/compile/internal/ir/mknode.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue40684.go
* /compile-zip/compile/internal/types2/testdata/check/funcinference.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue40038.go
*
 /compile-zip/compile/internal/syntax/testdata/smoketest.go
* /compile-zip/compile/internal/types2/testdata/check/main1.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39948.go
* /compile-zip/compile/internal/ir/func.go
* /compile-zip/compile/internal/ir/copy.go
* /compile-zip/compile/internal/base/print.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39755.go
* /compile-zip/compile/internal/test/mulconst_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43125.go
* /compile-zip/compile/internal/ssa/flags_amd64_test.s
* /compile-zip/compile/internal/types2/testdata/check/issues1.go

* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39976.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39938.go
* /compile-zip/compile/internal/types2/errors_test.go
* /compile-zip/compile/internal/ir/name.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39680.go
* /compile-zip/compile/internal/ssa/addressingmodes.go
*
 /compile-zip/compile/internal/ir/stmt.go
* /compile-zip/compile/internal/ssa/expand_calls.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue40057.go
* /compile-zip/compile/internal/types2/testdata/check/typeparams.go
* /compile-zip/compile/internal/ir/mini.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue20583.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39754.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue41124.go
* /compile-zip/compile/internal/ir/package.go
* /compile-zip/compile/internal/test/bench_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39723.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43124.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39634.go
* /compile-zip/compile/internal/test/abiutils_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39725.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue48951.go
*
 /compile-zip/compile/internal/ir/expr.go
* /compile-zip/compile/internal/ssa/tuple.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue43110.go
* /compile-zip/compile/internal/types2/importer_test.go
* /compile-zip/compile/internal/types2/testdata/fixedbugs/issue39711.go
* /compile-zip/compile/internal/syntax/testing_test.go
* /compile-zip/compile/internal/test/abiutilsaux_test.go
* /compile-zip/compile/internal/types2/unify.go
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Found in path(s):
* /compile-zip/compile/internal/ssa/phielim.go
* /compile-zip/compile/internal/test/testdata/short_test.go
* /compile-zip/compile/internal/ssa/deadcode_test.go
* /compile-zip/compile/internal/ssa/block.go
* /compile-zip/compile/internal/test/global_test.go
* /compile-zip/compile/internal/ssa/func.go
* /compile-zip/compile/internal/ssa/gen/decOps.go
* /compile-zip/compile/internal/ssa/location.go
* /compile-zip/compile/internal/types2/example_test.go
* /compile-zip/compile/internal/test/testdata/deferNoReturn_test.go
* /compile-zip/compile/internal/ssa/gen/AMD64Ops.go

* /compile-zip/compile/internal/ssa/regalloc.go
* /compile-zip/compile/internal/test/testdata/assert_test.go
* /compile-zip/compile/internal/ssa/dom_test.go
* /compile-zip/compile/internal/importer/support.go
* /compile-zip/compile/internal/test/testdata/arith_test.go
* /compile-zip/compile/internal/test/testdata/chan_test.go
*
 /compile-zip/compile/internal/ssa/decompose.go
* /compile-zip/compile/internal/ssa/export_test.go
* /compile-zip/compile/internal/ssa/tighten.go
* /compile-zip/compile/internal/ssa/fuse.go
* /compile-zip/compile/internal/ssa/config.go
* /compile-zip/compile/internal/test/testdata/ctl_test.go
* /compile-zip/compile/internal/ssa/lower.go
* /compile-zip/compile/internal/ssa/opt.go
* /compile-zip/compile/internal/ssa/op.go
* /compile-zip/compile/internal/ssa/critical.go
* /compile-zip/compile/internal/test/testdata/compound_test.go
* /compile-zip/compile/internal/test/testdata/map_test.go
* /compile-zip/compile/internal/ssa/rewrite.go
* /compile-zip/compile/internal/ssa/gen/main.go
* /compile-zip/compile/internal/ssa/flagalloc.go
* /compile-zip/compile/internal/ssa/nilcheck.go
* /compile-zip/compile/internal/ssa/passbm_test.go
* /compile-zip/compile/internal/ssa/compile.go
* /compile-zip/compile/internal/ssa/gen/rulegen.go
* /compile-zip/compile/internal/ssa/sparsetree.go
*
 /compile-zip/compile/internal/types2/testdata/check/importC.go
* /compile-zip/compile/internal/test/testdata/loadstore_test.go
* /compile-zip/compile/internal/test/testdata/string_test.go
* /compile-zip/compile/internal/test/testdata/fp_test.go
* /compile-zip/compile/internal/test/testdata/break_test.go
* /compile-zip/compile/internal/ssa/html.go
* /compile-zip/compile/internal/ssa/regalloc_test.go
* /compile-zip/compile/internal/test/testdata/unsafe_test.go
* /compile-zip/compile/internal/test/testdata/append_test.go
* /compile-zip/compile/internal/ssa/sparsemap.go
* /compile-zip/compile/internal/ssa/layout.go
* /compile-zip/compile/internal/test/testdata/cmp_test.go
* /compile-zip/compile/internal/test/testdata/regalloc_test.go
* /compile-zip/compile/internal/ssa/deadstore.go
* /compile-zip/compile/internal/test/ssa_test.go
* /compile-zip/compile/internal/ssa/print.go
* /compile-zip/compile/internal/ssa/check.go
* /compile-zip/compile/internal/ssa/gen/genericOps.go
*

/compile-zip/compile/internal/types/sym_test.go
* /compile-zip/compile/internal/ssa/func_test.go
* /compile-zip/compile/internal/ssa/id.go
* /compile-zip/compile/internal/ssa/sparseset.go
* /compile-zip/compile/internal/ssa/stackalloc.go
* /compile-zip/compile/internal/gc/util.go
* /compile-zip/compile/main.go
* /compile-zip/compile/internal/ssa/cse.go
* /compile-zip/compile/internal/test/testdata/gen/zeroGen.go
* /compile-zip/compile/internal/ssa/deadstore_test.go
* /compile-zip/compile/internal/ssa/copyelim.go
* /compile-zip/compile/internal/ssa/deadcode.go
* /compile-zip/compile/internal/test/testdata/closure_test.go
* /compile-zip/compile/internal/test/testdata/addressed_test.go
* /compile-zip/compile/internal/ssa/schedule.go
* /compile-zip/compile/internal/test/testdata/gen/copyGen.go
* /compile-zip/compile/internal/typecheck/bexport.go
* /compile-zip/compile/internal/ssa/shift_test.go
* /compile-zip/compile/internal/ssa/schedule_test.go
* /compile-zip/compile/internal/ssa/dom.go
*
/compile-zip/compile/internal/test/testdata/gen/arithBoundaryGen.go
* /compile-zip/compile/internal/ssagen/ssa.go
* /compile-zip/compile/internal/ssa/value.go
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// license that can be found in the LICENSE file.

(Add(Ptr|64|32|16|8) ...) => (ADDV ...)
(Add(32|64)F ...) => (ADD(F|D) ...)

(Sub(Ptr|64|32|16|8) ...) => (SUBV ...)
(Sub(32|64)F ...) => (SUB(F|D) ...)

(Mul(64|32|16|8) x y) => (Select1 (MULVU x y))
(Mul(32|64)F ...) => (MUL(F|D) ...)
(Mul64uhilo ...) => (MULVU ...)
(Select0 (Mul64uover x y)) => (Select1 <typ.UInt64> (MULVU x y))
(Select1 (Mul64uover x y)) => (SGTU <typ.Bool> (Select0 <typ.UInt64> (MULVU x y)) (MOVVconst <typ.UInt64> [0]))

(Hmul64 x y) => (Select0 (MULV x y))
(Hmul64u x y) => (Select0 (MULVU x y))
(Hmul32 x y) => (SRAVconst (Select1 <typ.Int64> (MULV (SignExt32to64 x) (SignExt32to64 y))) [32])
(Hmul32u x y) => (SRLVconst (Select1 <typ.UInt64> (MULVU (ZeroExt32to64 x) (ZeroExt32to64 y))) [32])

```
(Div64 x y) => (Select1 (DIVV x y))
(Div64u x y)
 => (Select1 (DIVVU x y))
(Div32 x y) => (Select1 (DIVV (SignExt32to64 x) (SignExt32to64 y)))
(Div32u x y) => (Select1 (DIVVU (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Div16 x y) => (Select1 (DIVV (SignExt16to64 x) (SignExt16to64 y)))
(Div16u x y) => (Select1 (DIVVU (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Div8 x y) => (Select1 (DIVV (SignExt8to64 x) (SignExt8to64 y)))
(Div8u x y) => (Select1 (DIVVU (ZeroExt8to64 x) (ZeroExt8to64 y)))
(Div(32|64)F ...) => (DIV(F|D) ...)

(Mod64 x y) => (Select0 (DIVV x y))
(Mod64u x y) => (Select0 (DIVVU x y))
(Mod32 x y) => (Select0 (DIVV (SignExt32to64 x) (SignExt32to64 y)))
(Mod32u x y) => (Select0 (DIVVU (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Mod16 x y) => (Select0 (DIVV (SignExt16to64 x) (SignExt16to64 y)))
(Mod16u x y) => (Select0 (DIVVU (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Mod8 x y) => (Select0 (DIVV (SignExt8to64 x) (SignExt8to64 y)))
(Mod8u x y) => (Select0 (DIVVU (ZeroExt8to64 x) (ZeroExt8to64 y)))

// (x + y) / 2 with x>=y => (x - y) / 2 + y
(Avg64u
 <t> x y) => (ADDV (SRLVconst <t> (SUBV <t> x y) [1]) y)

(And(64|32|16|8) ...) => (AND ...)
(Or(64|32|16|8) ...) => (OR ...)
(Xor(64|32|16|8) ...) => (XOR ...)

// shifts
// hardware instruction uses only the low 6 bits of the shift
// we compare to 64 to ensure Go semantics for large shifts
(Lsh64x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh64x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV
<t> x (ZeroExt32to64 y)))
(Lsh64x16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SLLV
<t> x (ZeroExt16to64 y)))
(Lsh64x8  <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64  y))) (SLLV <t>
x (ZeroExt8to64  y)))

(Lsh32x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh32x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV
<t> x (ZeroExt32to64 y)))
(Lsh32x16 <t>
 x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SLLV <t> x
(ZeroExt16to64 y)))
(Lsh32x8  <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64  y))) (SLLV <t>
x (ZeroExt8to64  y)))
```

(Lsh16x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh16x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV <t> x (ZeroExt32to64 y)))
(Lsh16x16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SLLV <t> x (ZeroExt16to64 y)))
(Lsh16x8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SLLV <t> x (ZeroExt8to64 y)))

(Lsh8x64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SLLV <t> x y))
(Lsh8x32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SLLV <t> x (ZeroExt32to64 y)))
(Lsh8x16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SLLV <t> x (ZeroExt16to64 y)))
(Lsh8x8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SLLV <t> x (ZeroExt8to64 y)))

(Rsh64Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> x y))
(Rsh64Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> x (ZeroExt32to64 y)))
(Rsh64Ux16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t> x (ZeroExt16to64 y)))
(Rsh64Ux8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SRLV <t> x (ZeroExt8to64 y)))

(Rsh32Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> (ZeroExt32to64 x) y))
(Rsh32Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Rsh32Ux16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t>
(ZeroExt32to64 x) (ZeroExt16to64 y)))
(Rsh32Ux8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SRLV <t> (ZeroExt32to64 x) (ZeroExt8to64 y)))

(Rsh16Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> (ZeroExt16to64 x) y))
(Rsh16Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> (ZeroExt16to64 x) (ZeroExt32to64 y)))
(Rsh16Ux16 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t> (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Rsh16Ux8 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64 y))) (SRLV <t> (ZeroExt16to64 x) (ZeroExt8to64 y)))

(Rsh8Ux64 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) y)) (SRLV <t> (ZeroExt8to64 x) y))
(Rsh8Ux32 <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt32to64 y))) (SRLV <t> (ZeroExt8to64 x) (ZeroExt32to64 y)))
(Rsh8Ux16 <t> x y) => (AND (NEGV

```
 <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt16to64 y))) (SRLV <t> (ZeroExt8to64 x) (ZeroExt16to64 y)))
(Rsh8Ux8  <t> x y) => (AND (NEGV <t> (SGTU (MOVVconst <typ.UInt64> [64]) (ZeroExt8to64  y))) (SRLV <t> (ZeroExt8to64 x) (ZeroExt8to64  y)))

(Rsh64x64 <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh64x32 <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64 y)))
(Rsh64x16 <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh64x8  <t> x y) => (SRAV x (OR <t> (NEGV <t> (SGTU (ZeroExt8to64  y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt8to64  y)))

(Rsh32x64 <t> x y) => (SRAV (SignExt32to64 x) (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh32x32 <t> x y) => (SRAV (SignExt32to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64 y)))
(Rsh32x16 <t> x y) => (SRAV (SignExt32to64
 x) (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh32x8  <t> x y) => (SRAV (SignExt32to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt8to64  y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt8to64  y)))

(Rsh16x64 <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh16x32 <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64 y)))
(Rsh16x16 <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh16x8  <t> x y) => (SRAV (SignExt16to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt8to64  y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt8to64  y)))

(Rsh8x64 <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU y (MOVVconst <typ.UInt64> [63]))) y))
(Rsh8x32 <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt32to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt32to64
 y)))
(Rsh8x16 <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt16to64 y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt16to64 y)))
(Rsh8x8  <t> x y) => (SRAV (SignExt8to64 x) (OR <t> (NEGV <t> (SGTU (ZeroExt8to64  y) (MOVVconst <typ.UInt64> [63]))) (ZeroExt8to64  y)))

// rotates
(RotateLeft8 <t> x (MOVVconst [c])) => (Or8 (Lsh8x64 <t> x (MOVVconst [c&7])) (Rsh8Ux64 <t> x (MOVVconst [-c&7])))
(RotateLeft16 <t> x (MOVVconst [c])) => (Or16 (Lsh16x64 <t> x (MOVVconst [c&15])) (Rsh16Ux64 <t> x (MOVVconst [-c&15])))
(RotateLeft32 <t> x (MOVVconst [c])) => (Or32 (Lsh32x64 <t> x (MOVVconst [c&31])) (Rsh32Ux64 <t> x (MOVVconst [-c&31])))
```

```
(RotateLeft64 <t> x (MOVVconst [c])) => (Or64 (Lsh64x64 <t> x (MOVVconst [c&63])) (Rsh64Ux64 <t> x (MOVVconst [-c&63])))

// unary ops
(Neg(64|32|16|8) ...) => (NEGV ...)
(Neg(32|64)F ...) => (NEG(F|D) ...)

(Com(64|32|16|8) x) => (NOR (MOVVconst [0]) x)

(Sqrt ...) => (SQRTD ...)
(Sqrt32 ...) => (SQRTF ...)

// boolean ops -- booleans are
 represented with 0=false, 1=true
(AndB ...) => (AND ...)
(OrB ...) => (OR ...)
(EqB x y) => (XOR (MOVVconst [1]) (XOR <typ.Bool> x y))
(NeqB ...) => (XOR ...)
(Not x) => (XORconst [1] x)

// constants
(Const(64|32|16|8) [val]) => (MOVVconst [int64(val)])
(Const(32|64)F [val]) => (MOV(F|D)const [float64(val)])
(ConstNil) => (MOVVconst [0])
(ConstBool [t]) => (MOVVconst [int64(b2i(t))])

(Slicemask <t> x) => (SRAVconst (NEGV <t> x) [63])

// truncations
// Because we ignore high parts of registers, truncates are just copies.
(Trunc16to8 ...) => (Copy ...)
(Trunc32to8 ...) => (Copy ...)
(Trunc32to16 ...) => (Copy ...)
(Trunc64to8 ...) => (Copy ...)
(Trunc64to16 ...) => (Copy ...)
(Trunc64to32 ...) => (Copy ...)

// Zero-/Sign-extensions
(ZeroExt8to16 ...) => (MOVBUreg ...)
(ZeroExt8to32 ...) => (MOVBUreg ...)
(ZeroExt16to32 ...) => (MOVHUreg ...)
(ZeroExt8to64 ...) => (MOVBUreg ...)
(ZeroExt16to64 ...) => (MOVHUreg ...)
(ZeroExt32to64 ...) => (MOVWUreg ...)

(SignExt8to16 ...) => (MOVBreg
 ...)
(SignExt8to32 ...) => (MOVBreg ...)
```

```
(SignExt16to32 ...) => (MOVHreg ...)
(SignExt8to64 ...) => (MOVBreg ...)
(SignExt16to64 ...) => (MOVHreg ...)
(SignExt32to64 ...) => (MOVWreg ...)

// float <=> int conversion
(Cvt32to32F ...) => (MOVWF ...)
(Cvt32to64F ...) => (MOVWD ...)
(Cvt64to32F ...) => (MOVVF ...)
(Cvt64to64F ...) => (MOVVD ...)
(Cvt32Fto32 ...) => (TRUNCFW ...)
(Cvt64Fto32 ...) => (TRUNCDW ...)
(Cvt32Fto64 ...) => (TRUNCFV ...)
(Cvt64Fto64 ...) => (TRUNCDV ...)
(Cvt32Fto64F ...) => (MOVFD ...)
(Cvt64Fto32F ...) => (MOVDF ...)

(CvtBoolToUint8 ...) => (Copy ...)

(Round(32|64)F ...) => (Copy ...)

// comparisons
(Eq8 x y)  => (SGTU (MOVVconst [1]) (XOR (ZeroExt8to64 x) (ZeroExt8to64 y)))
(Eq16 x y) => (SGTU (MOVVconst [1]) (XOR (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Eq32 x y) => (SGTU (MOVVconst [1]) (XOR (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Eq64 x y) => (SGTU (MOVVconst [1]) (XOR x y))
(EqPtr x y) => (SGTU (MOVVconst [1]) (XOR x y))
(Eq(32|64)F x y) => (FPFlagTrue (CMPEQ(F|D)
 x y))

(Neq8 x y)  => (SGTU (XOR (ZeroExt8to64 x) (ZeroExt8to64 y)) (MOVVconst [0]))
(Neq16 x y) => (SGTU (XOR (ZeroExt16to32 x) (ZeroExt16to64 y)) (MOVVconst [0]))
(Neq32 x y) => (SGTU (XOR (ZeroExt32to64 x) (ZeroExt32to64 y)) (MOVVconst [0]))
(Neq64 x y) => (SGTU (XOR x y) (MOVVconst [0]))
(NeqPtr x y) => (SGTU (XOR x y) (MOVVconst [0]))
(Neq(32|64)F x y) => (FPFlagFalse (CMPEQ(F|D) x y))

(Less8 x y)  => (SGT (SignExt8to64 y) (SignExt8to64 x))
(Less16 x y) => (SGT (SignExt16to64 y) (SignExt16to64 x))
(Less32 x y) => (SGT (SignExt32to64 y) (SignExt32to64 x))
(Less64 x y) => (SGT y x)
(Less(32|64)F x y) => (FPFlagTrue (CMPGT(F|D) y x)) // reverse operands to work around NaN

(Less8U x y)  => (SGTU (ZeroExt8to64 y) (ZeroExt8to64 x))
(Less16U x y) => (SGTU (ZeroExt16to64 y) (ZeroExt16to64 x))
(Less32U x y) => (SGTU (ZeroExt32to64 y) (ZeroExt32to64 x))
(Less64U x y) => (SGTU y x)
```

```
(Leq8 x y)  => (XOR (MOVVconst [1]) (SGT (SignExt8to64 x) (SignExt8to64 y)))
(Leq16 x y) => (XOR
 (MOVVconst [1]) (SGT (SignExt16to64 x) (SignExt16to64 y)))
(Leq32 x y) => (XOR (MOVVconst [1]) (SGT (SignExt32to64 x) (SignExt32to64 y)))
(Leq64 x y) => (XOR (MOVVconst [1]) (SGT x y))
(Leq(32|64)F x y) => (FPFlagTrue (CMPGE(F|D) y x)) // reverse operands to work around NaN

(Leq8U x y)  => (XOR (MOVVconst [1]) (SGTU (ZeroExt8to64 x) (ZeroExt8to64 y)))
(Leq16U x y) => (XOR (MOVVconst [1]) (SGTU (ZeroExt16to64 x) (ZeroExt16to64 y)))
(Leq32U x y) => (XOR (MOVVconst [1]) (SGTU (ZeroExt32to64 x) (ZeroExt32to64 y)))
(Leq64U x y) => (XOR (MOVVconst [1]) (SGTU x y))

(OffPtr [off] ptr:(SP)) && is32Bit(off) => (MOVVaddr [int32(off)] ptr)
(OffPtr [off] ptr) => (ADDVconst [off] ptr)

(Addr {sym} base) => (MOVVaddr {sym} base)
(LocalAddr {sym} base _) => (MOVVaddr {sym} base)

// loads
(Load <t> ptr mem) && t.IsBoolean() => (MOVBUload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && isSigned(t)) => (MOVBload ptr mem)
(Load <t> ptr mem) && (is8BitInt(t) && !isSigned(t)) => (MOVBUload ptr mem)
(Load
 <t> ptr mem) && (is16BitInt(t) && isSigned(t)) => (MOVHload ptr mem)
(Load <t> ptr mem) && (is16BitInt(t) && !isSigned(t)) => (MOVHUload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) && isSigned(t)) => (MOVWload ptr mem)
(Load <t> ptr mem) && (is32BitInt(t) && !isSigned(t)) => (MOVWUload ptr mem)
(Load <t> ptr mem) && (is64BitInt(t) || isPtr(t)) => (MOVVload ptr mem)
(Load <t> ptr mem) && is32BitFloat(t) => (MOVFload ptr mem)
(Load <t> ptr mem) && is64BitFloat(t) => (MOVDload ptr mem)

// stores
(Store {t} ptr val mem) && t.Size() == 1 => (MOVBstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 2 => (MOVHstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && !is32BitFloat(val.Type) => (MOVWstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && !is64BitFloat(val.Type) => (MOVVstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 4 && is32BitFloat(val.Type) => (MOVFstore ptr val mem)
(Store {t} ptr val mem) && t.Size() == 8 && is64BitFloat(val.Type) => (MOVDstore
 ptr val mem)

// zeroing
(Zero [0] _ mem) => mem
(Zero [1] ptr mem) => (MOVBstore ptr (MOVVconst [0]) mem)
(Zero [2] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore ptr (MOVVconst [0]) mem)
(Zero [2] ptr mem) =>
 (MOVBstore [1] ptr (MOVVconst [0])
  (MOVBstore [0] ptr (MOVVconst [0]) mem))
```

```
(Zero [4] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore ptr (MOVVconst [0]) mem)
(Zero [4] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] ptr (MOVVconst [0])
  (MOVHstore [0] ptr (MOVVconst [0]) mem))
(Zero [4] ptr mem) =>
 (MOVBstore [3] ptr (MOVVconst [0])
  (MOVBstore [2] ptr (MOVVconst [0])
   (MOVBstore [1] ptr (MOVVconst [0])
    (MOVBstore [0] ptr (MOVVconst [0]) mem))))
(Zero [8] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVVstore ptr (MOVVconst [0]) mem)
(Zero [8] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [4] ptr (MOVVconst [0])
  (MOVWstore [0] ptr (MOVVconst [0]) mem))
(Zero [8] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [6] ptr (MOVVconst [0])
  (MOVHstore
 [4] ptr (MOVVconst [0])
   (MOVHstore [2] ptr (MOVVconst [0])
    (MOVHstore [0] ptr (MOVVconst [0]) mem))))

(Zero [3] ptr mem) =>
 (MOVBstore [2] ptr (MOVVconst [0])
  (MOVBstore [1] ptr (MOVVconst [0])
   (MOVBstore [0] ptr (MOVVconst [0]) mem)))
(Zero [6] {t} ptr mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] ptr (MOVVconst [0])
  (MOVHstore [2] ptr (MOVVconst [0])
   (MOVHstore [0] ptr (MOVVconst [0]) mem)))
(Zero [12] {t} ptr mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8] ptr (MOVVconst [0])
  (MOVWstore [4] ptr (MOVVconst [0])
   (MOVWstore [0] ptr (MOVVconst [0]) mem)))
(Zero [16] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVVstore [8] ptr (MOVVconst [0])
  (MOVVstore [0] ptr (MOVVconst [0]) mem))
(Zero [24] {t} ptr mem) && t.Alignment()%8 == 0 =>
 (MOVVstore [16] ptr (MOVVconst [0])
  (MOVVstore [8] ptr (MOVVconst [0])
   (MOVVstore [0] ptr (MOVVconst [0]) mem)))

// medium zeroing uses a duff device
// 8, and 128 are magic constants, see runtime/mkduff.go
(Zero [s]
 {t} ptr mem)
 && s%8 == 0 && s > 24 && s <= 8*128
 && t.Alignment()%8 == 0 && !config.noDuffDevice =>
```

```
 (DUFFZERO [8 * (128 - s/8)] ptr mem)

// large or unaligned zeroing uses a loop
(Zero [s] {t} ptr mem)
 && (s > 8*128 || config.noDuffDevice) || t.Alignment()%8 != 0 =>
 (LoweredZero [t.Alignment()]
  ptr
  (ADDVconst <ptr.Type> ptr [s-moveSize(t.Alignment(), config)])
  mem)

// moves
(Move [0] _ _ mem) => mem
(Move [1] dst src mem) => (MOVBstore dst (MOVBload src mem) mem)
(Move [2] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore dst (MOVHload src mem) mem)
(Move [2] dst src mem) =>
 (MOVBstore [1] dst (MOVBload [1] src mem)
  (MOVBstore dst (MOVBload src mem) mem))
(Move [4] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore dst (MOVWload src mem) mem)
(Move [4] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [2] dst (MOVHload [2] src mem)
  (MOVHstore dst (MOVHload src mem) mem))
(Move [4] dst src mem) =>
 (MOVBstore [3] dst (MOVBload [3] src mem)
  (MOVBstore
 [2] dst (MOVBload [2] src mem)
   (MOVBstore [1] dst (MOVBload [1] src mem)
    (MOVBstore dst (MOVBload src mem) mem))))
(Move [8] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVVstore dst (MOVVload src mem) mem)
(Move [8] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [4] dst (MOVWload [4] src mem)
  (MOVWstore dst (MOVWload src mem) mem))
(Move [8] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [6] dst (MOVHload [6] src mem)
  (MOVHstore [4] dst (MOVHload [4] src mem)
   (MOVHstore [2] dst (MOVHload [2] src mem)
    (MOVHstore dst (MOVHload src mem) mem))))

(Move [3] dst src mem) =>
 (MOVBstore [2] dst (MOVBload [2] src mem)
  (MOVBstore [1] dst (MOVBload [1] src mem)
   (MOVBstore dst (MOVBload src mem) mem)))
(Move [6] {t} dst src mem) && t.Alignment()%2 == 0 =>
 (MOVHstore [4] dst (MOVHload [4] src mem)
  (MOVHstore [2] dst (MOVHload [2] src mem)
   (MOVHstore dst (MOVHload src mem) mem)))
```

```
(Move [12] {t} dst src mem) && t.Alignment()%4 == 0 =>
 (MOVWstore [8]
 dst (MOVWload [8] src mem)
  (MOVWstore [4] dst (MOVWload [4] src mem)
   (MOVWstore dst (MOVWload src mem) mem)))
(Move [16] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVVstore [8] dst (MOVVload [8] src mem)
  (MOVVstore dst (MOVVload src mem) mem))
(Move [24] {t} dst src mem) && t.Alignment()%8 == 0 =>
 (MOVVstore [16] dst (MOVVload [16] src mem)
  (MOVVstore [8] dst (MOVVload [8] src mem)
   (MOVVstore dst (MOVVload src mem) mem)))

// medium move uses a duff device
(Move [s] {t} dst src mem)
 && s%8 == 0 && s >= 24 && s <= 8*128 && t.Alignment()%8 == 0
 && !config.noDuffDevice && logLargeCopy(v, s)  =>
 (DUFFCOPY [16 * (128 - s/8)] dst src mem)
// 16 and 128 are magic constants.  16 is the number of bytes to encode:
// MOVV (R1), R23
// ADDV $8, R1
// MOVV R23, (R2)
// ADDV $8, R2
// and 128 is the number of such blocks. See runtime/duff_mips64.s:duffcopy.

// large or unaligned move uses a loop
(Move [s] {t} dst src mem)
 && s > 24 && logLargeCopy(v, s) || t.Alignment()%8 !=
 0 =>
 (LoweredMove [t.Alignment()]
  dst
  src
  (ADDVconst <src.Type> src [s-moveSize(t.Alignment(), config)])
  mem)

// calls
(StaticCall ...) => (CALLstatic ...)
(ClosureCall ...) => (CALLclosure ...)
(InterCall ...) => (CALLinter ...)
(TailCall ...) => (CALLtail ...)

// atomic intrinsics
(AtomicLoad(8|32|64) ...) => (LoweredAtomicLoad(8|32|64) ...)
(AtomicLoadPtr ...) => (LoweredAtomicLoad64 ...)

(AtomicStore(8|32|64) ...) => (LoweredAtomicStore(8|32|64) ...)
(AtomicStorePtrNoWB ...) => (LoweredAtomicStore64 ...)
```

```
(AtomicExchange(32|64) ...) => (LoweredAtomicExchange(32|64) ...)

(AtomicAdd(32|64) ...) => (LoweredAtomicAdd(32|64) ...)

(AtomicCompareAndSwap32 ptr old new mem) => (LoweredAtomicCas32 ptr (SignExt32to64 old) new mem)
(AtomicCompareAndSwap64 ...) => (LoweredAtomicCas64 ...)

// checks
(NilCheck ...) => (LoweredNilCheck ...)
(IsNonNil ptr) => (SGTU ptr (MOVVconst [0]))
(IsInBounds idx len) => (SGTU len idx)
(IsSliceInBounds idx len) => (XOR (MOVVconst [1]) (SGTU idx
 len))

// pseudo-ops
(GetClosurePtr ...) => (LoweredGetClosurePtr ...)
(GetCallerSP ...) => (LoweredGetCallerSP ...)
(GetCallerPC ...) => (LoweredGetCallerPC ...)

(If cond yes no) => (NE cond yes no)

// Write barrier.
(WB ...) => (LoweredWB ...)

(PanicBounds [kind] x y mem) && boundsABI(kind) == 0 => (LoweredPanicBoundsA [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 1 => (LoweredPanicBoundsB [kind] x y mem)
(PanicBounds [kind] x y mem) && boundsABI(kind) == 2 => (LoweredPanicBoundsC [kind] x y mem)

// Optimizations

// Absorb boolean tests into block
(NE (FPFlagTrue cmp) yes no) => (FPT cmp yes no)
(NE (FPFlagFalse cmp) yes no) => (FPF cmp yes no)
(EQ (FPFlagTrue cmp) yes no) => (FPF cmp yes no)
(EQ (FPFlagFalse cmp) yes no) => (FPT cmp yes no)
(NE (XORconst [1] cmp:(SGT _ _)) yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTU _ _)) yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTconst _)) yes no) => (EQ cmp yes no)
(NE (XORconst [1] cmp:(SGTUconst _))
 yes no) => (EQ cmp yes no)
(EQ (XORconst [1] cmp:(SGT _ _)) yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTU _ _)) yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTconst _)) yes no) => (NE cmp yes no)
(EQ (XORconst [1] cmp:(SGTUconst _)) yes no) => (NE cmp yes no)
(NE (SGTUconst [1] x) yes no) => (EQ x yes no)
(EQ (SGTUconst [1] x) yes no) => (NE x yes no)
(NE (SGTU x (MOVVconst [0])) yes no) => (NE x yes no)
(EQ (SGTU x (MOVVconst [0])) yes no) => (EQ x yes no)
```

(NE (SGTconst [0] x) yes no) => (LTZ x yes no)
(EQ (SGTconst [0] x) yes no) => (GEZ x yes no)
(NE (SGT x (MOVVconst [0])) yes no) => (GTZ x yes no)
(EQ (SGT x (MOVVconst [0])) yes no) => (LEZ x yes no)

// fold offset into address
(ADDVconst [off1] (MOVVaddr [off2] {sym} ptr)) && is32Bit(off1+int64(off2)) => (MOVVaddr [int32(off1)+int32(off2)] {sym} ptr)

// fold address into load/store
(MOVBload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVBload [off1+int32(off2)] {sym} ptr mem)
(MOVBUload
[off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVBUload [off1+int32(off2)] {sym} ptr mem)
(MOVHload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVHload [off1+int32(off2)] {sym} ptr mem)
(MOVHUload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVHUload [off1+int32(off2)] {sym} ptr mem)
(MOVWload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVWload [off1+int32(off2)] {sym} ptr mem)
(MOVWUload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVWUload [off1+int32(off2)] {sym} ptr mem)
(MOVVload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVVload [off1+int32(off2)] {sym} ptr mem)
(MOVFload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVFload [off1+int32(off2)] {sym} ptr mem)
(MOVDload [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVDload [off1+int32(off2)]
{sym} ptr mem)

(MOVBstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVBstore [off1+int32(off2)] {sym} ptr val mem)
(MOVHstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVHstore [off1+int32(off2)] {sym} ptr val mem)
(MOVWstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVWstore [off1+int32(off2)] {sym} ptr val mem)
(MOVVstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVVstore [off1+int32(off2)] {sym} ptr val mem)
(MOVFstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVFstore [off1+int32(off2)] {sym} ptr val mem)
(MOVDstore [off1] {sym} (ADDVconst [off2] ptr) val mem) && is32Bit(int64(off1)+off2) => (MOVDstore [off1+int32(off2)] {sym} ptr val mem)
(MOVBstorezero [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVBstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVHstorezero
[off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVHstorezero [off1+int32(off2)] {sym} ptr mem)

(MOVWstorezero [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVWstorezero [off1+int32(off2)] {sym} ptr mem)
(MOVVstorezero [off1] {sym} (ADDVconst [off2] ptr) mem) && is32Bit(int64(off1)+off2) => (MOVVstorezero [off1+int32(off2)] {sym} ptr mem)

(MOVBload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVBload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVBUload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVBUload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVHload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVHload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVHUload [off1] {sym1} (MOVVaddr [off2] {sym2}
ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVHUload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVWload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVWload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVWUload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVWUload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVVload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVVload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVFload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVFload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVDload [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2))
=>
(MOVDload [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)

(MOVBstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVBstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVHstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVHstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVWstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVWstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVVstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>
(MOVVstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVFstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) && is32Bit(int64(off1)+int64(off2)) =>

```
 (MOVFstore [off1+int32(off2)]
 {mergeSym(sym1,sym2)} ptr val mem)
(MOVDstore [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) val mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVDstore [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr val mem)
(MOVBstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVBstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVHstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVHstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVWstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVWstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr mem)
(MOVVstorezero [off1] {sym1} (MOVVaddr [off2] {sym2} ptr) mem) && canMergeSym(sym1,sym2) &&
is32Bit(int64(off1)+int64(off2)) =>
 (MOVVstorezero [off1+int32(off2)] {mergeSym(sym1,sym2)} ptr
 mem)

// store zero
(MOVBstore [off] {sym} ptr (MOVVconst [0]) mem) => (MOVBstorezero [off] {sym} ptr mem)
(MOVHstore [off] {sym} ptr (MOVVconst [0]) mem) => (MOVHstorezero [off] {sym} ptr mem)
(MOVWstore [off] {sym} ptr (MOVVconst [0]) mem) => (MOVWstorezero [off] {sym} ptr mem)
(MOVVstore [off] {sym} ptr (MOVVconst [0]) mem) => (MOVVstorezero [off] {sym} ptr mem)

// don't extend after proper load
(MOVBreg x:(MOVBload _ _)) => (MOVVreg x)
(MOVBUreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVHreg x:(MOVBload _ _)) => (MOVVreg x)
(MOVHreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVHreg x:(MOVHload _ _)) => (MOVVreg x)
(MOVHUreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVHUreg x:(MOVHUload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVBload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVHload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVHUload _ _)) => (MOVVreg x)
(MOVWreg x:(MOVWload _ _)) => (MOVVreg x)
(MOVWUreg x:(MOVBUload _ _)) => (MOVVreg x)
(MOVWUreg x:(MOVHUload _ _)) => (MOVVreg
 x)
(MOVWUreg x:(MOVWUload _ _)) => (MOVVreg x)

// fold double extensions
(MOVBreg x:(MOVBreg _)) => (MOVVreg x)
(MOVBUreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVHreg x:(MOVBreg _)) => (MOVVreg x)
(MOVHreg x:(MOVBUreg _)) => (MOVVreg x)
```

```
(MOVHreg x:(MOVHreg _)) => (MOVVreg x)
(MOVHUreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVHUreg x:(MOVHUreg _)) => (MOVVreg x)
(MOVWreg x:(MOVBreg _)) => (MOVVreg x)
(MOVWreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVWreg x:(MOVHreg _)) => (MOVVreg x)
(MOVWreg x:(MOVWreg _)) => (MOVVreg x)
(MOVWUreg x:(MOVBUreg _)) => (MOVVreg x)
(MOVWUreg x:(MOVHUreg _)) => (MOVVreg x)
(MOVWUreg x:(MOVWUreg _)) => (MOVVreg x)

// don't extend before store
(MOVBstore [off] {sym} ptr (MOVBreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVBUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore
 [off] {sym} ptr (MOVWreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVBstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVBstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVHUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVHstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVHstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWreg x) mem) => (MOVWstore [off] {sym} ptr x mem)
(MOVWstore [off] {sym} ptr (MOVWUreg x) mem) => (MOVWstore [off] {sym} ptr x mem)

// if a register move has only 1 use, just use the same register without emitting instruction
// MOVVnop doesn't emit instruction, only for ensuring the type.
(MOVVreg x) && x.Uses == 1 => (MOVVnop x)

// TODO: we should be able to get rid of MOVVnop all together.
// But for now, this is enough to get rid of lots of them.
(MOVVnop (MOVVconst [c])) => (MOVVconst
 [c])

// fold constant into arithmetic ops
(ADDV x (MOVVconst [c])) && is32Bit(c) => (ADDVconst [c] x)
(SUBV x (MOVVconst [c])) && is32Bit(c) => (SUBVconst [c] x)
(AND x (MOVVconst [c])) && is32Bit(c) => (ANDconst [c] x)
(OR  x (MOVVconst [c])) && is32Bit(c) => (ORconst  [c] x)
(XOR x (MOVVconst [c])) && is32Bit(c) => (XORconst [c] x)
(NOR x (MOVVconst [c])) && is32Bit(c) => (NORconst [c] x)

(SLLV _ (MOVVconst [c])) && uint64(c)>=64 => (MOVVconst [0])
(SRLV _ (MOVVconst [c])) && uint64(c)>=64 => (MOVVconst [0])
(SRAV x (MOVVconst [c])) && uint64(c)>=64 => (SRAVconst x [63])
(SLLV x (MOVVconst [c])) => (SLLVconst x [c])
(SRLV x (MOVVconst [c])) => (SRLVconst x [c])
```

```
(SRAV x (MOVVconst [c])) => (SRAVconst x [c])

(SGT  (MOVVconst [c]) x) && is32Bit(c) => (SGTconst  [c] x)
(SGTU (MOVVconst [c]) x) && is32Bit(c) => (SGTUconst [c] x)

// mul by constant
(Select1 (MULVU x (MOVVconst [-1]))) => (NEGV x)
(Select1 (MULVU _ (MOVVconst [0]))) => (MOVVconst [0])
(Select1 (MULVU x (MOVVconst
 [1]))) => x
(Select1 (MULVU x (MOVVconst [c]))) && isPowerOfTwo64(c) => (SLLVconst [log64(c)] x)

// div by constant
(Select1 (DIVVU x (MOVVconst [1]))) => x
(Select1 (DIVVU x (MOVVconst [c]))) && isPowerOfTwo64(c) => (SRLVconst [log64(c)] x)
(Select0 (DIVVU _ (MOVVconst [1]))) => (MOVVconst [0])                  // mod
(Select0 (DIVVU x (MOVVconst [c]))) && isPowerOfTwo64(c) => (ANDconst [c-1] x) // mod

// generic simplifications
(ADDV x (NEGV y)) => (SUBV x y)
(SUBV x x) => (MOVVconst [0])
(SUBV (MOVVconst [0]) x) => (NEGV x)
(AND x x) => x
(OR  x x) => x
(XOR x x) => (MOVVconst [0])

// remove redundant *const ops
(ADDVconst [0]  x) => x
(SUBVconst [0]  x) => x
(ANDconst [0]  _) => (MOVVconst [0])
(ANDconst [-1] x) => x
(ORconst  [0]  x) => x
(ORconst  [-1] _) => (MOVVconst [-1])
(XORconst [0]  x) => x
(XORconst [-1] x) => (NORconst [0] x)

// generic constant folding
(ADDVconst [c] (MOVVconst [d]))  => (MOVVconst [c+d])
(ADDVconst [c] (ADDVconst [d] x)) && is32Bit(c+d) =>
 (ADDVconst [c+d] x)
(ADDVconst [c] (SUBVconst [d] x)) && is32Bit(c-d) => (ADDVconst [c-d] x)
(SUBVconst [c] (MOVVconst [d]))  => (MOVVconst [d-c])
(SUBVconst [c] (SUBVconst [d] x)) && is32Bit(-c-d) => (ADDVconst [-c-d] x)
(SUBVconst [c] (ADDVconst [d] x)) && is32Bit(-c+d) => (ADDVconst [-c+d] x)
(SLLVconst [c] (MOVVconst [d]))  => (MOVVconst [d<<uint64(c)])
(SRLVconst [c] (MOVVconst [d]))  => (MOVVconst [int64(uint64(d)>>uint64(c))])
(SRAVconst [c] (MOVVconst [d]))  => (MOVVconst [d>>uint64(c)])
(Select1 (MULVU (MOVVconst [c]) (MOVVconst [d]))) => (MOVVconst [c*d])
```

```
(Select1 (DIVV  (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [c/d])
(Select1 (DIVVU (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [int64(uint64(c)/uint64(d))])
(Select0 (DIVV  (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [c%d])   // mod
(Select0 (DIVVU (MOVVconst [c]) (MOVVconst [d]))) && d != 0 => (MOVVconst [int64(uint64(c)%uint64(d))])
// mod
(ANDconst [c] (MOVVconst [d])) => (MOVVconst
 [c&d])
(ANDconst [c] (ANDconst [d] x)) => (ANDconst [c&d] x)
(ORconst [c] (MOVVconst [d])) => (MOVVconst [c|d])
(ORconst [c] (ORconst [d] x)) && is32Bit(c|d) => (ORconst [c|d] x)
(XORconst [c] (MOVVconst [d])) => (MOVVconst [c^d])
(XORconst [c] (XORconst [d] x)) && is32Bit(c^d) => (XORconst [c^d] x)
(NORconst [c] (MOVVconst [d])) => (MOVVconst [^(c|d)])
(NEGV (MOVVconst [c])) => (MOVVconst [-c])
(MOVBreg  (MOVVconst [c])) => (MOVVconst [int64(int8(c))])
(MOVBUreg (MOVVconst [c])) => (MOVVconst [int64(uint8(c))])
(MOVHreg  (MOVVconst [c])) => (MOVVconst [int64(int16(c))])
(MOVHUreg (MOVVconst [c])) => (MOVVconst [int64(uint16(c))])
(MOVWreg  (MOVVconst [c])) => (MOVVconst [int64(int32(c))])
(MOVWUreg (MOVVconst [c])) => (MOVVconst [int64(uint32(c))])
(MOVVreg  (MOVVconst [c])) => (MOVVconst [c])
(LoweredAtomicStore(32|64) ptr (MOVVconst [0]) mem) => (LoweredAtomicStorezero(32|64) ptr mem)
(LoweredAtomicAdd32 ptr (MOVVconst [c]) mem) && is32Bit(c) => (LoweredAtomicAddconst32 [int32(c)]
 ptr mem)
(LoweredAtomicAdd64 ptr (MOVVconst [c]) mem) && is32Bit(c) => (LoweredAtomicAddconst64 [c] ptr mem)

// constant comparisons
(SGTconst [c] (MOVVconst [d])) && c>d => (MOVVconst [1])
(SGTconst [c] (MOVVconst [d])) && c<=d => (MOVVconst [0])
(SGTUconst [c] (MOVVconst [d])) && uint64(c)>uint64(d) => (MOVVconst [1])
(SGTUconst [c] (MOVVconst [d])) && uint64(c)<=uint64(d) => (MOVVconst [0])

// other known comparisons
(SGTconst [c] (MOVBreg _)) && 0x7f < c => (MOVVconst [1])
(SGTconst [c] (MOVBreg _)) && c <= -0x80 => (MOVVconst [0])
(SGTconst [c] (MOVBUreg _)) && 0xff < c => (MOVVconst [1])
(SGTconst [c] (MOVBUreg _)) && c < 0 => (MOVVconst [0])
(SGTUconst [c] (MOVBUreg _)) && 0xff < uint64(c) => (MOVVconst [1])
(SGTconst [c] (MOVHreg _)) && 0x7fff < c => (MOVVconst [1])
(SGTconst [c] (MOVHreg _)) && c <= -0x8000 => (MOVVconst [0])
(SGTconst [c] (MOVHUreg _)) && 0xffff < c => (MOVVconst [1])
(SGTconst [c] (MOVHUreg _)) && c < 0 => (MOVVconst [0])
(SGTUconst [c] (MOVHUreg _)) &&
 0xffff < uint64(c) => (MOVVconst [1])
(SGTconst [c] (MOVWUreg _)) && c < 0 => (MOVVconst [0])
(SGTconst [c] (ANDconst [m] _)) && 0 <= m && m < c => (MOVVconst [1])
(SGTUconst [c] (ANDconst [m] _)) && uint64(m) < uint64(c) => (MOVVconst [1])
(SGTconst [c] (SRLVconst _ [d])) && 0 <= c && 0 < d && d <= 63 && 0xffffffffffffffff>>uint64(d) < uint64(c)
```

=> (MOVVconst [1])
(SGTUconst [c] (SRLVconst _ [d])) && 0 < d && d <= 63 && 0xffffffffffffffff>>uint64(d) < uint64(c) =>
(MOVVconst [1])

// absorb constants into branches
(EQ (MOVVconst [0]) yes no) => (First yes no)
(EQ (MOVVconst [c]) yes no) && c != 0 => (First no yes)
(NE (MOVVconst [0]) yes no) => (First no yes)
(NE (MOVVconst [c]) yes no) && c != 0 => (First yes no)
(LTZ (MOVVconst [c]) yes no) && c < 0 => (First yes no)
(LTZ (MOVVconst [c]) yes no) && c >= 0 => (First no yes)
(LEZ (MOVVconst [c]) yes no) && c <= 0 => (First yes no)
(LEZ (MOVVconst [c]) yes no) && c > 0 => (First no yes)
(GTZ (MOVVconst [c]) yes no) && c > 0 => (First
 yes no)
(GTZ (MOVVconst [c]) yes no) && c <= 0 => (First no yes)
(GEZ (MOVVconst [c]) yes no) && c >= 0 => (First yes no)
(GEZ (MOVVconst [c]) yes no) && c < 0 => (First no yes)

// fold readonly sym load
(MOVBload [off] {sym} (SB) _) && symIsRO(sym) => (MOVVconst [int64(read8(sym, int64(off)))])
(MOVHload [off] {sym} (SB) _) && symIsRO(sym) => (MOVVconst [int64(read16(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVWload [off] {sym} (SB) _) && symIsRO(sym) => (MOVVconst [int64(read32(sym, int64(off),
config.ctxt.Arch.ByteOrder))])
(MOVVload [off] {sym} (SB) _) && symIsRO(sym) => (MOVVconst [int64(read64(sym, int64(off),
config.ctxt.Arch.ByteOrder))])

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* /link-zip/link/internal/ld/ar.go
* /link-zip/link/internal/ld/main.go
* /link-zip/link/internal/x86/obj.go
* /link-zip/link/internal/amd64/obj.go
* /link-zip/link/internal/arm64/l.go
* /link-zip/link/internal/arm64/asm.go
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/*
Derived from Plan 9 from User Space's src/libmach/elf.h, elf.c
https://github.com/9fans/plan9port/tree/master/src/libmach/

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* /link-zip/link/internal/ld/testdata/deadcode/reflectcall.go
* /link-zip/link/internal/ld/fallocate_test.go
* /link-zip/link/internal/ld/outbuf_nofallocate.go
* /link-zip/link/testdata/testIndexMismatch/main.go
* /link-zip/link/internal/ld/heap_test.go
* /link-zip/link/internal/ld/testdata/issue38192/oneline.s
* /link-zip/link/internal/ld/data_test.go
* /link-zip/link/internal/ld/testdata/deadcode/typedesc.go
* /link-zip/link/internal/ld/outbuf_darwin.go
* /link-zip/link/internal/ld/testdata/deadcode/ifacemethod4.go
*
 /link-zip/link/testdata/pe-llvm/main.go
* /link-zip/link/testdata/pe-binutils/main.go
* /link-zip/link/testdata/testHashedSyms/p.go
* /link-zip/link/internal/ld/outbuf_test.go
* /link-zip/link/internal/ld/testdata/deadcode/ifacemethod.go
* /link-zip/link/internal/ld/asmb.go
* /link-zip/link/testdata/testRO/x.go
* /link-zip/link/internal/ld/testdata/issue39256/x.s
* /link-zip/link/internal/benchmark/bench_test.go
* /link-zip/link/internal/ld/errors.go
* /link-zip/link/internal/ld/testdata/issue39256/x.go
* /link-zip/link/internal/ld/deadcode_test.go
* /link-zip/link/internal/ld/testdata/deadcode/ifacemethod2.go
* /link-zip/link/testdata/testIndexMismatch/a.go
* /link-zip/link/internal/ld/target.go
* /link-zip/link/internal/ld/outbuf_notdarwin.go
* /link-zip/link/internal/ld/testdata/issue38192/main.go
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* /link-zip/link/internal/dwtest/dwtest.go
* /link-zip/link/cgo_test.go
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Found in path(s):
* /link-zip/link/internal/loadxcoff/ldxcoff.go
* /link-zip/link/internal/wasm/asm.go
* /link-zip/link/internal/ld/testdata/issue10978/main.go
* /link-zip/link/internal/ld/ld_test.go
* /link-zip/link/internal/wasm/obj.go
* /link-zip/link/internal/ld/xcoff.go
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Found in path(s):
* /link-zip/link/internal/ld/deadcode.go
* /link-zip/link/internal/riscv64/l.go
* /link-zip/link/internal/ld/testdata/issue32233/lib/ObjC.m
* /link-zip/link/internal/ld/execarchive_noexec.go
* /link-zip/link/internal/ld/testdata/issue32233/lib/lib.go
* /link-zip/link/elf_test.go
* /link-zip/link/internal/ld/issue33808_test.go
* /link-zip/link/internal/loader/loader_test.go
* /link-zip/link/internal/ld/elf_test.go
* /link-zip/link/internal/ld/testdata/issue32233/main/main.go
* /link-zip/link/internal/riscv64/obj.go
* /link-zip/link/internal/sym/compilation_unit.go
* /link-zip/link/internal/ld/dwarf.go
* /link-zip/link/internal/ld/outbuf_windows.go
* /link-zip/link/internal/riscv64/asm.go
* /link-zip/link/internal/loader/loader.go
* /link-zip/link/internal/ld/execarchive.go
* /link-zip/link/internal/ld/outbuf_mmap.go
* /link-zip/link/internal/ld/outbuf_nommap.go
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Found in path(s):
* /link-zip/link/internal/loadpe/ldpe.go
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* /link-zip/link/main.go
* /link-zip/link/internal/ld/util.go
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Found in path(s):
* /link-zip/link/internal/ld/testdata/stackcheck/main.go
* /link-zip/link/internal/ld/stackcheck.go
* /link-zip/link/internal/ld/stackcheck_test.go
* /link-zip/link/internal/ld/testdata/stackcheck/main.s
* /link-zip/link/internal/loong64/obj.go
* /link-zip/link/internal/loong64/l.go
* /link-zip/link/internal/loong64/asm.go
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/*
* Derived from:
* $FreeBSD: src/sys/sys/elf32.h,v 1.8.14.1 2005/12/30 22:13:58 marcel Exp $
* $FreeBSD: src/sys/sys/elf64.h,v 1.10.14.1 2005/12/30 22:13:58 marcel Exp $

```
* $FreeBSD: src/sys/sys/elf_common.h,v 1.15.8.1 2005/12/30 22:13:58 marcel Exp $
* $FreeBSD: src/sys/alpha/include/elf.h,v 1.14 2003/09/25 01:10:22 peter Exp $
* $FreeBSD: src/sys/amd64/include/elf.h,v 1.18 2004/08/03 08:21:48 dfr Exp $
* $FreeBSD: src/sys/arm/include/elf.h,v 1.5.2.1 2006/06/30 21:42:52 cognet Exp $
* $FreeBSD: src/sys/i386/include/elf.h,v 1.16 2004/08/02 19:12:17 dfr Exp $
* $FreeBSD: src/sys/powerpc/include/elf.h,v 1.7 2004/11/02 09:47:01 ssouhlal Exp $
* $FreeBSD: src/sys/sparc64/include/elf.h,v 1.12 2003/09/25 01:10:26 peter Exp $
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*
*/
```

Found in path(s):
* /link-zip/link/internal/ld/elf.go

1.88 cmd/pack (devel)

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```
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```

Found in path(s):
* /pack-zip/pack/doc.go
* /pack-zip/pack/pack_test.go
* /pack-zip/pack/pack.go

1.89 cmd/vet (devel)

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Found in path(s):
* /vet-zip/vet/testdata/cgo/cgo.go
* /vet-zip/vet/testdata/tagtest/file1.go
* /vet-zip/vet/testdata/tagtest/file2.go
* /vet-zip/vet/testdata/unused/unused.go
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Found in path(s):
* /vet-zip/vet/testdata/structtag/structtag.go
* /vet-zip/vet/testdata/asm/asm.go
* /vet-zip/vet/testdata/print/print.go
* /vet-zip/vet/testdata/method/method.go
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Found in path(s):
* /vet-zip/vet/testdata/rangeloop/rangeloop.go
* /vet-zip/vet/main.go
* /vet-zip/vet/testdata/composite/composite.go
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Found in path(s):
* /vet-zip/vet/testdata/buildtag/buildtag4.go
* /vet-zip/vet/testdata/buildtag/buildtag5.go
* /vet-zip/vet/testdata/buildtag/buildtag3.go
* /vet-zip/vet/testdata/buildtag/buildtag7.s
* /vet-zip/vet/testdata/buildtag/buildtag6.s
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Found in path(s):
* /vet-zip/vet/testdata/atomic/atomic.go
* /vet-zip/vet/testdata/deadcode/deadcode.go
* /vet-zip/vet/testdata/assign/assign.go
* /vet-zip/vet/testdata/buildtag/buildtag.go
* /vet-zip/vet/vet_test.go
* /vet-zip/vet/testdata/nilfunc/nilfunc.go
* /vet-zip/vet/testdata/asm/asm1.s
* /vet-zip/vet/testdata/buildtag/buildtag2.go
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Found in path(s):
* /vet-zip/vet/testdata/testingpkg/tests.go
* /vet-zip/vet/testdata/testingpkg/tests_test.go
* /vet-zip/vet/testdata/unmarshal/unmarshal.go
* /vet-zip/vet/testdata/httpresponse/httpresponse.go
* /vet-zip/vet/testdata/copylock/copylock.go
* /vet-zip/vet/doc.go
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Found in path(s):
* /vet-zip/vet/testdata/lostcancel/lostcancel.go
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Found in path(s):
* /vet-zip/vet/testdata/shift/shift.go
* /vet-zip/vet/testdata/bool/bool.go
* /vet-zip/vet/testdata/unsafeptr/unsafeptr.go

1.90 cmd/covdata (devel)

1.90.1 Available under license :

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Found in path(s):
* /covdata-zip/covdata/covdata.go
* /covdata-zip/covdata/testdata/prog1.go
* /covdata-zip/covdata/subtractintersect.go

* /covdata-zip/covdata/tool_test.go
* /covdata-zip/covdata/doc.go
* /covdata-zip/covdata/merge.go
* /covdata-zip/covdata/testdata/prog2.go
* /covdata-zip/covdata/dump.go
* /covdata-zip/covdata/argsmerge.go
* /covdata-zip/covdata/export_test.go
* /covdata-zip/covdata/testdata/dep.go
* /covdata-zip/covdata/metamerge.go

1.91 gnupg 2.2.40-1.1

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* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.

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* Regular
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1993 Christopher Seiwald seiwald@vix.com
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1.93 e2fsprogs 1.47.0-2

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*/
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Comment:
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threshold for this to be true is not precisely defined by law.

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That's all there is to it!
#
This is a Makefile stub which handles the creation of BSD shared
libraries.

```
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#

all:: image

real-subdirs:: Makefile
 @echo " MKDIR pic"
 @mkdir -p pic

BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic

image:  $(BSD_LIB)

$(BSD_LIB): $(OBJS)
 (cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
 $(MV) pic/$(BSD_LIB) .
 $(RM) -f ../$(BSD_LIB)
 (cd ..; $(LN) $(LINK_BUILD_FLAGS) \
  `echo $(my_dir) | sed -e 's;lib/;;'`/$(BSD_LIB) $(BSD_LIB))

install-shlibs install:: $(BSD_LIB)
 @echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
 @$(INSTALL_PROGRAM) $(BSD_LIB) \
  $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
 @-$(LDCONFIG)

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::
 $(RM) -f $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)

clean::
 $(RM)
 -rf pic
 $(RM) -f $(BSD_LIB)
 $(RM) -f ../$(BSD_LIB)
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1.94 brotli 1.0.9-2+b6

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1.95 grep 3.8-5

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```
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1.106 libsemanage2 3.4-1+b5

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1.107 libpsl 0.21.2-1

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1.108 adduser 3.134

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* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.

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* Regular
expression support

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Subsequently modified by:

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1987 James A. Woods ames!jaw
1993 Christopher Seiwald seiwald@vix.com
2000, 2002 Christopher Seiwald <seiwald@perforce.com>
2010 Steve Bennett <steveb@workware.net.au>
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===
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+++ tdbsa/tdb.c
@@ -4,11 +4,11 @@ Rev: 23371
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)
*/
 /*
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-
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Theodore Ts'o
23-June-2007

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

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

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

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

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

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

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make
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Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or

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

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

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

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

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

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

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

6. As an exception to the Sections above, you may also compile or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work

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the terms permit
modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

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

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

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

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

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

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

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

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

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

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

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You should also get your employer (if you work as a programmer) or your
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necessary. Here is a sample; alter the names:

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

 <signature of Ty Coon>, 1 April 1990
 Ty Coon, President of Vice

That's all there is to it!
#
This is a Makefile stub which handles the creation of BSD shared
libraries.
#
In order to use this stub, the following makefile variables must be defined.
#
BSDLIB_VERSION = 1.0

```
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#

all:: image

real-subdirs:: Makefile
 @echo " MKDIR pic"
 @mkdir -p pic

BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic

image:  $(BSD_LIB)

$(BSD_LIB): $(OBJS)
 (cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
 $(MV) pic/$(BSD_LIB) .
 $(RM) -f ../$(BSD_LIB)
 (cd ..; $(LN) $(LINK_BUILD_FLAGS) \
  `echo $(my_dir) | sed -e 's;lib/;;'`/$(BSD_LIB) $(BSD_LIB))

install-shlibs install:: $(BSD_LIB)
 @echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
 @$(INSTALL_PROGRAM) $(BSD_LIB) \
  $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
 @-$(LDCONFIG)

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::
 $(RM) -f $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)

clean::
 $(RM)
 -rf pic
 $(RM) -f $(BSD_LIB)
 $(RM) -f ../$(BSD_LIB)
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1.119 selinux 3.4-1+b6

1.119.1 Available under license :

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with the library after making changes to the library and recompiling
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We protect your rights with a two-step method: (1) we copyright the
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Finally, software patents pose a constant threat to the existence
of
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consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and

is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

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

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

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

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

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

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

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

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

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

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

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

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appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

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

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

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

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

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

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

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

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

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

In addition, mere aggregation of another work not based on the Library

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that version instead if you wish.) Do not make any other change in
these notices.

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

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

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

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

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
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work, in isolation, is not a derivative work of the Library, and
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However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this
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Section 6 states terms for distribution of such executables.

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

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

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

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

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

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

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

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

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1.128 libext2fs2 1.47.0-2

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+++ tdbsa/tdb.c
@@ -4,11 +4,11 @@ Rev: 23371
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)
*/

```
 /*
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+   trivial database library - standalone version

-   trivial database library - private includes
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Upstream-Contact: Theodore Ts'o <tytso@mit.edu>
Source: http://sourceforge.net/projects/e2fsprogs
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Appendix: How to Apply These Terms to Your New Programs

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Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY;
for details type `show w'.
This is free software, and you are welcome to redistribute it

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

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

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Theodore Ts'o
23-June-2007

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

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

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This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

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

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

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

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Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

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

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

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

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

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medium customarily used for software interchange.

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

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Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

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

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

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

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

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that
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relink to produce a modified
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That's all there is to it!
#
# This is a Makefile stub which handles the creation of BSD shared
# libraries.
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#

all:: image

real-subdirs:: Makefile
 @echo " MKDIR pic"
 @mkdir -p pic

BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic

image:  $(BSD_LIB)

$(BSD_LIB): $(OBJS)
 (cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
 $(MV) pic/$(BSD_LIB) .
 $(RM) -f ../$(BSD_LIB)
 (cd ..; $(LN) $(LINK_BUILD_FLAGS) \
  `echo $(my_dir) | sed -e 's;lib/;;'`/$(BSD_LIB) $(BSD_LIB))

install-shlibs install:: $(BSD_LIB)
 @echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
 @$(INSTALL_PROGRAM) $(BSD_LIB) \
  $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
 @-$(LDCONFIG)

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::
 $(RM) -f $(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)

clean::
```

$(RM)
-rf pic
$(RM) -f $(BSD_LIB)
$(RM) -f ../$(BSD_LIB)
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1.129 libss 1.47.0-2

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1.130 libcom-err 1.47.0-2

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Upstream-Contact: Theodore Ts'o <tytso@mit.edu>
Source: http://sourceforge.net/projects/e2fsprogs
Comment:
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 * Optimize BLAS3 on ICT Loongson 3A.
 * Optimize BLAS3 on Intel Sandy Bridge.

* Werner Saar <wernsaar@googlemail.com>
 * [2013-03-04] Optimize AVX and FMA4 DGEMM on AMD Bulldozer
 * [2013-04-27] Optimize AVX and FMA4 TRSM on AMD Bulldozer
 * [2013-06-09] Optimize AVX and FMA4 SGEMM on AMD Bulldozer
 * [2013-06-11] Optimize AVX and FMA4 ZGEMM on AMD Bulldozer
 * [2013-06-12] Optimize AVX and FMA4 CGEMM on AMD Bulldozer
 * [2013-06-16] Optimize dgemv_n kernel on AMD Bulldozer
 * [2013-06-20] Optimize ddot, daxpy kernel on AMD Bulldozer
 * [2013-06-21] Optimize dcopy kernel on AMD Bulldozer
 * Porting and Optimization on ARM Cortex-A9
 * Optimization on AMD Piledriver
 * Optimization on Intel Haswell

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 * Improve the windows build.

* Chen Shaohu <huhumartinwar@gmail.com>
 * Optimize GEMV on the Loongson 3A processor.

* Luo Wen
 * Intern. Test Level-2 BLAS.

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 * [2011-06-11] Make USE_OPENMP=0 disable openmp.

* Stefan Karpinski <stefan@karpinski.org>
 * [2011-12-28] Fix a bug about SystemStubs on Mac OS X.

* Alexander Eberspcher <https://github.com/aeberspaecher>
 * [2012-05-02] Add note on patch for segfaults on Linux kernel 2.6.32.

* Mike Nolta <mike@nolta.net>
 * [2012-05-19] Fix building bug on FreeBSD and NetBSD.

* Sylvestre Ledru <https://github.com/sylvestre>
 * [2012-07-01] Improve the detection of sparc. Fix building bug under
   Hurd and kfreebsd.

* Jameson Nash <https://github.com/vtjnash>
 * [2012-08-20] Provide support for passing CFLAGS, FFLAGS, PFLAGS, FPFLAGS to
   make on the command line.

* Alexander Nasonov <alnsn@yandex.ru>
 * [2012-11-10] Fix NetBSD build.

* Sbastien Villemot <sebastien@debian.org>
 * [2012-11-14] Fix compilation with TARGET=GENERIC. Patch applied to Debian package.
 * [2013-08-28] Avoid failure on qemu guests declaring an Athlon CPU without 3dnow!

* Kang-Che Sung <Explorer09@gmail.com>
 * [2013-05-17] Fix typo in the document. Re-order the architecture list in getarch.c.

* Kenneth Hoste <kenneth.hoste@gmail.com>
 * [2013-05-22] Adjust Makefile about downloading LAPACK source files.

* Lei WANG <https://github.com/wlbksy>
 * [2013-05-22] Fix a bug about wget.

* Dan Luu <http://www.linkedin.com/in/danluu>
 * [2013-06-30] Add Intel Haswell support (using sandybridge optimizations).

* grisuthedragon <https://github.com/grisuthedragon>
 * [2013-07-11] create openblas_get_parallel to retrieve information which parallelization
   model is used by OpenBLAS.

* Elliot Saba <staticfloat@gmail.com>
 * [2013-07-22] Add in return value for `interface/trtri.c`

* Sbastien Fabbro
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 * [2013-07-24] Modify makefile to respect user's LDFLAGS
 * [2013-07-24] Add stack markings for GNU as arch-independent for assembler files

* Viral B. Shah <viral@mayin.org>
 * [2013-08-21] Patch LAPACK XLASD4.f as discussed in JuliaLang/julia#2340

* Lars Buitinck <https://github.com/larsmans>
 * [2013-08-28] get rid of the generated cblas_noconst.h file
 * [2013-08-28] Missing threshold in gemm.c
 * [2013-08-28] fix default prefix handling in makefiles

* yieldthought <https://github.com/yieldthought>
 * [2013-10-08] Remove -Wl,--retain-symbols-file from dynamic link line to fix tool support

* Keno Fischer <https://github.com/loladiro>
 * [2013-10-23] Use FC instead of CC to link the dynamic library on OS X

* Christopher Meng <cickumqt@gmail.com>
 * [2013-12-09] Add DESTDIR support for easier building on RPM based distros.
 Use install command instead of cp to install files with permissions control.

* Lucas Beyer <lucasb.eyer.be@gmail.com>
  * [2013-12-10] Added support for NO_SHARED in make install.

* carlkl <https://github.com/carlkl>
 * [2013-12-13] Fixed LAPACKE building bug on Windows

* Isaac Dunham <https://github.com/idunham>
 * [2014-08-03] Fixed link error on Linux/musl

* Dave Nuechterlein
 * [2014-10-10] trmm and sgemm kernels (optimized for APM's X-Gene 1).
 ARMv8 support.

* Jerome Robert <jeromerobert@gmx.com>
 * [2015-01-01] Speed-up small `ger` and `gemv` using stack allocation (bug #478)
 * [2015-12-23] `stack_check` in `gemv.c` (bug #722)
 * [2015-12-28] Allow to force the number of parallel make job
 * [2015-12-28] Fix detection of AMD E2-3200 detection
 * [2015-12-31] Let `make MAX_STACK_ALLOC=0` do what expected
 * [2016-01-19] Disable multi-threading in `ger` and `swap` for small matrices (bug #731)
 * [2016-01-24] Use `GEMM_MULTITHREAD_THRESHOLD` as a number of ops (bug #742)
 * [2016-01-26] Let `openblas_get_num_threads` return the number of active threads (bug #760)
 * [2016-01-30] Speed-up small `zger`, `zgemv`, `ztrmv` using stack allocation (bug #727)

* Dan Kortschak
 * [2015-01-07] Added test for drotmg bug #484.

* Ton van den Heuvel <https://github.com/ton>
 * [2015-03-18] Fix race condition during shutdown causing a crash in gotoblas_set_affinity().

* Martin Koehler <https://github.com/grisuthedragon/>
 * [2015-09-07] Improved imatcopy

* Ashwin Sekhar T K <https://github.com/ashwinyes/>
 * [2015-11-09] Assembly kernels for Cortex-A57 (ARMv8)
 * [2015-11-20] lapack-test fixes for Cortex-A57
 * [2016-03-14] Additional functional Assembly Kernels for Cortex-A57

* [2016-03-14] Optimize Dgemm 4x4 for Cortex-A57

* theoractice <https://github.com/theoractice/>
 * [2016-03-20] Fix compiler error in VisualStudio with CMake
 * [2016-03-22] Fix access violation on Windows while static linking

* Paul Mustire <https://github.com/buffer51/>
 * [2016-02-04] Fix Android build on ARMV7
 * [2016-04-26] Android build with LAPACK for
 ARMV7 & ARMV8

* Shivraj Patil <https://github.com/sva-img/>
 * [2016-05-03] DGEMM optimization for MIPS P5600 and I6400 using MSA

* Kaustubh Raste <https://github.com/ksraste/>
 * [2016-05-09] DTRSM optimization for MIPS P5600 and I6400 using MSA
 * [2016-05-20] STRSM optimization for MIPS P5600 and I6400 using MSA

* Abdelrauf <https://github.com/quickwritereader>
 * [2017-01-01] dgemm and dtrmm kernels for IBM z13
 * [2017-02-26] ztrmm kernel for IBM z13
 * [2017-03-13] strmm and ctrmm kernel for IBM z13
 * [2017-09-01] initial Blas Level-1,2 (double precision) for IBM z13
 * [2018-03-07] added missing Blas Level 1-2 (double precision) simd codes
 * [2019-02-01] added missing Blas Level-1,2 (single precision) simd codes
 * [2019-03-14] power9 dgemm/dtrmm kernel
 * [2019-04-29] power9 sgemm/strmm kernel

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 * [2019-07-29] optimize AVX2 DGEMM
 * [2019-10-20] AVX512 DGEMM kernel (4x8)
 * [2019-11-06] optimize AVX512 SGEMM
 *
 [2019-11-12] AVX512 CGEMM & ZGEMM kernels
 * [2019-12-23] optimize AVX2 CGEMM and ZGEMM
 * [2019-12-30] AVX2 CGEMM3M & ZGEMM3M kernels
 * [2020-01-07] optimize AVX2 SGEMM and STRMM

* Rajalakshmi Srinivasaraghavan <https://github.com/RajalakshmiSR>
 * [2020-04-15] Half-precision GEMM for bfloat16

* Marius Hillenbrand <https://github.com/mhillenibm>
 * [2020-05-12] Revise dynamic architecture detection for IBM z
 * [2020-05-12] Add new sgemm and strmm kernel for IBM z14
 * [2020-09-07] Fix builds with clang on IBM z, including dynamic architecture support

* Danfeng Zhang <https://github.com/craft-zhang>
 * [2020-05-20] Improve performance of SGEMM and STRMM on Arm Cortex-A53

* PingTouGe Semiconductor Co., Ltd.
 * [2020-10] Add RISC-V Vector (0.7.1) support. Optimize BLAS kernels for Xuantie C910

* River Dillon <oss@outerpassage.net>
 * [2021-07-10] fix compilation with musl libc

* Bine Brank <https://github.com/binebrank>
 * [2021-10-27] Add vector-length-agnostic DGEMM
 kernels for Arm SVE
 * [2021-11-20] Vector-length-agnostic Arm SVE copy routines for DGEMM, DTRMM, DSYMM
 * [2021-11-12] SVE kernels for SGEMM, STRMM and corresponding SVE copy functions
 * [2022-01-06] SVE kernels for CGEMM, ZGEMM, CTRMM, ZTRMM and corresponding SVE copy functions
 * [2022-01-18] SVE kernels and copy functions for TRSM

* Ilya Kurdyukov <https://github.com/ilyakurdyukov>
 * [2021-02-21] Add basic support for the Elbrus E2000 architecture

* PLCT Lab, Institute of Software Chinese Academy of Sciences
 * [2022-03] Support RISC-V Vector Intrinisc 1.0 version.

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1.135 protobuf 3.21.12-3

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* Emacs mode for Protocol Buffers (editors/protobuf-mode.el).
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* Detect whether zlib is new enough in configure script.
* Fixes for Solaris 10 32/64-bit confusion.
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* Optimize Java serialization code when writing a small message to a stream.
* Optimize Java serialization of strings so that UTF-8 encoding happens only
once per string per serialization call.
* Clean up some Java warnings.
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* Provide a type alias field ValueType
on EnumTypeWrapper
* Match service argument names to abstract interface

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1.141 lapack 3.11.0-2

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1.142 libedit 3.1-20221030-2

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1.143 serf 1.3.9-11

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1.144 cpp 12.2.0-14

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mach_override lib/interception/mach_override
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Version 2, June 1991

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

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A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
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"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
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6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
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machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
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customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years

and valid for as
long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source
as a System Library, need not be
included in conveying the object code work.

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Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

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Version 2, June 1991

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[This is the first released version of the library GPL. It is
 numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble
========

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with the library, after making changes to the library and recompiling
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  The reason we have a separate public license for some libraries is
that they blur the distinction we usually make between modifying or
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library, without changing the library, is in some sense simply using
the library, and is analogous to running a utility program or
application program. However, in a textual and legal sense, the linked
executable is a combined work, a derivative
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and the ordinary General Public License treats it as such.

  Because of this blurred distinction, using the ordinary General
Public License for libraries did not effectively promote software
sharing, because most developers did not use the libraries. We
concluded that weaker conditions might promote sharing better.

  However, unrestricted linking of non-free programs would deprive the

users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

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such function or table, the facility still operates, and

performs whatever part of its purpose remains meaningful.

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

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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

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

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being
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executables.

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

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

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

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```
<!-- Creator     : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF
  </li>
  <li class="release">
   12_HREF
  </li>

  <li>
   <a href="news.html" title="News">News</a>
  </li>
  <li>
   <a href="development.html" title="Development">Development</a>
  </li>
  <li>
   <a href="community.html" title="Community">Community</a>
  </li>
 </ul>
```

```
<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
   licences can be found on the
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

1.145 procps 4.0.2-3

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1.146 init-system-helpers 1.65.2

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1.148 libutf8proc2 2.8.0-1

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1.150 libmpfr6 4.2.0-1

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1.151 pkg-config 1.8.1-1

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1.154 libjansson4 2.14-2

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1.155 rust-sequoia-sq 0.27.0-2+b1

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++++++++++++++++

Dean Elsner wrote the original gas for vax. [more details?]

Jay Fenlason maintained gas for a while, adding support for
gdb-specific debug information and the 68k series machines, most of
the preprocessing pass, and extensive changes in messages.c,
input-file.c, write.c.

K. Richard Pixley maintained gas for a while, adding various
enhancements and many bug fixes, including merging support for several
processors, breaking gas up to handle multiple object file format
backends (including heavy rewrite, testing, an integration of the coff
and b.out backends), adding configuration
 including heavy testing and
verification of cross assemblers and file splits and renaming,
converted gas to strictly ansi C including full prototypes, added
support for m680[34]0 & cpu32, considerable work on i960 including a
coff port (including considerable amounts of reverse engineering), a
sparc opcode file rewrite, decstation, rs6000, and hp300hpux host

ports, updated "know" assertions and made them work, much other reorganization, cleanup, and lint.

Ken Raeburn wrote the high-level BFD interface code to replace most of the code in format-specific I/O modules.

The original Vax-VMS support was contributed by David L. Kashtan. Eric Youngdale and Pat Rankin have done much work with it since.

The Intel 80386 machine description was written by Eliot Dresselhaus.

Minh Tran-Le at IntelliCorp contributed some AIX 386 support.

The Motorola 88k machine description was contributed by Devon Bowen of Buffalo University and Torbjorn Granlund of the Swedish Institute of Computer Science.

Keith
Knowles at the Open Software Foundation wrote the original MIPS back end (tc-mips.c, tc-mips.h), and contributed Rose format support that hasn't been merged in yet. Ralph Campbell worked with the MIPS code to support a.out format.

Support for the Zilog Z8k and Hitachi H8/300, H8/500 and SH processors (tc-z8k, tc-h8300, tc-h8500, tc-sh), and IEEE 695 object file format (obj-ieee), was written by Steve Chamberlain of Cygnus Solutions. Steve also modified the COFF back end (obj-coffbfd) to use BFD for some low-level operations, for use with the Hitachi, 29k and Zilog targets.

John Gilmore built the AMD 29000 support, added .include support, and simplified the configuration of which versions accept which pseudo-ops. He updated the 68k machine description so that Motorola's opcodes always produced fixed-size instructions (e.g. jsr), while synthetic instructions remained shrinkable (jbsr). John fixed many bugs, including true tested cross-compilation support, and one bug in relaxation
that took a week and required the proverbial one-bit fix.

Ian Lance Taylor of Cygnus Solutions merged the Motorola and MIT syntaxes for the 68k, completed support for some COFF targets (68k, i386 SVR3, and SCO Unix), wrote the ECOFF support based on Michael Meissner's mips-tfile program, wrote the PowerPC and RS/6000 support, and made a few other minor patches. He handled the binutils releases for versions 2.7 through 2.9.

David Edelsohn contributed fixes for the PowerPC and AIX support.

Steve Chamberlain made gas able to generate listings.

Support for the HP9000/300 was contributed by Glenn Engel of HP.

Support for ELF format files has been worked on by Mark Eichin of
Cygnus Solutions (original, incomplete implementation), Pete
Hoogenboom at the University of Utah (HPPA mainly), Michael Meissner
of the Open Software Foundation (i386 mainly), and Ken Raeburn of
Cygnus Solutions (sparc, initial 64-bit support).

Several engineers at Cygnus Solutions have also provided many
small
bug fixes and configuration enhancements.

The initial Alpha support was contributed by Carnegie-Mellon
University. Additional work was done by Ken Raeburn of Cygnus
Solutions. Richard Henderson then rewrote much of the Alpha support.

Ian Dall updated the support code for the National Semiconductor 32000
series, and added support for Mach 3 and NetBSD running on the PC532.

Klaus Kaempf ported the assembler and the binutils to openVMS/Alpha.

Steve Haworth contributed the support for the Texas Instruction c30
(tms320c30).

H.J. Lu has contributed many patches and much testing.

Alan Modra reworked much of the i386 backend, improving the error
checking, updating the code, and improving the 16 bit support, using
patches from the work of Martynas Kunigelis and H.J. Lu.

Many others have contributed large or small bugfixes and enhancements. If
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However, linking a "work that uses the Library" with the Library

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

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

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

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

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

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

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified

executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

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

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

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

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

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

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

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

b) Give prominent notice with the combined library of the fact that part of it is a work based on the

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where to find the accompanying uncombined form of the same work.

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END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Libraries

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

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library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

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Version 2.1, February 1999

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the version number 2.1.]

Preamble

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

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

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use the Lesser General Public License.

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

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

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

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

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without
limitation in the term "modification".)

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

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

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

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

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and

distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

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

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

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

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

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

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

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

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

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

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

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

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

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

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

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

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.

Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

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

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

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

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

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system,

rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

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

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

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

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

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

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

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

b) Give prominent notice with the combined library of the fact

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1.159 mercurial 6.3.2

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```
#require unix-permissions no-root

 $ hg init a
 $ cd a
 $ echo foo > b
 $ hg add b
 $ hg ci -m "b"

 $ chmod -w .hg/store

 $ cd ..

 $ hg clone a b
 requesting all changes
 adding changesets
 adding manifests
 adding file changes
 added 1 changesets with 1 changes to 1 files
 new changesets 97310831fa1a
 updating to branch default
 1 files updated, 0 files merged, 0 files removed, 0 files unresolved

 $ chmod +w a/.hg/store # let test clean up

 $ cd b
 $ hg verify
 checking changesets
 checking manifests
 crosschecking files in changesets and manifests
 checking files
 checked 1 changesets with 1 changes to 1 files

 $ cd ..
```

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1.160 libapr-util1 1.6.3-1

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From strings/apr_fnmatch.c, include/apr_fnmatch.h,
 misc/unix/getopt.c,
file_io/unix/mktemp.c, strings/apr_strings.c:

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From network_io/unix/inet_ntop.c, network_io/unix/inet_pton.c:

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From dso/aix/dso.c:

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From strings/apr_strnatcmp.c, include/apr_strings.h:

strnatcmp.c -- Perform 'natural order' comparisons of strings in C.
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From test/CuTest.c, test/CuTest.h:

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1.161 libpkgconf3 1.8.1-1

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1.162 libfido2-1 1.12.0-2+b1

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1.163 python 3.11.2-1

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In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see https://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations, which became Zope Corporation. In 2001, the Python Software Foundation (PSF, see https://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation was a sponsoring member of the PSF.

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Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no

2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
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2.2 and above	2.1.1	2001-now	PSF	yes

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1.170 zlib 1.2.13

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1.171 sqlite 3.43.0

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1.172 brotli 1.0.9-2+b6

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1.173 libpammodulesbin 1.5.2-6+deb12u1

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1.174 pam 1.5.2-6+deb12u1

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Found in path(s):
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/pl/run-parts.8
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/es/run-parts.8
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* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/po/ja.po
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/* ischroot: detect if running in a chroot
*
* Debian ischroot program
* Copyright (C) 2011 Aurelien Jarno <aurel32@debian.org>
* Copyright (C) 2015 Andreas Henriksson <andreas@fatal.se>
*
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* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/po/es.po
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/po/fr.po
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/po/de.po
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/po/pt.po
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/po/pl.po
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/po/sl.po

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der GNU GPL Version 2 (oder neuer).

Found in path(s):
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/de/installkernel.8
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/de/savelog.8
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/de/which.1
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/de/translator_german.add
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/de/add-shell.8
* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/de/remove-shell.8
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* /debianutils-5-7-orig-1-tar-gz/debianutils-5.7/po4a/sl/run-parts.8
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/* run-parts: run a bunch of scripts in a directory
*
* Debian run-parts program
* Copyright (C) 1996 Jeff Noxon <jeff@router.patch.net>,
* Copyright (C) 1996-1999 Guy Maor <maor@debian.org>
* Copyright (C) 2002-2020 Clint Adams <clint@debian.org>
*
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*
* Based on run-parts.pl version 0.2, Copyright (C) 1994 Ian Jackson.
*
*/

Found in path(s):
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1.176 libpamg 1.5.2-6+deb12u1

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1.178 libpng 1.6.39

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1.179 ncurses 6.4-4

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1.180 python 3.11.2-1+b1

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Python was created in the early 1990s by Guido van Rossum at Stichting
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as a successor of a language called ABC. Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see https://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team. In October of the same
year, the PythonLabs team moved to Digital Creations, which became
Zope Corporation. In 2001, the Python Software Foundation (PSF, see
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Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2 and above	2.1.1	2001-now	PSF	yes

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1.183 libcrypt 4.4.33-2

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1.184 libaudit 3.0.9-1

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1.186 zlib 1.2.0.4

1.186.1 Available under license :

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/* zutil.h -- internal interface and configuration of the compression library
* Copyright (C) 1995-2003 Jean-loup Gailly.
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/zutil.h
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/* inffast.h -- header to use inffast.c
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

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* /zlib-1-2-0-4-zip/zlib-1.2.0.4/inffast.h
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ZLIB DATA COMPRESSION LIBRARY

zlib 1.2.0.4 is a general purpose data compression library. All the code is
thread safe. The data format used by the zlib library is described by RFCs
(Request for Comments) 1950 to 1952 in the files
http://www.ietf.org/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format)
and rfc1952.txt (gzip format). These documents are also available in other
formats from ftp://ftp.uu.net/graphics/png/documents/zlib/zdoc-index.html

All functions of the compression library are documented in the file zlib.h
(volunteer to write man pages welcome, contact jloup@gzip.org). A usage example
of the library is given in the file example.c which also tests that the library
is working correctly. Another example is given in the file minigzip.c. The
compression library itself is composed of all source files except example.c and
minigzip.c.

To compile all files and run the test program, follow the instructions
given at
the top of Makefile. In short "make test; make install" should work for most
machines. For Unix: "./configure; make test; make install" For MSDOS, use one
of the special makefiles such as Makefile.msc. For VMS, use Make_vms.com or
descrip.mms.

Questions about zlib should be sent to <zlib@gzip.org>, or to Gilles Vollant
<info@winimage.com> for the Windows DLL version. The zlib home page is
http://www.zlib.org or http://www.gzip.org/zlib/ Before reporting a problem,
please check this site to verify that you have the latest version of zlib;

otherwise get the latest version and check whether the problem still exists or not.

PLEASE read the zlib FAQ http://www.gzip.org/zlib/zlib_faq.html before asking for help.

Mark Nelson <markn@ieee.org> wrote an article about zlib for the Jan. 1997 issue of Dr. Dobb's Journal; a copy of the article is available in http://dogma.net/markn/articles/zlibtool/zlibtool.htm

The changes made in version 1.2.0.4 are documented in the file ChangeLog.

Unsupported
third party contributions are provided in directory "contrib".

A Java implementation of zlib is available in the Java Development Kit http://www.javasoft.com/products/JDK/1.1/docs/api/Package-java.util.zip.html See the zlib home page http://www.zlib.org for details.

A Perl interface to zlib written by Paul Marquess <pmqs@cpan.org> is in the CPAN (Comprehensive Perl Archive Network) sites http://www.cpan.org/modules/by-module/Compress/

A Python interface to zlib written by A.M. Kuchling <amk@magnet.com> is available in Python 1.5 and later versions, see http://www.python.org/doc/lib/module-zlib.html

A zlib binding for TCL written by Andreas Kupries <a.kupries@westend.com> is availlable at http://www.westend.com/~kupries/doc/trf/man/man.html

An experimental package to read and write files in .zip format, written on top of zlib by Gilles Vollant <info@winimage.com>, is available at http://www.winimage.com/zLibDll/unzip.html and also in the contrib/minizip directory
of zlib.

Notes for some targets:

- To build a Windows DLL version, include in a DLL project zlib.def, zlib.rc and all .c files except example.c and minigzip.c; compile with -DZLIB_DLL The zlib DLL support was initially done by Alessandro Iacopetti and is now maintained by Gilles Vollant <info@winimage.com>. Check the zlib DLL home page at http://www.winimage.com/zLibDll

From Visual Basic, you can call the DLL functions which do not take a structure as argument: compress, uncompress and all gz* functions. See contrib/visual-basic.txt for more information, or get

http://www.tcfb.com/dowseware/cmp-z-it.zip

- For 64-bit Irix, deflate.c must be compiled without any optimization. With
-O, one libpng test fails. The test works in 32 bit mode (with the -n32
compiler flag). The compiler bug has been reported to SGI.

- zlib doesn't work with gcc 2.6.3 on a DEC 3000/300LX under OSF/1 2.1 it works
when compiled with cc.

- On Digital Unix 4.0D (formely OSF/1) on AlphaServer,
the cc option -std1 is
necessary to get gzprintf working correctly. This is done by configure.

- zlib doesn't work on HP-UX 9.05 with some versions of /bin/cc. It works with
other compilers. Use "make test" to check your compiler.

- gzdopen is not supported on RISCOS, BEOS and by some Mac compilers.

- For Turbo C the small model is supported only with reduced performance to
avoid any far allocation; it was tested with -DMAX_WBITS=11 -DMAX_MEM_LEVEL=3

- For PalmOs, see http://www.cs.uit.no/~perm/PASTA/pilot/software.html Per
Harald Myrvang <perm@stud.cs.uit.no>

Acknowledgments:

The deflate format used by zlib was defined by Phil Katz. The deflate
and zlib specifications were written by L. Peter Deutsch. Thanks to all the
people who reported problems and suggested various improvements in zlib;
they are too numerous to cite here.

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

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Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/inflate86/inffast.S
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/* blast.c
* Copyright (C) 2003 Mark Adler
* For conditions of distribution and use, see copyright notice in blast.h
* version 1.1, 16 Feb 2003
*
* blast.c decompresses data compressed by the PKWare Compression Library.
* This function provides functionality similar to the explode() function of
* the PKWare library, hence the name "blast".
*
* This decompressor is based on the excellent format description provided by
* Ben Rudiak-Gould in comp.compression on August 13, 2001. Interestingly, the
* example Ben provided in the post is incorrect. The distance 110001 should
* instead be 111000. When corrected, the example byte stream becomes:
*
* 00 04 82 24 25 8f 80 7f
*
* which decompresses to "AIAIAIAIAIAIA" (without the quotes).
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/blast/blast.c
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/* gzio.c -- IO on .gz files
* Copyright (C) 1995-2003 Jean-loup Gailly.
* For conditions of distribution and use, see copyright notice in zlib.h
*
* Compile this file with -DNO_DEFLATE to avoid the compression code.
*/

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* /zlib-1-2-0-4-zip/zlib-1.2.0.4/gzio.c
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* /zlib-1-2-0-4-zip/zlib-1.2.0.4/old/zlib.html
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/* zip.h -- IO for compress .zip files using zlib
  Version 0.22, May 19th, 2003

  Copyright (C) 1998-2003 Gilles Vollant

  This unzip package allow creates .ZIP file, compatible with PKZip 2.04g
    WinZip, InfoZip tools and compatible.
  Encryption and multi volume ZipFile (span) are not supported.
  Old compressions used by old PKZip 1.x are not supported

 For uncompress .zip file, look at unzip.h

  I WAIT FEEDBACK at mail info@winimage.com
  Visit also http://www.winimage.com/zLibDll/unzip.html for evolution

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*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/minizip/zip.h
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/* trees.c -- output deflated data using Huffman coding
* Copyright (C) 1995-2003 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/trees.c
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/* example.c -- usage example of the zlib compression library
* Copyright (C) 1995-2003 Jean-loup Gailly.
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/example.c
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/* inflate.c -- zlib decompression
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/inflate.c
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/* uncompr.c -- decompress a memory buffer
* Copyright (C) 1995-2003 Jean-loup Gailly.
* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/uncompr.c
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/* unzip.h -- IO for uncompress .zip files using zlib
  Version 0.22, May 19th, 2003

  Copyright (C) 1998-2003 Gilles Vollant

  This unzip package allow extract file from .ZIP file, compatible with PKZip 2.04g
    WinZip, InfoZip tools and compatible.
  Encryption and multi volume ZipFile (span) are not supported.
  Old compressions used by old PKZip 1.x are not supported

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*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/minizip/unzip.h
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/* crc32.c -- compute the CRC-32 of a data stream
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h

```
*
* Thanks to Rodney Brown <rbrown64@csc.com.au> for his contribution of faster
* CRC methods: exclusive-oring 32 bits of data at a time, and pre-computing
* tables for updating the shift register in one step with three exclusive-ors
* instead of four steps with four exclusive-ors.  This results about a 50%
* increase in speed on a Power PC using gcc -O3.
*/
```

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/crc32.c
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```
/*
* puff.c
* Copyright (C) 2002, 2003 Mark Adler
* For conditions of distribution and use, see copyright notice in puff.h
* version 1.7, 3 Mar 2003
*
* puff.c is a simple inflate written to be an unambiguous way to specify the
* deflate format.  It is not written for speed but rather simplicity.  As a
* side benefit, this code might actually be useful when small code is more
* important than speed, such as bootstrap applications.  For typical deflate
* data, zlib's inflate() is about four times as fast as puff().  zlib's
* inflate compiles to around 20K on my machine, whereas puff.c compiles to
* around 4K on my machine (a PowerPC using GNU cc).  If the faster decode()
* function here is used, then puff() is only twice as slow as zlib's
* inflate().
*
* All dynamically allocated memory comes from the stack.  The stack required
* is less than 2K bytes.  This code is compatible with 16-bit int's and
 * assumes that long's are at least 32 bits.  puff.c uses the short data type,
* assumed to be 16 bits, for arrays in order to to conserve memory.  The code
* works whether integers are stored big endian or little endian.
*
* In the comments below are "Format notes" that describe the inflate process
* and document some of the less obvious aspects of the format.  This source
* code is meant to supplement RFC 1951, which formally describes the deflate
* format:
*
*    http://www.zlib.org/rfc-deflate.html
*/
```

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/puff/puff.c
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```
/* zconf.h -- configuration of the zlib compression library
* Copyright (C) 1995-2003 Jean-loup Gailly.
```

* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/zconf.in.h
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/zconf.h
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Frequently Asked Questions about zlib

If your question is not there, please check the zlib home page
http://www.zlib.org which may have more recent information.
The lastest zlib FAQ is at http://www.gzip.org/zlib/zlib_faq.html

1. Is zlib Y2K-compliant?

Yes. zlib doesn't handle dates.

2. Where can I get a Windows DLL version?

The zlib sources can be compiled without change to produce a DLL. If you want a precompiled DLL, see http://www.winimage.com/zLibDll/ . Questions about the zlib DLL should be sent to Gilles Vollant (info@winimage.com).

3. Where can I get a Visual Basic interface to zlib?

See
* http://www.winimage.com/zLibDll/
* http://www.dogma.net/markn/articles/zlibtool/zlibtool.htm
* contrib/visual-basic.txt in the zlib distribution

4. compress() returns Z_BUF_ERROR

Make sure that before the call of compress, the length of the compressed buffer
is equal to the total size of the compressed buffer and not
zero. For Visual Basic, check that this parameter is passed by reference ("as any"), not by value ("as long").

5. deflate() or inflate() returns Z_BUF_ERROR

Before making the call, make sure that avail_in and avail_out are not zero. When setting the parameter flush equal to Z_FINISH, also make sure that avail_out is big enough to allow processing all pending input. Note that a Z_BUF_ERROR is not fatal--another call to deflate() or inflate() can be made with more input or output space. A Z_BUF_ERROR

may in fact be unavoidable depending on how the functions are used, since it is not possible to tell whether or not there is more output pending when strm.avail_out returns with zero.

6. Where's the zlib documentation (man pages, etc.)?

It's in zlib.h for the moment, and Francis S. Lin has converted it to a web page zlib.html. Volunteers to transform this to Unix-style man pages, please contact Jean-loup Gailly (jloup@gzip.org). Examples of zlib usage are in the files example.c and minigzip.c.

7. Why don't you use GNU autoconf or libtool or ...?

Because we would like to keep zlib as a very small and simple package. zlib is rather portable and doesn't need much configuration.

8. I found a bug in zlib.

Most of the time, such problems are due to an incorrect usage of zlib. Please try to reproduce the problem with a small program and send the corresponding source to us at zlib@gzip.org . Do not send multi-megabyte data files without prior agreement.

9. Why do I get "undefined reference to gzputc"?

If "make test" produces something like

example.o(.text+0x154): undefined reference to `gzputc'

check that you don't have old files libz.* in /usr/lib, /usr/local/lib or /usr/X11R6/lib. Remove any old versions, then do "make install".

10. I need a Delphi interface to zlib.

See the directories contrib/delphi and contrib/delphi2 in the zlib distribution.

11. Can zlib handle .zip archives?

See the directory contrib/minizip in the zlib distribution.

12. Can zlib handle .Z files?

No, sorry. You have to spawn an uncompress or gunzip subprocess, or adapt the code of uncompress on your own.

13. How can I make a Unix shared library?

make clean
./configure -s
make

14. How do I install a shared zlib library on Unix?

make install

However, many flavors of Unix come with a shared zlib already installed. Before going to the trouble of compiling a shared version of zlib and trying to install it, you may want to check if it's already there! If you can #include <zlib.h>, it's there. The -lz option will probably link to it.

15. I have a question about OttoPDF

We are not the authors of OttoPDF. The real author is on the OttoPDF web site Joel Hainley jhainley@myndkryme.com.

16. Why does gzip give an error on a file I make with compress/deflate?

The compress and deflate functions produce data in the zlib format, which is different and incompatible with the gzip format. The gz* functions in zlib on the other hand use the gzip format. Both the zlib and gzip formats use the same compressed data format internally, but have different headers and trailers around the compressed data.

17. Ok, so why are there two different formats?

The gzip format was designed to retain the directory information about a single file, such as the name and last modification date. The zlib format on the other hand was designed for in-memory and communication channel applications, and has a much more compact header and trailer and uses a faster integrity check than gzip.

18. Well that's nice, but how do I make a gzip file in memory?

You can request that deflate write the gzip format instead of the zlib format using deflateInit2(). You can also request that inflate decode the gzip format
using inflateInit2(). Read zlib.h for more details.

Note that you cannot specify special gzip header contents (e.g. a file name or modification date), nor will inflate tell you what was in the gzip header. If you need to customize the header or see what's in it, you can use the raw deflate and inflate operations and the crc32() function and roll your own gzip encoding and decoding. Read the gzip RFC 1952 for details of the header and trailer format.

19. Is zlib thread-safe?

Yes. However any library routines that zlib uses and any application-provided memory allocation routines must also be thread-safe. zlib's gz* functions use stdio library routines, and most of zlib's functions use the library memory allocation routines by default. zlib's Init functions allow for the application to provide custom memory allocation routines.

Of course, you should only operate on any given zlib or gzip stream from a single thread at a time.

20.
Can I use zlib in my commercial application?

Yes. Please read the license in zlib.h.

21. Is zlib under the GNU license?

No. Please read the license in zlib.h.

22. The license says that altered source versions must be "plainly marked". So what exactly do I need to do to meet that requirement?

You need to change the ZLIB_VERSION and ZLIB_VERNUM #defines in zlib.h. In particular, the final version number needs to be changed to "f", and an identification string should be appended to ZLIB_VERSION. Version numbers x.x.x.f are reserved for modifications to zlib by others than the zlib maintainers. For example, if the version of the base zlib you are altering is "1.2.3.4", then in zlib.h you should change ZLIB_VERNUM to 0x123f, and ZLIB_VERSION to something like "1.2.3.f-zachary-mods-v3". You can also update the version strings in deflate.c and inftrees.c.

For altered source distributions, you should also note the origin and nature of the
changes in zlib.h, as well as in ChangeLog and README, along with the dates of the alterations. The origin should include at least your name (or your company's name), and an email address to contact for help or issues with the library.

Note that distributing a compiled zlib library along with zlib.h and zconf.h is also a source distribution, and so you should change ZLIB_VERSION and ZLIB_VERNUM and note the origin and nature of the changes in zlib.h as you would for a full source distribution.

23. Will zlib work on a big-endian or little-endian architecture, and can I exchange compressed data between them?

Yes and yes.

24. Will zlib work on a 64-bit machine?

It should. It has been tested on 64-bit machines, and has no dependence on any data types being limited to 32-bits in length. If you have any difficulties, please provide a complete problem report to zlib@gzip.org

25. Will zlib decompress data from the PKWare Data Compression Library?

No. The PKWare DCL uses a completely different compressed data format than does PKZIP and zlib. However, you can look in zlib's contrib/blast directory for a possible solution to your problem.

26. Can I access data randomly in a compressed stream?

No, not without some preparation. If when compressing you periodically use Z_FULL_FLUSH, carefully write all the pending data at those points, and keep an index of those locations, then you can start decompression at those points. You have to be careful to not use Z_FULL_FLUSH too often, since it can significantly degrade compression.

27. Does zlib work on MVS, OS/390, CICS, etc.?

We don't know for sure. We have heard occasional reports of success on these systems. If you do use it on one of these, please provide us with a report, instructions, and patches that we can reference when we get these questions. Thanks.

28. Is there some simpler, easier to read version of inflate I can look at
to understand the deflate format?

First off, you should read RFC 1951. Second, yes. Look in zlib's contrib/puff directory.

29. Does zlib infringe on any patents?

As far as we know, no. In fact, that was originally the whole point behind zlib. Look here for some more information:

http://www.gzip.org/#faq11

30. Can zlib work with greater than 4 GB of data?

Yes. inflate() and deflate() will process any amount of data correctly. Each call of inflate() or deflate() is limited to input and output chunks

of the maximum value that can be stored in the compiler's "unsigned int" type, but there is no limit to the number of chunks. Note however that the strm.total_in and strm_total_out counters may be limited to 4 GB. These counters are provided as a convenience and are not used internally by inflate() or deflate(). The application can easily set up its own counters updated after each call of inflate() or deflate() to count beyond 4 GB.

compress() and uncompress() may be limited to 4 GB, since they operate in a single call. gzseek() and gztell() may be limited to 4 GB depending on how zlib is compiled. See the zlibCompileFlags() function in zlib.h.

The word "may" appears several times above since there is a 4 GB limit only if the compiler's "long" type is 32 bits. If the compiler's "long" type is 64 bits, then the limit is 16 exabytes.

31. Does zlib have any security vulnerabilities?

The only one that we are aware of is potentially in gzprintf(). If zlib is compiled to use sprintf() or vsprintf(), then there is no protection against a buffer overflow of a 4K string space, other than the caller of gzprintf() assuring that the output will not exceed 4K. On the other hand, if zlib is compiled to use snprintf() or vsnprintf(), which should normally be the case, then there is no vulnerability. The ./configure script will display warnings if an insecure variation of sprintf() will be used by gzprintf(). Also the zlibCompileFlags() function will return information on what variant of sprintf() is used by gzprintf().

If you don't have snprintf() or vsnprintf() and would like one, you can find a portable implementation here:

http://www.ijs.si/software/snprintf/

Note that you should be using the most recent version of zlib. Versions 1.1.3 and before were subject to a double-free vulnerability.

32. Is there a Java version of zlib?

Probably what you want is to use zlib in Java. zlib is already included as part of the Java SDK in the java.util.zip package. If you really want a version of zlib written in the Java language, look on the zlib home page for links: http://www.zlib.org/

33. I get this or that compiler or source-code scanner warning when I crank it up to maximally-pendantic. Can't you guys write proper code?

Many years ago, we gave up attempting to avoid warnings on every compiler

in the universe. It just got to be a waste of time, and some compilers were downright silly. So now, we simply make sure that the code always works.

34. Will zlib read the (insert any ancient or arcane format here) compressed data format?

Probably not. Look in the comp.compression FAQ for pointers to various formats and associated software.

35. How can I encrypt/decrypt zip files with zlib?

zlib doesn't support encryption. The original PKZIP encryption is very weak and can be broken with freely available programs. To get strong encryption, use gpg (http://www.gnupg.org/) which already includes zlib compression. For PKZIP compatible "encryption", look at http://www.info-zip.org/

36. What's the difference between the "gzip" and "deflate" HTTP 1.1 encodings?

"gzip" is the gzip format, and "deflate" is the zlib format. They should probably have called the second one "zlib" instead to avoid confusion with the raw deflate compressed
data format. While the HTTP 1.1 RFC 2616
correctly points to the zlib specification in RFC 1950 for the "deflate" transfer encoding, there have been reports of servers and browsers that incorrectly produce or expect raw deflate data per the deflate specficiation in RFC 1951, most notably Microsoft. So even though the "deflate" transfer encoding using the zlib format would be the more efficient approach (and in fact exactly what the zlib format was designed for), using the "gzip" transfer encoding is probably more reliable due to an unfortunate choice of name on the part of the HTTP 1.1 authors.

Bottom line: use the gzip format for HTTP 1.1 encoding.

37. Does zlib support the new "Deflate64" format introduced by PKWare?

No. PKWare has apparently decided to keep that format proprietary, since they have not documented it as they have previous compression formats. In any case, the compression improvements are so modest compared to other more modern approaches, that it's not worth the effort to implement.

38. Can you please sign these lengthy legal documents and fax them back to us so that we can use your software in our product?

No. Go away. Shoo.

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/FAQ

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

/* inftrees.c -- generate Huffman trees for efficient decoding
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/inftrees.c
No license file was found, but licenses were detected in source scan.

* This is free software; you can redistribute it and/or modify it
* under the terms of the GNU General Public License.

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/asm686/match.S
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/asm586/match.S
No license file was found, but licenses were detected in source scan.

Frequently Asked Questions about ZLIB.DLL

This FAQ is about the design, the rationale, and the use of
ZLIB.DLL. If you have general questions about zlib, you should
check the file "FAQ" found in the zlib distribution, or at the
location http://www.gzip.org/zlib/zlib_faq.html

1. Why am I having problems using ZLIB.DLL? My application works
   with the static build of zlib just fine, and I didn't make any
   modification when recompiling it for ZLIB.DLL.

 - Make sure you define ZLIB_DLL before including "zlib.h".
   Applications that link to ZLIB.DLL will work properly if
   the source files are compiled in this (or in a compatible)
   way, and the executables are linked to MSVCRT.DLL.

2. Why do I have to do this? When I use other libraries, I can
   link my code to their static or dynamic versions, without
   needing any source code modification or recompilation.

 - In order to preserve the backwards
 compatibility with the
   older versions of ZLIB.DLL, and give the ability to use zlib
   to the non-C programmers at the same time, we had to do this
   compromise.

3. What exactly is this mess about, and why is it happening?

- It's about the calling convention used for the zlib functions.
  If linked in statically, zlib uses the C (CDECL) convention.
  If linked in dynamically (via ZLIB.DLL), it uses the STDCALL
  convention. The ZLIB_DLL macro switches on the use of STDCALL.

  It happens because we need to preserve compatibility with the
  old releases of ZLIB.DLL that use STDCALL, and, at the same
  time, we must provide support for programmers who use other
  programming languages with bindings that require CDECL.

4. Why not use the STDCALL convention all the time?
  It's the standard convention in Win32, and I need it in my
  Visual Basic project!

- Most of the Win32 API functions (without varargs) use indeed
  the STDCALL (WINAPI) convention,
but the standard C functions
  use the default CDECL. If one calls Win32 functions such as
  CreateFile(), sometimes it makes sense to decorate one's own
  functions with STDCALL. But if one is aiming at ANSI C or
  POSIX portability, and calls functions such as fopen(), it is
  not a sound decision to include <windows.h> or to use non-ANSI
  constructs only to make one's functions STDCALL-able. This is
  not the biggest problem, however.

  Technically, STDCALL is not bad; it is even a little faster
  than CDECL. The problem of using STDCALL is actually a problem
  of using any explicit calling convention. FASTCALL falls into
  the same category.

  Explicit specification of calling conventions, whether it's
  direct or indirect via a macro, happens commonly in Windows,
  but it is regarded as a noisy, non-standard C quirk on other
  platforms. It isn't possible to write an ANSI C -conforming
  program, for example, if it is necessary to specify calling
   conventions. Libraries can hide the dirty stuff in header
  files, under macros, but callbacks will still remain exposed.
  This is why the zlib callbacks will not be decorated.
  (The old Windows callbacks, such as WndProc, are decorated,
  but the newer ones are not.)

  There is one more problem with explicit, non-default calling
  conventions: the ability to use zlib in other programming
  languages. Some of them, like Ada (GNAT) and Fortran (GNU G77)

have C bindings implemented initially on Unix, hence relying
on the C calling convention.

So we are decorating the functions using STDCALL in ZLIB.DLL
to maintain compatibility with the old versions, but we are
using the default CDECL in the static library, to allow other
programming languages to use zlib in a portable fashion, via
C bindings.

5. Why not use the default (CDECL) convention all the time?
It's the standard convention in C, and I need it in my Ada
project!

-
Originally, ZLIB.DLL was intended to run under Visual Basic,
and VB6 and earlier need STDCALL.

We admit that cluttering the main zlib sources, for the sake
of interfacing with Visual Basic and at the expense of other
programming languages, is not fair. It would have been better
to maintain a "VB-only" project in the contrib/ directory, and
to build a custom ZLIBVB.DLL, for example -- as we did with
the Delphi projects. Another possible solution would have been
to build STDCALL wrappers around the CDECL-exported functions.

But this was the accident that we have to live with, in order
to maintain binary compatibility with the older versions of
ZLIB.DLL.

6. If my application uses ZLIB.DLL, do I have to link it to
MSVCRT.DLL? Why?

- The executables (.EXE, .DLL, etc.) that are involved in the
same process and are using the C run-time library (i.e. they
are calling any standard C function), must link to the same
library. There
are several libraries in the Win32 system:
CRTDLL.DLL, MSVCRT.DLL, the static C libraries, etc.
Since ZLIB.DLL is linked to MSVCRT.DLL, the executables that
depend on it must also link to MSVCRT.DLL.

7. Why are you saying that ZLIB.DLL and my application must be
linked to the same C run-time library (CRT)? I linked my
application and my DLLs to different C libraries (e.g. my
application to a static library, and my DLLs to MSVCRT.DLL),

and everything works fine.

- If a library invokes only pure Win32 API (i.e. accessible
via <windows.h>), its DLL build will work in any context.
But if a library invokes standard C functions, things get
more complicated.

There is a single Win32 library in a Win32 system. Every
function in this library resides in a single DLL module, that
is safe to call from anywhere. On the other hand, there are
multiple versions of the C library that are all at the same
time in the system, and all of
them have internal states,
therefore it is dangerous to intermix them with each other.

Intermixing multiple C libraries is possible, as long as their
internal states are kept intact. The Microsoft Knowledge Base
article Q140584 "HOWTO: Link with the Correct C Run-Time (CRT)
Library" enumerates some of the potential problems raised by
intermixing, but does not offer a complete description of how
to avoid them, except by advising not to mix the C libraries.
If you can send us more information about this issue, we will
highly appreciate it. (But please do NOT send us source code
from Microsoft, even if it comes with your legitimate copy of
Visual C++!)

If this kind of intermixing works for you, it's because your
application and DLLs are avoiding the corruption of the CRT's
internal states, due to a fortunate accident. It's not because
those libraries really work together.

Also note that linking ZLIB.DLL to non-Microsoft C
libraries
(such as Borland's) raises similar problems.

8. Why are you linking ZLIB.DLL to MSVCRT.DLL?

- MSVCRT.DLL exists on every Windows 95 with a new service pack
installed, or with Microsoft Internet Explorer 4 or later, and
on all other Windows 4.x or later (Windows 98, Windows NT 4,
or later). It is freely distributable; if not present in the
system, it can be downloaded from Microsoft or from other
software provider for free.

The fact that MSVCRT.DLL does not exist on a virgin Windows 95
is not so problematic. The number of Windows 95 installations
is rapidly decreasing, Microsoft stopped supporting it a long

time ago, and many recent applications from various vendors including Microsoft, do not even run on it. Even without these arguments, no serious user should run Windows 95 without a proper update installed.

There is also the fact that the mainstream C compilers for Windows are Microsoft Visual C++ 6.0, and gcc/MinGW. Both are producing executables that link to MSVCRT.DLL by default, without offering other dynamic CRTs as alternatives easy to select by users.

9. Why are you not linking ZLIB.DLL to <<my favorite C run-time library>> ?

- We considered and abandoned the following alternatives:

* Linking ZLIB.DLL to a static C library (LIBC.LIB, or LIBCMT.LIB) is not a good option. People are using ZLIB.DLL mainly to save disk space. If you are linking your program to a static C library, you may as well consider linking zlib in statically, too.

* Linking ZLIB.DLL to CRTDLL.DLL looks very appealing, because CRTDLL.DLL is present on every Win32 installation. Unfortunately, it has a series of problems: it raises difficulties when linking to the Microsoft C++ libraries, it is not thread-safe, and Microsoft has discontinued its support a long time ago.

* Linking ZLIB.DLL to MSVCRT70.DLL, supplied with the

Microsoft .NET platform and Visual C++ 7.0, is not a good option. Although it can be downloaded and distributed freely, it is hardly present on today's Win32 installations. If it will become more popular than MSVCRT.DLL, and will be pre-installed on the future Win32 systems, we will probably think again about it.

* Linking ZLIB.DLL to NTDLL.DLL is not possible. NTDLL.DLL exports only a part of the C library, and only on Windows NT systems.

10. I understand your reasons. However, my project needs ZLIB.DLL linked to something different than MSVCRT.DLL. What can I do?

Feel free to rebuild this DLL from the zlib sources, and link
it the way you want. It is required, however, to clearly
state that your build is unofficial. Another thing that is not
required, but highly recommended, is to name that custom DLL
differently, and/or to install it in a private directory that
can be accessed by your application, but
is not visible to the
others (e.g. it's not the SYSTEM or the SYSTEM32 directory,
and it's not in the PATH). Otherwise, your build may clash
with applications that link to the official build.

For example, in Cygwin, zlib is linked to their runtime
CYGWIN1.DLL, and it is distributed under the name CYGZ.DLL.

11. My I include additional pieces of code that I find useful,
link them in ZLIB.DLL, and export them?

No. A legitimate build of ZLIB.DLL must not include code that
does not originate from the official zlib sources. But you can
make your own private build, and give it a different name, as
suggested in the previous answer.

For example, in Borland Delphi and C++ Builder, zlib is part
of the standard VCL library. If an application links to VCL
dynamically, the name of the distributable binary (VCLxx.DLL)
does not posess any danger of clashing with a legitimate but
incompatible ZLIB.DLL.

12. I see that I may have all kinds
of problems if I use ZLIB.DLL.
Do you recommend to link zlib in statically? Do I get rid of
problems?

- Yes, definitely. In fact, unless you are distributing a large
number of executables, each of them linking to zlib, you will
save space by linking zlib in statically (assuming that you
would otherwise distribute ZLIB.DLL with your application).
zlib is not a big library, and the space saved by ZLIB.DLL is
little. Much of the actual size of the DLL is due to the 4KB
alignment in the binary.

But you may have reasons, other than size, to use the DLL.
That is entirely up to you.

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/zlib_dll_FAQ.txt

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

/* deflate.h -- internal compression state
* Copyright (C) 1995-2002 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/deflate.h
No license file was found, but licenses were detected in source scan.

/* inflate.h -- internal inflate state definition
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/inflate.h
No license file was found, but licenses were detected in source scan.

/* adler32.c -- compute the Adler-32 checksum of a data stream
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/adler32.c
No license file was found, but licenses were detected in source scan.

/* minigzip.c -- simulate gzip using the zlib compression library
* Copyright (C) 1995-2002 Jean-loup Gailly.
* Adapted for Z_RLE by Cosmin Truta, 2003.
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/minigzip.c
No license file was found, but licenses were detected in source scan.

/* inffas86.c is a hand tuned assembler version of
*
* inffast.c -- fast decoding
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*
* Copyright (C) 2003 Chris Anderson <christop@charm.net>
* Please use the copyright conditions above.
*

* Mar-13-2003 -- Most of this is derived from inffast.S which is derived from
* the gcc -S output of zlib-1.2.0/inffast.c. Zlib-1.2.0 is in beta release at
* the moment. I have successfully compiled and tested this code with gcc2.96,
* gcc3.2, icc5.0, msvc6.0. It is very close to the speed of inffast.S
* compiled with gcc -DNO_MMX, but inffast.S is still faster on the P3 with MMX
* enabled. I will attempt to merge the MMX code into this version. Newer
* versions of this and inffast.S can be found at
* http://www.eetbeetee.com/zlib/ and http://www.charm.net/~christop/zlib/
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/inflate86/inffas86.c
No license file was found, but licenses were detected in source scan.

/* inftrees.h -- header to use inftrees.c
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/inftrees.h
No license file was found, but licenses were detected in source scan.

/*
 Copyright (c) 1990-2000 Info-ZIP. All rights reserved.

 See the accompanying file LICENSE, version 2000-Apr-09 or later
 (the contents of which are also included in zip.h) for terms of use.
 If, for some reason, all these files are missing, the Info-ZIP license
 also may be found at: ftp://ftp.info-zip.org/pub/infozip/license.html
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/minizip/unzip.c
No license file was found, but licenses were detected in source scan.

;;; This is free software; you can redistribute it and/or modify it
;;; under the terms of the GNU General Public License.

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/vstudio/vc70_32/gvmat32.asm
No license file was found, but licenses were detected in source scan.

/*
*
* Copyright (c) 1997
* Christian Michelsen Research AS
* Advanced Computing

* Fantoftvegen 38, 5036 BERGEN, Norway
* http://www.cmr.no
*
* Permission to use, copy, modify, distribute and sell this software
* and its documentation for any purpose is hereby granted without fee,
* provided that the above copyright notice appear in all copies and
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*
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/iostream2/zstream.h
No license file was found, but licenses were detected in source scan.

/* inffast.c -- fast decoding
* Copyright (C) 1995-2003 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/inffast.c
No license file was found, but licenses were detected in source scan.

/* compress.c -- compress a memory buffer
* Copyright (C) 1995-2002 Jean-loup Gailly.
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*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/compress.c
No license file was found, but licenses were detected in source scan.

/* blast.h -- interface for blast.c
 Copyright (C) 2003 Mark Adler
 version 1.1, 16 Feb 2003

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*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/blast/blast.h
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/* infback.c -- inflate using a call-back interface
* Copyright (C) 1995-2003 Mark Adler
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*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/infback.c
No license file was found, but licenses were detected in source scan.

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.0.4, August 10th, 2003

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for
Comments) 1950 to 1952 in the files http://www.ietf.org/rfc/rfc1950.txt
(zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/zlib.h
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/* zutil.c -- target dependent utility functions for the compression library
* Copyright (C) 1995-2003 Jean-loup Gailly.
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/zutil.c
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/* deflate.c -- compress data using the deflation algorithm
* Copyright (C) 1995-2003 Jean-loup Gailly.
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*/

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* /zlib-1-2-0-4-zip/zlib-1.2.0.4/deflate.c
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These classes provide a C++ stream interface to the zlib library. It allows you
to do things like:

```
gzofstream outf("blah.gz");
outf << "These go into the gzip file " << 123 << endl;
```

It does this by deriving a specialized stream buffer for gzipped files, which is
the way Stroustrup would have done it. :->

The gzifstream and gzofstream classes were originally written by Kevin Ruland
and made available in the zlib contrib/iostream directory. The older version still
compiles under gcc 2.xx, but not under gcc 3.xx, which sparked the development of
this version.

The new classes are as standard-compliant as possible, closely following the
approach of the standard library's fstream classes. It compiles under gcc versions
3.2 and 3.3, but not under gcc 2.xx. This is mainly due to changes in the standard
library naming scheme. The new version of gzifstream/gzofstream/gzfilebuf differs
from the previous one in the
following respects:
- added showmanyc

- added setbuf, with support for unbuffered output via setbuf(0,0)
- a few bug fixes of stream behavior
- gzipped output file opened with default compression level instead of maximum level
- setcompressionlevel()/strategy() members replaced by single setcompression()

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Ludwig Schwardt
<schwardt@sun.ac.za>

DSP Lab
Electrical & Electronic Engineering Department
University of Stellenbosch
South Africa

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/iostream3/README
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/* puff.h
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 version 1.7, 3 Mar 2002

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*/

Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/puff/puff.h
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Found in path(s):
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/win32/Makefile.gcc
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/contrib/untgz/makefile.w32
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/old/nt/Makefile.emx
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/Makefile
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/old/msdos/Makefile.dj2
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/old/os2/Makefile.os2
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/old/msdos/Makefile.emx
* /zlib-1-2-0-4-zip/zlib-1.2.0.4/old/nt/Makefile.gcc

1.187 isl 0.25-1.1

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1.188 usr-is-merged 37~deb12u1

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* Lucas Beyer <lucasb.eyer.be@gmail.com>
  * [2013-12-10] Added support for NO_SHARED in make install.

* carlkl <https://github.com/carlkl>
 * [2013-12-13] Fixed LAPACKE building bug on Windows

* Isaac Dunham <https://github.com/idunham>
 * [2014-08-03] Fixed link error on Linux/musl

* Dave Nuechterlein
 * [2014-10-10] trmm and sgemm kernels (optimized for APM's X-Gene 1).
 ARMv8 support.

* Jerome Robert <jeromerobert@gmx.com>
 * [2015-01-01] Speed-up small `ger` and `gemv` using stack allocation (bug #478)
 * [2015-12-23] `stack_check` in `gemv.c` (bug #722)
 * [2015-12-28] Allow to force the number of parallel make job
 * [2015-12-28] Fix detection of AMD E2-3200 detection
 * [2015-12-31] Let `make MAX_STACK_ALLOC=0` do what expected
 * [2016-01-19] Disable multi-threading in `ger` and `swap` for small matrices (bug #731)
 * [2016-01-24] Use `GEMM_MULTITHREAD_THRESHOLD` as a number of ops (bug #742)
 * [2016-01-26] Let `openblas_get_num_threads` return the number of active threads (bug
#760)
 * [2016-01-30] Speed-up small `zger`, `zgemv`, `ztrmv` using stack allocation (bug #727)

* Dan Kortschak
 * [2015-01-07] Added test for drotmg bug #484.

* Ton van den Heuvel <https://github.com/ton>
 * [2015-03-18] Fix race condition during shutdown causing a crash in gotoblas_set_affinity().

* Martin Koehler <https://github.com/grisuthedragon/>
 * [2015-09-07] Improved imatcopy

* Ashwin Sekhar T K <https://github.com/ashwinyes/>
 * [2015-11-09] Assembly kernels for Cortex-A57 (ARMv8)
 * [2015-11-20] lapack-test fixes for Cortex-A57
 * [2016-03-14] Additional functional Assembly Kernels for Cortex-A57
 * [2016-03-14] Optimize Dgemm 4x4 for Cortex-A57

* theoractice <https://github.com/theoractice/>
 * [2016-03-20] Fix compiler error in VisualStudio with CMake
 * [2016-03-22] Fix access violation on Windows while static linking

* Paul Mustire <https://github.com/buffer51/>
 * [2016-02-04] Fix Android build on ARMV7
 * [2016-04-26] Android build with LAPACK for
 ARMV7 & ARMV8

* Shivraj Patil <https://github.com/sva-img/>
 * [2016-05-03] DGEMM optimization for MIPS P5600 and I6400 using MSA

* Kaustubh Raste <https://github.com/ksraste/>
 * [2016-05-09] DTRSM optimization for MIPS P5600 and I6400 using MSA
 * [2016-05-20] STRSM optimization for MIPS P5600 and I6400 using MSA

* Abdelrauf <https://github.com/quickwritereader>
 * [2017-01-01] dgemm and dtrmm kernels for IBM z13
 * [2017-02-26] ztrmm kernel for IBM z13
 * [2017-03-13] strmm and ctrmm kernel for IBM z13
 * [2017-09-01] initial Blas Level-1,2 (double precision) for IBM z13
 * [2018-03-07] added missing Blas Level 1-2 (double precision) simd codes
 * [2019-02-01] added missing Blas Level-1,2 (single precision) simd codes
 * [2019-03-14] power9 dgemm/dtrmm kernel
 * [2019-04-29] power9 sgemm/strmm kernel

* Jiachen Wang <https://github.com/wjc404>
 * [2019-07-29] optimize AVX2 DGEMM
 * [2019-10-20] AVX512 DGEMM kernel (4x8)
 * [2019-11-06] optimize AVX512 SGEMM
 *
 [2019-11-12] AVX512 CGEMM & ZGEMM kernels
 * [2019-12-23] optimize AVX2 CGEMM and ZGEMM
 * [2019-12-30] AVX2 CGEMM3M & ZGEMM3M kernels
 * [2020-01-07] optimize AVX2 SGEMM and STRMM

* Rajalakshmi Srinivasaraghavan <https://github.com/RajalakshmiSR>
 * [2020-04-15] Half-precision GEMM for bfloat16

* Marius Hillenbrand <https://github.com/mhillenibm>
 * [2020-05-12] Revise dynamic architecture detection for IBM z
 * [2020-05-12] Add new sgemm and strmm kernel for IBM z14
 * [2020-09-07] Fix builds with clang on IBM z, including dynamic architecture support

* Danfeng Zhang <https://github.com/craft-zhang>
 * [2020-05-20] Improve performance of SGEMM and STRMM on Arm Cortex-A53

* PingTouGe Semiconductor Co., Ltd.

* [2020-10] Add RISC-V Vector (0.7.1) support. Optimize BLAS kernels for Xuantie C910

* River Dillon <oss@outerpassage.net>
* [2021-07-10] fix compilation with musl libc

* Bine Brank <https://github.com/binebrank>
* [2021-10-27] Add vector-length-agnostic DGEMM
kernels for Arm SVE
* [2021-11-20] Vector-length-agnostic Arm SVE copy routines for DGEMM, DTRMM, DSYMM
* [2021-11-12] SVE kernels for SGEMM, STRMM and corresponding SVE copy functions
* [2022-01-06] SVE kernels for CGEMM, ZGEMM, CTRMM, ZTRMM and corresponding SVE copy functions
* [2022-01-18] SVE kernels and copy functions for TRSM

* Ilya Kurdyukov <https://github.com/ilyakurdyukov>
* [2021-02-21] Add basic support for the Elbrus E2000 architecture

* PLCT Lab, Institute of Software Chinese Academy of Sciences
* [2022-03] Support RISC-V Vector Intrinisc 1.0 version.

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1.193 libopenblas-pthread-dev 0.3.21+ds-4

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 * [2013-08-28] fix default prefix handling in makefiles

* yieldthought <https://github.com/yieldthought>
 * [2013-10-08] Remove -Wl,--retain-symbols-file from dynamic link line to fix tool support

* Keno Fischer <https://github.com/loladiro>
 * [2013-10-23] Use FC instead of CC to link the dynamic library on OS X

* Christopher Meng <cickumqt@gmail.com>
 * [2013-12-09] Add DESTDIR support for easier building on RPM based distros.
 Use install command instead of cp to install files with permissions control.

* Lucas Beyer <lucasb.eyer.be@gmail.com>
  * [2013-12-10] Added support for NO_SHARED in make install.

* carlkl <https://github.com/carlkl>
 * [2013-12-13] Fixed LAPACKE building bug on Windows

* Isaac Dunham <https://github.com/idunham>
 * [2014-08-03] Fixed link error on Linux/musl

* Dave Nuechterlein
 * [2014-10-10] trmm and sgemm kernels (optimized for APM's X-Gene 1).
 ARMv8 support.

* Jerome Robert <jeromerobert@gmx.com>
 * [2015-01-01] Speed-up small `ger` and `gemv` using stack allocation (bug #478)
 * [2015-12-23] `stack_check` in `gemv.c` (bug #722)
 * [2015-12-28] Allow to force the number of parallel make job
 * [2015-12-28] Fix detection of AMD E2-3200 detection
 * [2015-12-31] Let `make MAX_STACK_ALLOC=0` do what expected
 * [2016-01-19] Disable multi-threading in `ger` and `swap` for small matrices (bug #731)
 * [2016-01-24] Use `GEMM_MULTITHREAD_THRESHOLD` as a number of ops (bug #742)
 * [2016-01-26] Let `openblas_get_num_threads` return the number of active threads (bug

#760)
 * [2016-01-30] Speed-up small `zger`, `zgemv`, `ztrmv` using stack allocation (bug #727)

* Dan Kortschak
 * [2015-01-07] Added test for drotmg bug #484.

* Ton van den Heuvel <https://github.com/ton>
 * [2015-03-18] Fix race condition during shutdown causing a crash in gotoblas_set_affinity().

* Martin Koehler <https://github.com/grisuthedragon/>
 * [2015-09-07] Improved imatcopy

* Ashwin Sekhar T K <https://github.com/ashwinyes/>
 * [2015-11-09] Assembly kernels for Cortex-A57 (ARMv8)
 * [2015-11-20] lapack-test fixes for Cortex-A57
 * [2016-03-14] Additional functional Assembly Kernels for Cortex-A57
 * [2016-03-14] Optimize Dgemm 4x4 for Cortex-A57

* theoractice <https://github.com/theoractice/>
 * [2016-03-20] Fix compiler error in VisualStudio with CMake
 * [2016-03-22] Fix access violation on Windows while static linking

* Paul Mustire <https://github.com/buffer51/>
 * [2016-02-04] Fix Android build on ARMV7
 * [2016-04-26] Android build with LAPACK for
 ARMV7 & ARMV8

* Shivraj Patil <https://github.com/sva-img/>
 * [2016-05-03] DGEMM optimization for MIPS P5600 and I6400 using MSA

* Kaustubh Raste <https://github.com/ksraste/>
 * [2016-05-09] DTRSM optimization for MIPS P5600 and I6400 using MSA
 * [2016-05-20] STRSM optimization for MIPS P5600 and I6400 using MSA

* Abdelrauf <https://github.com/quickwritereader>
 * [2017-01-01] dgemm and dtrmm kernels for IBM z13
 * [2017-02-26] ztrmm kernel for IBM z13
 * [2017-03-13] strmm and ctrmm kernel for IBM z13
 * [2017-09-01] initial Blas Level-1,2 (double precision) for IBM z13
 * [2018-03-07] added missing Blas Level 1-2 (double precision) simd codes
 * [2019-02-01] added missing Blas Level-1,2 (single precision) simd codes
 * [2019-03-14] power9 dgemm/dtrmm kernel
 * [2019-04-29] power9 sgemm/strmm kernel

* Jiachen Wang <https://github.com/wjc404>
 * [2019-07-29] optimize AVX2 DGEMM
 * [2019-10-20] AVX512 DGEMM kernel (4x8)
 * [2019-11-06] optimize AVX512 SGEMM

*
[2019-11-12] AVX512 CGEMM & ZGEMM kernels
* [2019-12-23] optimize AVX2 CGEMM and ZGEMM
* [2019-12-30] AVX2 CGEMM3M & ZGEMM3M kernels
* [2020-01-07] optimize AVX2 SGEMM and STRMM

* Rajalakshmi Srinivasaraghavan <https://github.com/RajalakshmiSR>
* [2020-04-15] Half-precision GEMM for bfloat16

* Marius Hillenbrand <https://github.com/mhillenibm>
* [2020-05-12] Revise dynamic architecture detection for IBM z
* [2020-05-12] Add new sgemm and strmm kernel for IBM z14
* [2020-09-07] Fix builds with clang on IBM z, including dynamic architecture support

* Danfeng Zhang <https://github.com/craft-zhang>
* [2020-05-20] Improve performance of SGEMM and STRMM on Arm Cortex-A53

* PingTouGe Semiconductor Co., Ltd.
* [2020-10] Add RISC-V Vector (0.7.1) support. Optimize BLAS kernels for Xuantie C910

* River Dillon <oss@outerpassage.net>
* [2021-07-10] fix compilation with musl libc

* Bine Brank <https://github.com/binebrank>
* [2021-10-27] Add vector-length-agnostic DGEMM
kernels for Arm SVE
* [2021-11-20] Vector-length-agnostic Arm SVE copy routines for DGEMM, DTRMM, DSYMM
* [2021-11-12] SVE kernels for SGEMM, STRMM and corresponding SVE copy functions
* [2022-01-06] SVE kernels for CGEMM, ZGEMM, CTRMM, ZTRMM and corresponding SVE copy functions
* [2022-01-18] SVE kernels and copy functions for TRSM

* Ilya Kurdyukov <https://github.com/ilyakurdyukov>
* [2021-02-21] Add basic support for the Elbrus E2000 architecture

* PLCT Lab, Institute of Software Chinese Academy of Sciences
* [2022-03] Support RISC-V Vector Intrinisc 1.0 version.

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1.196 gnupg-l10n 2.2.40-1.1

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* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.

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1987 James A. Woods ames!jaw
1993 Christopher Seiwald seiwald@vix.com
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* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.

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* Regular
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Subsequently modified by:

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1987 James A. Woods ames!jaw
1993 Christopher Seiwald seiwald@vix.com
2000, 2002 Christopher Seiwald <seiwald@perforce.com>
2010 Steve Bennett <steveb@workware.net.au>
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* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.

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* Regular
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1987 James A. Woods ames!jaw
1993 Christopher Seiwald seiwald@vix.com
2000, 2002 Christopher Seiwald <seiwald@perforce.com>
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CMAKE_INSTALL_DATADIR='share'
CMAKE_INSTALL_DATAROOTDIR='share'
CMAKE_INSTALL_DOCDIR='share/doc/UsrLocal'
CMAKE_INSTALL_INCLUDEDIR='include'
CMAKE_INSTALL_INFODIR='info'
CMAKE_INSTALL_LIBDIR='(lib|lib64)'
CMAKE_INSTALL_LIBEXECDIR='libexec'
CMAKE_INSTALL_LOCALEDIR='share/locale'
CMAKE_INSTALL_LOCALSTATEDIR='var'
CMAKE_INSTALL_RUNSTATEDIR='var/run'
CMAKE_INSTALL_MANDIR='man'
CMAKE_INSTALL_SBINDIR='sbin'
CMAKE_INSTALL_SHAREDSTATEDIR='com'
CMAKE_INSTALL_SYSCONFDIR='etc'
CMAKE_INSTALL_FULL_BINDIR='/usr/local/bin'
CMAKE_INSTALL_FULL_DATADIR='/usr/local/share'
CMAKE_INSTALL_FULL_DATAROOTDIR='/usr/local/share'
CMAKE_INSTALL_FULL_DOCDIR='/usr/local/share/doc/UsrLocal'
CMAKE_INSTALL_FULL_INCLUDEDIR='/usr/local/include'
CMAKE_INSTALL_FULL_INFODIR='/usr/local/info'
CMAKE_INSTALL_FULL_LIBDIR='/usr/local/(lib|lib64)'
CMAKE_INSTALL_FULL_LIBEXECDIR='/usr/local/libexec'
CMAKE_INSTALL_FULL_LOCALEDIR='/usr/local/share/locale'
CMAKE_INSTALL_FULL_LOCALSTATEDIR='/usr/local/var'
CMAKE_INSTALL_FULL_RUNSTATEDIR='/usr/local/var/run'
CMAKE_INSTALL_FULL_MANDIR='/usr/local/man'
CMAKE_INSTALL_FULL_SBINDIR='/usr/local/sbin'

CMAKE_INSTALL_FULL_SHAREDSTATEDIR='/usr/local/com'
CMAKE_INSTALL_FULL_SYSCONFDIR='/usr/local/etc'$
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CMAKE_INSTALL_DATADIR='share'
CMAKE_INSTALL_DATAROOTDIR='share'
CMAKE_INSTALL_DOCDIR='share/doc/Usr'
CMAKE_INSTALL_INCLUDEDIR='include'
CMAKE_INSTALL_INFODIR='info'
CMAKE_INSTALL_LIBDIR='(lib|lib64|lib/arch)'
CMAKE_INSTALL_LIBEXECDIR='libexec'
CMAKE_INSTALL_LOCALEDIR='share/locale'
CMAKE_INSTALL_LOCALSTATEDIR='var'
CMAKE_INSTALL_RUNSTATEDIR='var/run'
CMAKE_INSTALL_MANDIR='man'
CMAKE_INSTALL_SBINDIR='sbin'
CMAKE_INSTALL_SHAREDSTATEDIR='com'
CMAKE_INSTALL_SYSCONFDIR='etc'
CMAKE_INSTALL_FULL_BINDIR='/usr/bin'
CMAKE_INSTALL_FULL_DATADIR='/usr/share'
CMAKE_INSTALL_FULL_DATAROOTDIR='/usr/share'
CMAKE_INSTALL_FULL_DOCDIR='/usr/share/doc/Usr'
CMAKE_INSTALL_FULL_INCLUDEDIR='/usr/include'
CMAKE_INSTALL_FULL_INFODIR='/usr/info'
CMAKE_INSTALL_FULL_LIBDIR='/usr/(lib|lib64|lib/arch)'
CMAKE_INSTALL_FULL_LIBEXECDIR='/usr/libexec'
CMAKE_INSTALL_FULL_LOCALEDIR='/usr/share/locale'

CMAKE_INSTALL_FULL_LOCALSTATEDIR='/var'
CMAKE_INSTALL_FULL_RUNSTATEDIR='/var/run'
CMAKE_INSTALL_FULL_MANDIR='/usr/man'
CMAKE_INSTALL_FULL_SBINDIR='/usr/sbin'
CMAKE_INSTALL_FULL_SHAREDSTATEDIR='/usr/com'
CMAKE_INSTALL_FULL_SYSCONFDIR='/etc'$
hello world
merhaba dnya

4-Byte sequences:
 Perch (Fish) Elevator !
^CMAKE_INSTALL_BINDIR='bin'
CMAKE_INSTALL_DATADIR='share'
CMAKE_INSTALL_DATAROOTDIR='share'
CMAKE_INSTALL_DOCDIR='share/doc/Opt'
CMAKE_INSTALL_INCLUDEDIR='include'
CMAKE_INSTALL_INFODIR='info'
CMAKE_INSTALL_LIBDIR='(lib|lib64)'
CMAKE_INSTALL_LIBEXECDIR='libexec'
CMAKE_INSTALL_LOCALEDIR='share/locale'
CMAKE_INSTALL_LOCALSTATEDIR='var'
CMAKE_INSTALL_RUNSTATEDIR='var/run'
CMAKE_INSTALL_MANDIR='man'
CMAKE_INSTALL_SBINDIR='sbin'
CMAKE_INSTALL_SHAREDSTATEDIR='com'
CMAKE_INSTALL_SYSCONFDIR='etc'
CMAKE_INSTALL_FULL_BINDIR='/opt/Opt/bin'
CMAKE_INSTALL_FULL_DATADIR='/opt/Opt/share'
CMAKE_INSTALL_FULL_DATAROOTDIR='/opt/Opt/share'
CMAKE_INSTALL_FULL_DOCDIR='/opt/Opt/share/doc/Opt'
CMAKE_INSTALL_FULL_INCLUDEDIR='/opt/Opt/include'
CMAKE_INSTALL_FULL_INFODIR='/opt/Opt/info'
CMAKE_INSTALL_FULL_LIBDIR='/opt/Opt/(lib|lib64)'
CMAKE_INSTALL_FULL_LIBEXECDIR='/opt/Opt/libexec'
CMAKE_INSTALL_FULL_LOCALEDIR='/opt/Opt/share/locale'
CMAKE_INSTALL_FULL_LOCALSTATEDIR='/var/opt/Opt'
CMAKE_INSTALL_FULL_RUNSTATEDIR='/var/run/opt/Opt'
CMAKE_INSTALL_FULL_MANDIR='/opt/Opt/man'
CMAKE_INSTALL_FULL_SBINDIR='/opt/Opt/sbin'
CMAKE_INSTALL_FULL_SHAREDSTATEDIR='/opt/Opt/com'
CMAKE_INSTALL_FULL_SYSCONFDIR='/etc/opt/Opt'$

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Julian Seward, jseward@acm.org
bzip2/libbzip2 version 1.0.8 of 13 July 2019

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^CMake Deprecation Warning at.*/Tests/RunCMake/message/message-all-loglevels\.cmake:2 \(message\):
 Deprecation warning
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 Author warning message
This warning is for project developers\. Use -Wno-dev to suppress it\.
+
CMake Warning at.*/Tests/RunCMake/message/message-all-loglevels\.cmake:4 \(message\):
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NOTICE message$
'zlib' general purpose compression library
version 1.2.12, March 27th, 2022

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CMAKE_INSTALL_INCLUDEDIR='usr/include'
CMAKE_INSTALL_INFODIR='usr/info'
CMAKE_INSTALL_LIBDIR='usr/(lib|lib64)'
CMAKE_INSTALL_LIBEXECDIR='usr/libexec'
CMAKE_INSTALL_LOCALEDIR='usr/share/locale'
CMAKE_INSTALL_LOCALSTATEDIR='var'
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CMAKE_INSTALL_MANDIR='usr/man'
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CMAKE_INSTALL_FULL_INFODIR='/usr/info'
CMAKE_INSTALL_FULL_LIBDIR='/usr/(lib|lib64)'
CMAKE_INSTALL_FULL_LIBEXECDIR='/usr/libexec'
CMAKE_INSTALL_FULL_LOCALEDIR='/usr/share/locale'
CMAKE_INSTALL_FULL_LOCALSTATEDIR='/var'
CMAKE_INSTALL_FULL_RUNSTATEDIR='/var/run'
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1.215 libprotoc32 3.21.12-3

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1.218 libprotobuf-dev 3.21.12-3

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to the public version of Protocol Buffers.

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  * MS Visual Studio error format option.
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  * Added generation of field number constants.
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  * Small patch improving performance of in Python serialization.
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  * Emacs mode for Protocol Buffers (editors/protobuf-mode.el).
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  * Added Swap(), SwapElements(), and RemoveLast() to Reflection interface.
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  * HPUX support.
Oliver Jowett <oliver.jowett@gmail.com>
   * Detect whether zlib is new enough in configure script.
  * Fixes for Solaris 10 32/64-bit confusion.
Evan Jones <evanj@mit.edu>
  * Optimize Java serialization code when writing a small message to a stream.
  * Optimize Java serialization of strings so that UTF-8 encoding happens only
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  * Clean up some Java warnings.
  * Fix bug with permanent callbacks that delete themselves when run.
Michael Kucharski <m.kucharski@gmail.com>
  * Added CodedInputStream.getTotalBytesRead().
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  * Fixed m4/acx_pthread.m4 problem for some Linux distributions.
William Orr <will@worrbase.com>
  * Fixed detection of sched_yield on Solaris.
  * Added atomicops for Solaris
Andrew Paprocki <andrew@ishiboo.com>
  * Fixed minor IBM xlC compiler build issues
  * Added atomicops for AIX (POWER)
Nipunn Koorapati <nipunn1313@gmail.com>
  * Provide a type alias field ValueType

on EnumTypeWrapper
* Match service argument names to abstract interface
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1.219 libseccomp 2.5.4-1+deb12u1

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1.220 cmd/preprofile (devel)

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// Package copyright checks that files have the correct copyright notices.
package copyright

import (
 "go/ast"
 "go/parser"
 "go/token"
 "io/fs"
 "os"
 "path/filepath"
 "regexp"
 "strings"
)

// (used only by tests)
func checkCopyright(dir string) ([]string, error) {
 var files []string
 err := filepath.WalkDir(dir, func(path string, d fs.DirEntry, err error) error {
  if err != nil {
   return err
  }
  if d.IsDir() {
   // Skip directories like ".git".
   if strings.HasPrefix(d.Name(), ".") && d.Name() != "." && d.Name() != ".." {
    return filepath.SkipDir
   }
   // Skip any directory that starts with an underscore, as the go
   // command would.
   if strings.HasPrefix(d.Name(), "_") {
    return filepath.SkipDir
   }
   return nil
  }
  needsCopyright, err := checkFile(dir, path)
  if err != nil {
   return err
  }
```

```
 if
 needsCopyright {
  files = append(files, path)
 }
 return nil
 })
 return files, err
}

var copyrightRe = regexp.MustCompile(`Copyright \d{4} The Go Authors. All rights reserved.
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license that can be found in the LICENSE file.`)

func checkFile(toolsDir, filename string) (bool, error) {
 // Only check Go files.
 if !strings.HasSuffix(filename, ".go") {
  return false, nil
 }
 // Don't check testdata files.
 normalized := strings.TrimPrefix(filepath.ToSlash(filename), filepath.ToSlash(toolsDir))
 if strings.Contains(normalized, "/testdata/") {
  return false, nil
 }
 // goyacc is the only file with a different copyright header.
 if strings.HasSuffix(normalized, "cmd/goyacc/yacc.go") {
  return false, nil
 }
 content, err := os.ReadFile(filename)
 if err != nil {
  return false, err
 }
 fset := token.NewFileSet()
 parsed, err := parser.ParseFile(fset, filename, content, parser.ParseComments)
 if err != nil {
  return false, err
 }
 //
 Don't require headers on generated files.
 if ast.IsGenerated(parsed) {
  return false, nil
 }
 shouldAddCopyright := true
 for _, c := range parsed.Comments {
  // The copyright should appear before the package declaration.
  if c.Pos() > parsed.Package {
   break
  }
  if copyrightRe.MatchString(c.Text()) {
```

```
  shouldAddCopyright = false
  break
 }
}
 return shouldAddCopyright, nil
}
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//go:generate ./gen-licenses.sh licenses.go
package licenses

const Text = `
-- github.com/BurntSushi/toml COPYING --

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`

```
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package licenses_test

import (
 "bytes"
 "os"
 "os/exec"
 "runtime"
 "testing"
)

func TestLicenses(t *testing.T) {
 if runtime.GOOS != "linux" && runtime.GOOS != "darwin" {
  t.Skip("generating licenses only works on Unixes")
 }
 tmp, err := os.CreateTemp("", "")
 if err != nil {
  t.Fatal(err)
 }
 tmp.Close()

 if out, err := exec.Command("./gen-licenses.sh", tmp.Name()).CombinedOutput(); err != nil {
  t.Fatalf("generating licenses failed: %q, %v", out, err)
 }

 got, err := os.ReadFile(tmp.Name())
 if err != nil {
  t.Fatal(err)
 }
 want, err := os.ReadFile("licenses.go")
```

```
 if err != nil {
  t.Fatal(err)
 }
 if !bytes.Equal(got, want) {
  t.Error("combined license text needs updating. Run: `go generate ./internal/licenses` from the gopls module.")
 }
}
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package copyright

import (
 "strings"
 "testing"
)

func TestToolsCopyright(t *testing.T) {
 files, err := checkCopyright("..")
 if err != nil {
  t.Fatal(err)
 }
 if len(files) > 0 {
  t.Errorf("The following files are missing copyright notices:\n%s", strings.Join(files, "\n"))
 }
}
```

1.221 expat 2.5.0-1+deb12u1

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1.222 sqlite 3.40.1-2+deb12u1

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1.223 nghttp2 1.52.0-1+deb12u2

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Upstream-Name: nghttp2
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1.224 libnghttp2-14 1.52.0-1+deb12u2

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file_io/unix/mktemp.c, strings/apr_strings.c:

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```
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```

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```
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```

From strings/apr_strnatcmp.c, include/apr_strings.h:

```
 strnatcmp.c -- Perform 'natural order' comparisons of strings in C.
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 include/apr_strings.h:

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NR START END SECTORS SIZE NAME UUID
1 32 7679 7648 3.7M 8f8378c0-01
2 7680 16383 8704 4.3M 8f8378c0-02
5 7936 12799 4864 2.4M
6 12544 16127 3584 1.8M
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that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
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NR START END SECTORS SIZE NAME UUID
1 32 7679 7648 3.7M 8f8378c0-01
2 7680 16383 8704 4.3M 8f8378c0-02
5 7936 12799 4864 2.4M
6 12544 16127 3584 1.8M

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1.235 x-sys 0.30.0

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It was later taken over by Matthias Urlichs <smurf@debian.org> and is now
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only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
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path: "tensorflow.errors.PermissionDeniedError"
tf_class {
 is_instance: "<class \'tensorflow.python.framework.errors_impl.PermissionDeniedError\'>"

```
 is_instance: "<class \'tensorflow.python.framework.errors_impl.OpError\'>"
 is_instance: "<type \'exceptions.Exception\'>"
 member {
   name: "args"
   mtype: "<type \'getset_descriptor\'>"
 }
 member {
   name: "error_code"
   mtype: "<type \'property\'>"
 }
 member {
   name: "experimental_payloads"
   mtype: "<type \'property\'>"
 }
 member {
   name: "message"
   mtype: "<type \'property\'>"
 }
 member {
   name: "node_def"
   mtype: "<type \'property\'>"
 }
 member {
   name: "op"
   mtype: "<type \'property\'>"
 }
 member_method {
   name: "__init__"
   argspec: "args=[\'self\', \'node_def\', \'op\', \'message\'], varargs=args, keywords=None, defaults=None"
 }
}
```

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Following applies to:
./test/mapstaticmethods.cpp
./test/schur_real.cpp
./test/prec_inverse_4x4.cpp
./test/smallvectors.cpp
./test/redux.cpp
./test/special_numbers.cpp
./test/adjoint.cpp
./test/resize.cpp
./test/mixingtypes.cpp
./test/product_trmv.cpp
./test/sparse_solvers.cpp
./test/cholesky.cpp
./test/geo_quaternion.cpp

./test/miscmatrices.cpp
./test/stddeque.cpp
./test/integer_types.cpp
./test/product_large.cpp
./test/eigensolver_generic.cpp
./test/householder.cpp
./test/geo_orthomethods.cpp
./test/array_for_matrix.cpp
./test/sparseLM.cpp
./test/upperbidiagonalization.cpp
./test/nomalloc.cpp
./test/packetmath.cpp
./test/jacobisvd.cpp
./test/geo_transformations.cpp
./test/swap.cpp
./test/eigensolver_selfadjoint.cpp
./test/inverse.cpp
./test/product_selfadjoint.cpp
./test/product_trsolve.cpp
./test/product_extra.cpp
./test/sparse_solver.h
./test/mapstride.cpp
./test/mapped_matrix.cpp
./test/geo_eulerangles.cpp
./test/eigen2support.cpp
./test/denseLM.cpp
./test/stdvector.cpp
./test/nesting_ops.cpp
./test/sparse_permutations.cpp
./test/zerosized.cpp
./test/exceptions.cpp
./test/vectorwiseop.cpp
./test/cwiseop.cpp
./test/basicstuff.cpp
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./test/linearstructure.cpp
./test/sparse_product.cpp
./test/stdvector_overload.cpp
./test/stable_norm.cpp
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./test/unalignedcount.cpp
./test/triangular.cpp
./test/product_mmtr.cpp
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./test/sparse_vector.cpp
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./test/real_qz.cpp
./test/ref.cpp

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./test/lu.cpp
./test/qr.cpp
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./test/main.h
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./test/diagonalmatrices.cpp
./test/product_small.cpp
./test/eigensolver_generalized_real.cpp
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./test/qr_fullpivoting.cpp
./test/array_replicate.cpp
./test/geo_parametrizedline.cpp
./test/eigen2/eigen2_unalignedassert.cpp
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./test/eigen2/eigen2_map.cpp
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./test/eigen2/eigen2_product_large.cpp
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./test/pastix_support.cpp
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./test/vectorization_logic.cpp
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./lapack/complex_single.cpp
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./unsupported/Eigen/Polynomials
./unsupported/Eigen/NumericalDiff
./unsupported/Eigen/Skyline
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./COPYING.README
./LICENSE
./LICENSE
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./Eigen/Eigen2Support
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./Eigen/src/Eigen2Support/QR.h
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./Eigen/src/Core/SelfAdjointView.h
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./Eigen/src/Core/MatrixBase.h
./Eigen/src/Core/DenseStorage.h
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./Eigen/src/Core/util/MatrixMapper.h
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./Eigen/src/Core/util/Constants.h
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./Eigen/src/Core/Stride.h
./Eigen/src/SPQRSupport/SuiteSparseQRSupport.h
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./Eigen/src/SparseLU/SparseLU_panel_dfs.h
./Eigen/src/SparseLU/SparseLU_relax_snode.h
./Eigen/src/SparseLU/SparseLU_panel_bmod.h
./Eigen/src/SparseLU/SparseLU_SupernodalMatrix.h
./Eigen/src/SparseLU/SparseLU_Utils.h
./Eigen/src/SparseLU/SparseLU_gemm_kernel.h
./Eigen/src/SparseLU/SparseLU_kernel_bmod.h

./Eigen/src/SparseLU/SparseLU_pivotL.h
./Eigen/src/SparseLU/SparseLU_Memory.h
./Eigen/src/SparseLU/SparseLU_heap_relax_snode.h
./Eigen/src/SparseLU/SparseLUImpl.h
./Eigen/src/SparseLU/SparseLU_copy_to_ucol.h
./Eigen/src/SparseLU/SparseLU_Structs.h
./Eigen/src/SparseLU/SparseLU.h
./Eigen/src/SparseLU/SparseLU_column_bmod.h
./Eigen/src/SparseLU/SparseLU_pruneL.h
./Eigen/src/IterativeLinearSolvers/IncompleteLUT.h
./Eigen/src/IterativeLinearSolvers/BasicPreconditioners.h
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./Eigen/src/IterativeLinearSolvers/ConjugateGradient.h
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./Eigen/src/PaStiXSupport/PaStiXSupport.h
./Eigen/src/MetisSupport/MetisSupport.h
./Eigen/StdVector
./Eigen/Core
./Eigen/OrderingMethods
./Eigen/SparseLU
./Eigen/StdList
./Eigen/StdDeque
./Eigen/SparseCholesky
./Eigen/SparseCore
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./blas/PackedTriangularMatrixVector.h
./blas/complex_double.cpp
./blas/level2_real_impl.h
./blas/level1_cplx_impl.h
./blas/level1_impl.h
./blas/level1_real_impl.h
./blas/level3_impl.h
./blas/single.cpp
./blas/level2_cplx_impl.h
./blas/PackedSelfadjointProduct.h
./blas/Rank2Update.h
./blas/complex_single.cpp
./blas/PackedTriangularSolverVector.h
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1.242 golang-org-x-image 0.24.0

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1.243 libcrypt-dev 4.4.33-2

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1.244 libisl23 0.25-1.1

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1.245 cpp 12.2.0-3

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1.247 g++ 12.2.0-3

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1.248 libcbin 2.36-9+deb12u10

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1.250 libc-dev 2.36-9+deb12u10

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1.260 protobuf-go 1.36.6

1.260.1 Available under license :

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1.261 mercurial-common 6.3.2-1+deb12u1

1.261.1 Available under license :

#require unix-permissions no-root

 $ hg init a
 $ cd a
 $ echo foo > b
 $ hg add b
 $ hg ci -m "b"

 $ chmod -w .hg/store

 $ cd ..

```
$ hg clone a b
requesting all changes
adding changesets
adding manifests
adding file changes
added 1 changesets with 1 changes to 1 files
new changesets 97310831fa1a
updating to branch default
1 files updated, 0 files merged, 0 files removed, 0 files unresolved

$ chmod +w a/.hg/store # let test clean up

$ cd b
$ hg verify
checking changesets
checking manifests
crosschecking files in changesets and manifests
checking files
checked 1 changesets with 1 changes to 1 files

$ cd ..
```

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1.262 mercurial 6.3.2-1+deb12u1

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#require unix-permissions no-root

 $ hg init a
 $ cd a
 $ echo foo > b
 $ hg add b
 $ hg ci -m "b"

 $ chmod -w .hg/store

 $ cd ..

```
$ hg clone a b
requesting all changes
adding changesets
adding manifests
adding file changes
added 1 changesets with 1 changes to 1 files
new changesets 97310831fa1a
updating to branch default
1 files updated, 0 files merged, 0 files removed, 0 files unresolved

$ chmod +w a/.hg/store # let test clean up

$ cd b
$ hg verify
checking changesets
checking manifests
crosschecking files in changesets and manifests
checking files
checked 1 changesets with 1 changes to 1 files

$ cd ..
```

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1.266 liblzma 5.4.1-1

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?MAKE: -pick wipe $@ %<
?S:package:
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
?S: This variable contains the name of the package being constructed,
?S: with the first letter uppercased, i.e. suitable for starting
?S: sentences.
?S:.
?C:PACKAGE:
?C: This variable contains the name of the package being built.
?C:.
?H:#define PACKAGE "$package"
?H:.
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`" in
ABYZ) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo
 $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/package.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: patchlevel.U,v 3.0.1.1 1997/02/28 16:18:41 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: patchlevel.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:patchlevel revision version subversion \
 perl_patchlevel version_patchlevel_string \
 api_revision api_version api_subversion api_versionstring: \
 package test rsrc echo awk osname
?MAKE: -pick
 add $@ %<
?S:revision:
?S: The value of revision comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "5".
?S: In patchlevel.h, this is referred to as "PERL_REVISION".
?S:.
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "6".
?S: In patchlevel.h, this is referred to as "PERL_VERSION".
?S:.
?S:subversion:
?S: The subversion level of this package.
?S: The value of subversion comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "1".
?S: In patchlevel.h, this is referred to as "PERL_SUBVERSION".
?S: This is unique to perl.
?S:.
?S:version:
?S: The full version number of this package, such as 5.6.1 (or 5_6_1).
```

?S: This combines revision, patchlevel, and subversion to get the
?S: full version number, including any possible subversions.
?S: This is suitable for use as a directory name, and hence is
?S: filesystem
 dependent.
?S:.
?S:api_revision:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_revision is the '5'.
?S: Prior to 5.5.640, the format was a floating point number,
?S: like 5.00563.
?S:
?S: perl.c:incpush() and lib/lib.pm will automatically search in
?S: $sitelib/.. for older directories back to the limit specified
?S: by these api_ variables. This is only useful if you have a
?S: perl library directory tree structured like the default one.
?S: See INSTALL for how this works. The versioned site_perl
?S: directory was introduced in 5.005, so that is the lowest
?S: possible value. The version list appropriate for the current
?S: system is determined in inc_version_list.U.
?S:
?S: XXX To do: Since compatibility can depend on compile time
?S: options (such as bincompat, longlong, etc.) it should
?S: (perhaps) be set by
 Configure, but currently it isn't.
?S: Currently, we read a hard-wired value from patchlevel.h.
?S: Perhaps what we ought to do is take the hard-wired value from
?S: patchlevel.h but then modify it if the current Configure
?S: options warrant. patchlevel.h then would use an #ifdef guard.
?S:.
?S:api_version:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_version is the '6'. See api_revision for
?S: full details. As a special case, 5.5.0 is rendered in the
?S: old-style as 5.005. (In the 5.005_0x maintenance series,
?S: this was the only versioned directory in $sitelib.)
?S:.
?S:api_subversion:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_subversion is the
 '1'. See api_revision for
?S: full details.

```
?S:.
?S:api_versionstring:
?S: This variable combines api_revision, api_version, and
?S: api_subversion in a format such as 5.6.1 (or 5_6_1) suitable
?S: for use as a directory name.  This is filesystem dependent.
?S:.
?S:perl_patchlevel:
?S: This is the Perl patch level, a numeric change identifier,
?S: as defined by whichever source code maintenance system
?S: is used to maintain the patches; currently Perforce.
?S: It does not correlate with the Perl version numbers or
?S: the maintenance versus development dichotomy except
?S: by also being increasing.
?S:.
?S:version_patchlevel_string:
?S: This is a string combining version, subversion and
?S: perl_patchlevel (if perl_patchlevel is non-zero).
?S: It is typically something like
?S: 'version 7 subversion 1'  or
?S: 'version 7 subversion 1 patchlevel 11224'
?S: It is computed here to avoid duplication of code in myconfig.SH
?S: and lib/Config.pm.
?S:.
?LINT:extern LC_ALL
?LINT:extern LANGUAGE
:
 get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r $rsrc/patchlevel.h;then
 revision=`awk '/define[  ]+PERL_REVISION/ {print $3}' $rsrc/patchlevel.h`
 patchlevel=`awk '/define[  ]+PERL_VERSION/ {print $3}' $rsrc/patchlevel.h`
 subversion=`awk '/define[  ]+PERL_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 api_revision=`awk '/define[  ]+PERL_API_REVISION/ {print $3}' $rsrc/patchlevel.h`
 api_version=`awk '/define[  ]+PERL_API_VERSION/ {print $3}' $rsrc/patchlevel.h`
 api_subversion=`awk '/define[  ]+PERL_API_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 perl_patchlevel=`egrep ','"(MAINT|SMOKE)[0-9][0-9]*"' $rsrc/patchlevel.h|tail -1|sed 's/[^0-9]//g'`
else
 revision=0
 patchlevel=0
 subversion=0
 api_revision=0
 api_version=0
 api_subversion=0
 perl_patchlevel=0
 $echo "(You do not have patchlevel.h.  Eek.)"
fi
: Define a handy string here to avoid duplication in myconfig.SH and configpm.
```

```
version_patchlevel_string="version $patchlevel subversion $subversion"
case
 "$perl_patchlevel" in
0|'') ;;
*)  perl_patchlevel=`echo $perl_patchlevel | sed 's/.* //'`
   version_patchlevel_string="$version_patchlevel_string patch $perl_patchlevel"
   ;;
esac

$echo "(You have $package $version_patchlevel_string.)"

case "$osname" in
dos|vms)
 : XXX Should be a Configure test for double-dots in filenames.
 version=`echo $revision $patchlevel $subversion | \
   $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
   $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 ;;
*)
 version=`echo $revision $patchlevel $subversion | \
   $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
   $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 ;;
esac
: Special case the 5.005_xx maintenance series, which used 5.005
: without any subversion label as a subdirectory in $sitelib
if test "${api_revision}${api_version}${api_subversion}" = "550"; then
 api_versionstring='5.005'
fi

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/patchlevel.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_byacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: d_byacc.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:31:14  ram
?RCS: patch61: created
?RCS:
?MAKE:d_byacc: byacc Setvar
?MAKE: -pick add $@ %<
?S:d_byacc:
?S: This variable indicates whether byacc is available.
?S: If the user has specified 'portability', then Makefile.SH
?S: sees $byacc='byacc' whether or not the user actually has
?S: byacc.  This variable allows us to determine in a makefile
?S: if we really
 have byacc.
?S:.
?LINT:set d_byacc
: Check if we really have byacc
case "$byacc" in
"|'byacc') val="$undef" ;;
*) val="$define" ;;
esac
set d_byacc
eval $setvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_byacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Prefixup.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Prefixup.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:30:40  ram
?RCS: patch49: created
?RCS:
?X:
?X: Used as: "set dflt; eval $prefixup" to set $dflt to be $prefix/dir
?X: instead of $prefixexp/dir, in case portability was involved somehow
?X: and $prefix uses ~name expansion.
?X:
?MAKE:Prefixup: prefix prefixexp
?MAKE: -pick add $@ %<
```

```
?LINT:define prefixup
?S:prefixup:
?S: This shell variable is used internally by Configure to reset
?S: the leading
 installation prefix correctly when $prefix uses
?S: ~name expansion.
?S:  set dflt
?S:  eval $prefixup
?S: That will set $dflt to $prefix/dir if it was $prefixexp/dir and
?S: $prefix differs from $prefixexp.
?S:.
?V:prefixup
: set the prefixup variable, to restore leading tilda escape
prefixup='case "$prefixexp" in
"$prefix") ;;
*) eval "$1=\`echo \$$1 | sed \"s,^$prefixexp,$prefix,\"\`";;
esac'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Prefixup.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: siteprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: siteprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:siteprefix siteprefixexp +oldsiteprefix: Getfile Loc Oldconfig cat package prefix
?MAKE: -pick add $@ %<
?S:siteprefix:
?S: This variable holds the full absolute path of the directory below
?S: which the user will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
?S:siteprefixexp:
?S: This variable holds the full absolute path of the
 directory below
?S: which the user will install add-on packages.  Derived from siteprefix.
?S:.
```

```
?S:oldsiteprefix:
?S: This variable is set non-null if the siteprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
: Set the siteprefix variables
$cat <<EOM

After $package is installed, you may wish to install various
add-on modules and utilities.  Typically, these add-ons will
be installed under $prefix with the rest
of this package.  However, you may wish to install such add-ons
elsewhere under a different prefix.

If you do not wish to put everything under a single prefix, that's
ok.  You will be prompted for the individual locations; this siteprefix
is only used to suggest the defaults.

The default should be fine for most people.

EOM
fn=d~+
rp='Installation prefix to use for add-on modules and utilities?'
: XXX Here might be another good place for an installstyle setting.
case "$siteprefix" in
'') dflt=$prefix ;;
*)  dflt=$siteprefix
 ;;
esac
. ./getfile
: XXX Prefixit unit does not yet support siteprefix and vendorprefix
oldsiteprefix=''
case "$siteprefix" in
'') ;;
*) case "$ans" in
 "$prefix") ;;
 *) oldsiteprefix="$prefix";;
 esac
 ;;
esac
siteprefix="$ans"
siteprefixexp="$ansexp"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteprefix.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Inhdr.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inhdr.U,v $
?RCS: Revision 3.0.1.2  1995/05/12  12:01:31  ram
?RCS: patch54: deleted tabs that caused some /bin/sh to core dump (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:55:01  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks wether a set of header files exists or not.
?X: If the first header is not
 found, the function tries to locate
?X: the next header, and so on, until one is found or there is no
?X: more header in the list.
?X:
?X: To use it, say:
?X: set header i_header [ header2 i_header2 ... ]
?X: eval $inhdr
?X:
?MAKE:Inhdr: test Findhdr Whoa
?MAKE: -pick add $@ %<
?LINT:define inhdr
?V:inhdr
?S:inhdr:
?S: This shell variable is used internally by Configure to check
?S: wether a set of headers exist or not. A typical use is:
?S:  set header i_header [ header2 i_header2 ... ]
?S:  eval $inhdr
?S: That will print a message, saying wether header was found or not
?S: and set i_header* accordingly. If the first header is not found,
?S: we try the next one, until the list is empty or one is found.
?S:.
?T:xxx xxf var td xxnf tu yyy instead was cont
: define an alternate in-header-list? function
inhdr='echo " "; td=$define; tu=$undef; yyy=$@;
cont=true; xxf="echo \"<\$1> found.\" >&4";
case $# in 2) xxnf="echo \"<\$1> NOT found.\" >&4";;
*) xxnf="echo \"<\$1> NOT found, ...\" >&4";;
```

```
esac;
case
 $# in 4) instead=instead;; *) instead="at last";; esac;
while $test "$cont"; do
 xxx=`./findhdr $1`
 var=$2; eval "was=\$$2";
 if $test "$xxx" && $test -r "$xxx";
 then eval $xxf;
?X: Next line shifted left 1 tabstop to avoid sh core dump on MachTen 2.1.1.
 eval "case \"\$$var\" in $undef) . ./whoa; esac"; eval "$var=\$td";
  cont="";
 else eval $xxnf;
?X: Likewise, the next line has been shifted left 1 tabstop -- ADO, 08/03/95
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu"; fi;
 set $yyy; shift; shift; yyy=$@;
 case $# in 0) cont="";;
 2) xxf="echo \"but I found <\$1> $instead.\" >&4";
  xxnf="echo \"and I did not find <\$1> either.\" >&4";;
 *) xxf="echo \"but I found <\$1\> instead.\" >&4";
  xxnf="echo \"there is no <\$1>, ...\" >&4";;
 esac;
done;
?X: Remaining values are set to 'undef'
while $test "$yyy";
do set $yyy; var=$2; eval "was=\$$2";
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu";
 set $yyy; shift; shift; yyy=$@;
done'

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Inhdr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: nis.U,v 3.0.1.3 1997/02/28 16:17:38 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
?RCS:
```

```
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:passcat
 groupcat hostcat: Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:groupcat:
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
:
 see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
  case "$passcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
  else
```

```
   dflt=n
  fi;;
 *) dflt=n;;
 esac
 echo " "
 rp='Are you getting the passwd file via yellow pages?'
 . ./myread
 case "$ans" in
 y*) passcat='ypcat passwd'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='ypcat group'
@end
   ;;
 *) passcat='cat /etc/passwd'
@if groupcat
   echo "(Assuming /etc/group is also local.)"
   groupcat='cat /etc/group'
@end
   ;;
 esac
 ;;
esac
@end
@if hostcat
 case "$hostcat" in
 nidump*) ;;
 *)
  case
 "$hostcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the hosts file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) hostcat='ypcat hosts';;
  *) hostcat='cat /etc/hosts';;
  esac
  ;;
 esac
@end
```

```
fi
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
") test -f /etc/hosts && hostcat='cat /etc/hosts';;
esac
case "$groupcat" in
") test -f /etc/group && groupcat='cat /etc/group';;
esac
case "$passcat" in
") test -f /etc/passwd && passcat='cat /etc/passwd';;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/nis.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: kernel.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: kernel.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:kernel: Getfile test
?MAKE: -pick add $@ %<
?S:kernel:
?S: This variable becomes the (fully rooted) path name of the kernel.
?S:.
: find the name of the kernel.
echo " "
case "$kernel" in
")
 if $test -r /unix; then
  dflt=/unix
 elif $test -r /vmunix; then
  dflt=/vmunix
 elif $test -r /xenix; then
  dflt=/xenix
 elif $test -r /mach; then
  dflt=/mach
 elif
```

```
 $test -r /dgux; then
  dflt=/dgux
 elif $test -r /hp-ux; then
  dflt=/hp-ux
 elif $test -r /syst; then
  dflt=/syst
 elif $test -r /arix; then
  dflt=/arix
 elif $test -r /irix; then
  dflt=/arix
 else
  dflt='unknown'
  set X /*x
  shift
  case $# in
  1)
   if $test -r "$1"; then
    dflt="$1"
   fi
   ;;
  esac
 fi
 ;;
*)
 dflt="$kernel"
 ;;
esac
fn=f
rp='What is the name of your kernel?'
. ./getfile
kernel="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/kernel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Csym.U,v 3.0.1.4 1995/07/25 13:36:29 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4  1995/07/25  13:36:29  ram
```

?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3 1995/05/12 12:00:33 ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:
?RCS: Revision 3.0.1.2 1994/10/31 09:34:13 ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision
 3.0.1.1 1993/08/25 14:00:05 ram
?RCS: patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:50 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym mistrustnm extern_C: Options contains libc libs runnm test \
 +cc +optimize +ccflags +ldflags run rm_try _exe d_cplusplus
?MAKE: -pick add $@ %<
?LINT:define csym
?LINT:use libc
?LINT:extern mistrustnm
?LINT:set mistrustnm
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: whether a given C symbol is defined or not. A typical use is:
?S: set symbol result [-fva] [previous]
?S: eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?S:extern_C:
?S: ANSI C
 requires 'extern' where C++ requires 'extern "C"'. This
?S: variable can be used in Configure to do the right thing.
?S:.
?S:mistrustnm:
?S: This variable can be used to establish a fallthrough for the cases
?S: where nm fails to find a symbol. If usenm is false or usenm is true
?S: and mistrustnm is false, this variable has no effect. If usenm is true
?S: and mistrustnm is "compile", a test program will be compiled to try to
?S: find any symbol that can't be located via nm lookup. If mistrustnm is
?S: "run", the test program will be run as well as being compiled.
?S:.
?V:csym

```
?T:tval tx tlook tf tdc
?F:!try
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tdc="";;
-a) tf=libc.tmp; tdc="[]";;
*) tlook="^$1\$"; tf=libc.list; tdc="()";;
esac;
case "$d_cplusplus" in
  $define) extern_C="extern \"C\"" ;;
  *)  extern_C="extern" ;;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
case "$tx"
 in
yes)
?X:
?X: Put symbol inside a printf to fool optimizing compilers...
?X:
?X: We use 'short' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'short' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lives so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the compile test, in case the 'short'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
 tval=false;
 if $test "$runnm" = true; then
  if $contains $tlook $tf >/dev/null 2>&1; then
   tval=true;
  elif $test "$mistrustnm"
 = compile -o "$mistrustnm" = run; then
   echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() !=
(void *)argv[0]) return(0); else return(1); }"> try.c;
   $cc -o try $optimize $ccflags $ldflags try.c >/dev/null 2>&1 $libs && tval=true;
   $test "$mistrustnm" = run -a -x try && { $run ./try$_exe >/dev/null 2>&1 || tval=false; };
   $rm_try;
```

```
 fi;
 else
  echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() != (void *)argv[0]) return(0); else return(1); }"> try.c;
  $cc -o try $optimize $ccflags $ldflags try.c $libs >/dev/null 2>&1 && tval=true;
  $rm_try;
 fi;
 ;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;
 ;;
esac;
eval "$2=$tval"'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/Csym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mailer.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mailer.U,v $
?RCS: Revision 3.0.1.3  1995/01/11  15:32:11  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:10:04  ram
?RCS: patch23: ensure full path value is used for rmail also
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:14:18  ram
?RCS: patch16: now use _sendmail vars and friends for portability issues
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:10  ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:mailer: test cat rmail mail smail sendmail Getfile Oldconfig
?MAKE: -pick add $@ %<
?S:mailer:
```

```
?S: This variable contains the full pathname of a reasonable mailer.
?S: By reasonable, we mean some program which can understand internet
?S: addresses or at least forward them to some internet router. This
?S: mailer should be invoked as "mailer [options] recipients <mail".
?S:.
: determine the name of a reasonable mailer
case "$mailer" in
")
 if $test -f "$sendmail"; then
  dflt="$sendmail"
 elif $test -f "$smail"; then
  dflt="$smail"
 elif $test -f "$rmail"; then
  dflt="$rmail"
 elif $test -f /bin/mail; then
  dflt=/bin/mail
 else
  dflt=$mail
 fi
 ;;
*)  dflt="$mailer";;
esac
$cat <<EOM

I need the full pathname of the program used to deliver mail on your system.
A typical answer would be /usr/lib/sendmail or /bin/rmail, but you may choose
any other program, as long as it can be fed from standard input and will
honour any user-supplied headers.

EOM
fn=f
rp='Mail
 transport agent to be used?'
. ./getfile
mailer="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mailer.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cf_name.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: cf_name.U,v $
?RCS: Revision 3.0.1.2  1994/05/06  14:29:36  ram
?RCS: patch23: fixed user name computation from /etc/passwd in bsd systems
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:05:11  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:+cf_name: cf_by passcat Filexp nametype cat test
?MAKE: -pick add $@ %<
?S:cf_name:
?S: Full name of the person who ran the Configure script and
 answered the
?S: questions. This can be used by units that require the user's full name.
?S: This variable is for internal use only.
?S:.
?T:xxx fn NAME
: figure out their full name
case "$NAME" in
") case "$nametype" in
 other)
  fn=`./filexp ~/.fullname`
  xxx=usg
  $test -f $fn && xxx=other
  ;;
 *)
  xxx="$nametype"
  ;;
 esac

 case "$xxx" in
 bsd)
  cf_name=`$passcat | grep "^$cf_by:" | \
   sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
   -e 's/,.*//'`
  ;;
  usg)
  cf_name=`$passcat | grep "^$cf_by:" | \
   sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
   -e 's/[^-]*-\(.*\)(.*)/\1/'`
  ;;
 *)
  cf_name=`$cat $fn`
  ;;
```

```
 esac
 ;;
*)
 cf_name="$NAME"
 ;;
esac
?X:
?X: In the original unit, Graham asked for the user name, in case the above
?X: code was unable to figure it out correctly. Since now cf_name has been
?X: made an internal variable only (i.e. it is not saved in config.sh), letting
?X: the user override the computed default each time would be a pain.
?X:
 Therefore, I have decided to trust the above code to get it right, and for
?X: those rare cases where it will fail, too bad :-) --RAM.
?X:
echo " "
echo "Pleased to meet you, $cf_name."
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_name.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lns.U,v 3.0.1.1 1994/06/20 07:05:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
?X:
?MAKE:lns: ln rm touch
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic
```

```
 links (if they are supported).  It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 ; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/lns.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: getopt.C,v 3.0.1.1 1994/01/24 13:58:40 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
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*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: unknown, got this off net.sources
*
* $Log: getopt.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:40  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/getopt.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: lex.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:22:50  ram
?RCS: patch36: spurious single quote could cause Configure to crash
?RCS: patch36: (reported by Xavier Le Vourch <xavierl@eiffel.com>.)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:27:09  ram
?RCS: patch32: added lexflags variable for lex flags setting
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:06:01  ram
?RCS: patch23: added
 trailing blank line for metalint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lex lexflags: Guess Myread Oldconfig flex test
?MAKE: -pick add $@ %<
?S:lex:
?S: This variable holds the name of the lexical analyser generator we
?S: want to use in the Makefile. It can be lex or flex.
?S:.
?S:lexflags:
?S: This variable holds any flags that should be passed to the lexical
?S: analyzer.  It is up to the Makefile to use it.
?S:.
: determine lexical analyser generator
case "$lex" in
")
 dflt=lex;;
*)
 dflt="$lex";;
esac
echo " "
if $test -f "$flex"; then
 rp='Which lexical analyser generator (lex or flex) shall I use?'
else
 rp='Which lexical analyser generator shall I use?'
fi
. ./myread
lex="$ans"

@if lexflags
```

```
: if using lex this will normally be useless, but flex frequently takes args
echo " "
case "$lexflags" in
'') dflt='none';;
*) dflt="$lexflags";;
esac
rp="What flags should be given to $lex?"
. ./myread
case "$ans"
 in
none) lexflags='';;
*) lexflags="$ans";;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lex.U
No license file was found, but licenses were detected in source scan.

```
#  You may redistribute only under the terms of the Artistic Licence,
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/fixcpp
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/bindex
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.mk
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/makegloss
No license file was found, but licenses were detected in source scan.

```
/*|?:[\/]*)
if test -f "$xxx"; then
: ok
else
./warn "no $xxx -- ignoring your setting for $file."
xxx=`./loc $file $file $pth`
fi
;;
'') xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\/]*)
```

```
echo $file is in $xxx.
;;
*)
echo "I don't know where '$file' is, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
done
echo " "
echo "Don't worry if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
eval xxx=\$$file
case "$xxx" in
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
./warn "no $xxx -- ignoring your setting for $file."
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx
 $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't see $file out there, $say."
say=either
;;
esac
done
case "$egrep" in
egrep)
echo "Substituting grep for egrep."
egrep=$grep
```

```
_egrep=$_grep
;;
esac
@if ln
case "$ln" in
ln)
echo "Substituting cp for ln."
ln=$cp
_ln=$_cp
;;
esac
@end
@if make || gmake
case "$make" in
make)
case "$gmake" in
gmake)
echo "I can't find make or gmake, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
;;
esac
case "$gmake" in
gmake) ;;
*) # We can't have osname yet.
if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
# Assume that gmake, if found, is definitely GNU make
# and prefer it over the system make.
echo "Substituting gmake for make."
make=$gmake
_make=$_gmake
fi
;;
esac
@end
case "$test" in
test)
echo "Hopefully test is built into
 your sh."
;;
*)
if `sh -c "PATH= test true" >/dev/null 2>&1`; then
echo "Using the test built into your sh."
?X:
?X: We need to set both test and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
```

```
?X: we choose to load an old config.sh generated on another platform.
?X:
test=test
_test=test
fi
;;
esac
?LINT:change n c
case "$echo" in
echo)
echo "Hopefully echo is built into your sh."
;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
echo " "
echo "Checking compatibility between $echo and builtin echo (if any)..." >&4
$echo $n "hi there$c" >foo1
echo $n "hi there$c" >foo2
if cmp foo1 foo2 >/dev/null 2>&1; then
echo "They are compatible.  In fact, they may be identical."
else
case "$n" in
'-n') n='' c='\c';;
*) n='-n' c='';;
esac
cat <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built
 in and we may have to run some Bourne shell scripts.  That
means I'll have to use '$n$c' to suppress newlines now.  Life is ridiculous.

FOO
$echo $n "The star should be here-->$c"
$echo "*"
fi
$rm -f foo1 foo2
;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Loc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Null.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Null.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:10  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit ends up producing shell code to set all variables to ".  This
?X: probably isn't necessary, but I'm paranoid.  About certain things.
?X:
?MAKE:Null: Head
?MAKE: -pick add.Null $@ %<
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Null.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorhtml1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml1dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml1dir vendorhtml1direxp installvendorhtml1dir: html1dir Getfile \
 Setprefixvar Oldconfig Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml1dir:
?S: This variable contains the name of the directory for html
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this
 directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
```

```
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml1direxp:
?S: This variable is the ~name expanded version of vendorhtml1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml1dir="
?S:installvendorhtml1dir:
?S: This variable is really the same as vendorhtml1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml1dir
: Set the vendorhtml1dir variables
case "$vendorprefix" in
") vendorhtml1dir="
 vendorhtml1direxp="
 ;;
*) : determine where vendor-supplied html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default suggestions would be welcome.
 case "$vendorhtml1dir"
 in
 ") dflt=`echo "$html1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml1dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml1dir="$ans"
 vendorhtml1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml1dir" = "X" && vendorhtml1dir=' '
prefixvar=vendorhtml1dir
. ./installprefix

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorhtml1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml1dir sitehtml1direxp installsitehtml1dir: Getfile \
 Setprefixvar prefix siteprefix html1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml1dir="
?S:sitehtml1dir:
?S: This variable contains the name of the directory in which site-specific
?S: html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml1direxp="
?S:sitehtml1direxp:
?S: This variable is the same as the sitehtml1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml1dir="
?S:installsitehtml1dir:
?S: This variable is really the same as sitehtml1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml1dir
?LINT:set sitehtml1dir
?LINT:set sitehtml1direxp
: determine where add-on html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case "$sitehtml1dir" in
")
```

```
   dflt=`echo "$html1dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml1dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific html pages should be installed?'
. ./getfile
prefixvar=sitehtml1dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitehtml1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: spitshell.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: spitshell.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:22:12  ram
?RCS: patch61: removed useless chatter as this is now done very early
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:37:01  ram
?RCS: patch45: use 'test -f' instead of 'test -r' for exec-only cat progs (WED)
?RCS: patch45: protected "sh -c" within backquotes for Linux and SGI
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:33:00  ram
?RCS: patch32: don't create spitshell under the UU directory
?RCS:
 patch32: allow for cat in /bin or /usr/bin
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:12:58  ram
?RCS: patch10: made #!-failure message more friendly (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:spitshell shsharp sharpbang: eunicefix sh Head
?MAKE: -pick add $@ %<
?S:spitshell:
```

```
?S: This variable contains the command necessary to spit out a runnable
?S: shell on this system.  It is either cat or a grep -v for # comments.
?S:.
?S:shsharp:
?S: This variable tells further Configure units whether your sh can
?S: handle # comments.
?S:.
?S:sharpbang:
?S: This variable contains the string #! if this system supports that
?S: construct.
?S:.
?F:!sharp
?T:xcat p
?X: "paths" comes from Head
?LINT:extern paths _exe
: see if sh knows # comments
?X: This is loaded up early, so avoid being chatty.
?X: echo " "
?X: echo "Checking your $sh to see if it knows about # comments..." >&2
if `$sh -c '#' >/dev/null 2>&1`; then
?X: echo
 "Your $sh handles # comments correctly."
 shsharp=true
 spitshell=cat
?X: echo " "
?X: echo "Okay, let's see if #! works on this system..."
 xcat=/bin/cat
 test -f $xcat$_exe || xcat=/usr/bin/cat
 if test ! -f $xcat$_exe; then
  for p in `echo $PATH | sed -e "s/$p_/ /g"` $paths; do
   if test -f $p/cat$_exe; then
    xcat=$p/cat
    break
   fi
  done
  if test ! -f $xcat$_exe; then
   echo "Can't find cat anywhere!"
   exit 1
  fi
 fi
 echo "#!$xcat" >sharp
 $eunicefix sharp
 chmod +x sharp
 ./sharp > today 2>/dev/null
 if test -s today; then
?X:  echo "It does."
  sharpbang='#!'
 else
```

```
 echo "#! $xcat" > sharp
 $eunicefix sharp
 chmod +x sharp
 ./sharp > today 2>/dev/null
 if test -s today; then
?X:   echo "It does."
  sharpbang='#! '
 else
?X:   echo "Okay, let's see if #! works on this system..."
?X:   echo "It's just a comment."
  sharpbang=': use '
 fi
fi
else
 echo " "
 echo "Your $sh doesn't grok # comments--I will strip them later on."
 shsharp=false
?X: The
 spitshell script will be perused, so leave it out the UU directory
 cd ..
 echo "exec grep -v '^[  ]*#"' >spitshell
 chmod +x spitshell
 $eunicefix spitshell
 spitshell=`pwd`/spitshell
 cd UU
 echo "I presume that if # doesn't work, #! won't work either!"
 sharpbang=': use '
fi
rm -f sharp today
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/spitshell.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
?X: to be used in all the other metaconfig units.
?X:
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs
?MAKE: -pick add $@ %<
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally
 by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
?S: OS/2 users will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile,
 except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
mc_file=$1;
```

```
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs;'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Compile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Init.U,v 3.0.1.1 1994/10/31 09:45:59 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Init.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:45:59  ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file
 initializes certain default variables used by Configure.  They
?X: may be overridden or added to by definitions in Myinit.U.
?X:
?MAKE:Init eunicefix: Null
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell.  On other systems it is a no-op.
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in
?X: the dependency line since this unit makes them visible via ?V:, and
?X: everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
```

```
?LINT:extern DJGPP
?LINT:extern _exe
?LINT:change _exe
?LINT:extern is_os2
: Detect odd OSs
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
rmlist="

: We must find out about
 Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
: Amiga OS
   _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
: Stratus VOS
   _exe=".pm"
elif test -n "$DJGPP"; then
: DOS DJGPP
   _exe=".exe"
elif test -f /kern/cookiejar; then
: MiNT
   _exe=""
elif test -d c:/. -o -n "$is_os2" ; then
: OS/2 or cygwin
   _exe=".exe"
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X:
 This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Begin Myread Configdir contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
 dflt=n
 . ./myread
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
fi
if $needman; then
 cat <<EOH
```

```
This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a command.  Many of the questions will have
 default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that.  Questions where this is
allowed will be marked "(~name ok)".

EOH
 rp="
 dflt='Type carriage return to continue'
 . ./myread
 cat <<'EOH'

The prompter used in this script allows you to use shell variables and
backticks in your answers.  You may use $1, $2, etc...  to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell.  This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Everytime there is a substitution, you will have to confirm.  If there is an
error (e.g. an unmatched backtick), the default answer will remain unchanged
and you will be prompted
 again.

If you are in a hurry, you may run 'Configure -d'.  This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
 . ./myread
 cat <<EOH

Much effort has been expended to ensure that this shell script will run on any
Unix system.  If despite that it blows up on yours, your best bet is to edit
Configure and run it again.  If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand.  Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
```

```
 in this kit.
2) it builds a config.h file for inclusion in C programs.  You may edit
 any of these
files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently.  The easiest thing to do is to edit config.sh and rerun all the SH
files.  Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
 dflt='Type carriage return to continue'
 . ./myread
 case "$firsttime" in
 true) echo $user >>../.config/instruct;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Instruct.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: longsize.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: longsize.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:09:35  ram
?RCS: patch61: code moved to intsize.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:24:31  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: 'longsize' is now defined within intsize.U
?X:
?LINT: empty
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/longsize.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:full_ar: ar
?MAKE: -pick add $@ %<
?S:full_ar:
?S: This variable contains the full pathname to 'ar', whether or
?S: not the user has specified 'portability'.  This is only used
?S: in the Makefile.SH.
?S:.
: Store the full pathname to the ar program for use in the C program
: Respect a hint or command line value for full_ar.
case "$full_ar" in
") full_ar=$ar ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Loc_ar.U
No license file was found, but licenses were detected in source scan.

```
/*
* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises.  Note, however,
* that running config_h.SH again will wipe out any changes you've made.
* For a more permanent change edit $CONFIG_SH and rerun config_h.SH.
*
* \$Id: Config_h.U 1 2006-08-24 12:32:52Z rmanfredi $
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Config_h.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: contains.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: contains.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:contains: Nothing
?MAKE: -pick add $@ %<
?S:contains:
?S: This variable holds the command to do a grep with a proper return
?S: status.  On most sane systems it is simply "grep".  On insane systems
?S: it is a grep followed by a cat followed by a test.  This variable
?S: is primarily for the use of other Configure units.
?S:.
: Some
 greps do not return status, grrr.
echo "grimblepritz" >grimble
if grep blurfldyick grimble >/dev/null 2>&1 ; then
 contains=contains
elif grep grimblepritz grimble >/dev/null 2>&1 ; then
 contains=grep
else
 contains=contains
fi
rm -f grimble
: the following should work in any shell
case "$contains" in
contains*)
 echo " "
 echo "AGH!  Grep doesn't return a status.  Attempting remedial action."
 cat >contains <<'EOSS'
grep "$1" "$2" >.greptmp && cat .greptmp && test -s .greptmp
EOSS
chmod +x contains
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/contains.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libs.U,v 3.0.1.6 1997/02/28 16:09:11 ram Exp $
?RCS:
```

```
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:09:11  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5  1995/07/25  14:12:05  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  16:24:22  ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:05:44  ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
?RCS: patch30:
 undone patch23 for libswanted default setting
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:08:45  ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:02:31  ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libs ignore_versioned_solibs libsfound libsfiles libsdirs libspath: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 usesocks sed uselongdouble usequadmath
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it.  The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
```

```
?S:.
?S:libsdirs:
?S: This
 variable holds the directory names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:ignore_versioned_solibs:
?S: This variable should be non-empty if non-versioned shared
?S: libraries (libfoo.so.x.y) are to be ignored (because they
?S: cannot be linked against).
?S:.
?T:xxx yyy thislib thisdir libswanted libstyle
?D:libs="
?X:
?X: This order is chosen so that libraries  -lndir, -ldir, -lucb, -lbsd,
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatibility
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
?X: -lc_s proceeds -lc so we pick up the shared library version,
 if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: default library list
?INIT:libswanted="
?INIT:: some systems want to use only the non-versioned libso:s
?INIT:ignore_versioned_solibs="
?LINT:extern usecbacktrace
?LINT:extern libscheck
?LINT:extern p
?LINT:use uselongdouble
: Looking for optional libraries
```

```
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
' '|'') dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
"$define") libswanted="$libswanted
 socks5 socks5_sh" ;;
esac
case "$usecbacktrace" in
"$define") libswanted="$libswanted bfd" ;;
esac
case "$usequadmath" in
"$define") libswanted="$libswanted quadmath" ;;
esac
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted; do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" -a "X$ignore_versioned_solibs" = "X"; then
  xxx=`ls $thisdir/lib$thislib.$so.[0-9] 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
  xxx=`ls $thisdir/lib$thislib.[0-9].$so 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib.$so
        $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib$_a
        $test -f "$xxx"
```

```
&& eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/$thislib$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib${thislib}_s$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
 $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/Slib$thislib$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if $test -f "$xxx"; then
 case "$libstyle" in
 shared) echo "Found -l$thislib (shared)." ;;
 static) echo "Found -l$thislib." ;;
 *)      echo "Found -l$thislib ($libstyle)." ;;
 esac
 case " $dflt " in
 *"-l$thislib "*);;
 *) dflt="$dflt -l$thislib"
                libsfound="$libsfound $xxx"
                yyy=`basename $xxx`
                libsfiles="$libsfiles $yyy"
                yyy=`echo $xxx|$sed -e
"s%/$yyy\\$%%"`
                case " $libsdirs " in
                *" $yyy "*) ;;
                *) libsdirs="$libsdirs $yyy" ;;
                esac
    ;;
 esac
 break
    fi
 done
 if $test ! -f "$xxx"; then
    echo "No -l$thislib."
 fi
done
set X $dflt
shift
```

```
dflt="$*"
case "$libs" in
'') dflt="$dflt";;
*) dflt="$libs";;
esac
case "$dflt" in
' '|'') dflt='none';;
esac

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed.  Include any other special libraries here as well.
Say "none" for none.  The default list is almost always right.
EOM

echo " "
rp="What libraries to use?"
. ./myread
case "$ans" in
none) libs=' ';;
*) libs="$ans";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/libs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: make.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: make.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:09:40  ram
?RCS: patch61: created
?RCS:
?MAKE:make_set_make : Loc rm sed make
?MAKE: -pick add $@ %<
?S:make_set_make:
?S: Some versions of 'make' set the variable MAKE.  Others do not.
?S: This variable contains the string to be included in Makefile.SH
```

```
?S: so that MAKE is set if needed, and not if not needed.
?S: Possible values are:
?S:
?S: make_set_make='#'  #
 If your make program handles this for you,
?S:
?S: make_set_make="MAKE=$make" # if it doesn't.
?S:
?S: This uses a comment character so that we can distinguish a
?S: 'set' value (from a previous config.sh or Configure -D option)
?S: from an uncomputed value.
?S:.
?LINT: extern MAKE
?LINT: change MAKE
?X: This test is based on one from an autoconf-generated configure
?X: script. Autoconf stole a lot from Configure, but now it's our
?X: turn to do so... ;-) -- RAM, 21/02/97
: check whether make sets MAKE
echo " "
echo "Checking if your $make program sets \$(MAKE)..." >&4
case "$make_set_make" in
")
?X: Use sed so we don't have a line begining with @echo.  Metaconfig
?X: will think that's a command like @if or @end.
 $sed 's/^X //' > testmake.mak << 'EOF'
Xall:
X  @echo 'maketemp="$(MAKE)"'
EOF
?X: GNU make sometimes prints "make[1]: Entering...", which would confuse us
 case "`$make -f testmake.mak 2>/dev/null`" in
 *maketemp=*) make_set_make='#' ;;
 *) make_set_make="MAKE=$make" ;;
 esac
 $rm
 -f testmake.mak
 ;;
esac
case "$make_set_make" in
'#') echo "Yup, it does.";;
*) echo "Nope, it doesn't.";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/make.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
```

```
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?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: Original author Jarkko Hietaniemi <jhi@iki.fi>
?RCS: Merged into dist by Andy Dougherty  July 13, 1998
?RCS:
?MAKE:trnl: Nothing
?MAKE: -pick add $@ %<
?S:trnl:
?S: This variable contains the value to be passed to the tr(1)
?S: command to transliterate a newline.  Typical values are
?S: '\012' and '\n'.  This is needed for EBCDIC systems where
?S: newline is not necessarily '\012'.
?S:.
?T: DJGPP
: Find the appropriate value for a newline for tr
?X: We can't
 use $tr since that would cause a circular dependency via Myread
?X: dos djgpp uses '\015\012', but reportedly is happy with '\012' in the
?X: tr command.  I don't know why it passes the '\n' test but later
?X: refuses to work correctly with it.  --AD  6/14/98
if test -n "$DJGPP"; then
    trnl='\012'
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\n' x 2>/dev/null`" in
 foox) trnl='\n' ;;
 esac
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\012' x 2>/dev/null`" in
 foox) trnl='\012' ;;
 esac
fi
if test X"$trnl" = X; then
    case "`echo foo | tr '\r\n' xy 2>/dev/null`" in
    fooxy) trnl='\n\r' ;;
    esac
fi
if test X"$trnl" = X; then
 cat <<EOM >&2
```

```
$me: Fatal Error: cannot figure out how to translate newlines with 'tr'.

EOM
 exit 1
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/trnl.U
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```
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?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:versiononly: cat Myread Setvar Devel
?MAKE: -pick add $@ %<
?LINT:set versiononly
?Y:TOP
?S:versiononly:
?S: If set, this symbol indicates that only the version-specific
?S: components of a perl installation should be installed.
?S: This may be useful for making a test installation of a new
?S: version without disturbing the existing installation.
?S: Setting versiononly is equivalent to setting installperl's -v option.
?S: In particular, the non-versioned scripts and programs such as
?S: a2p, c2ph, h2xs, pod2*, and perldoc
 are not installed
?S: (see INSTALL for a more complete list).  Nor are the man
?S: pages installed.
?S: Usually, this is undef.
?S:.
?LINT:extern inc_version_list
?LINT:change inc_version_list
?LINT:extern inc_version_list_init
?LINT:change inc_version_list_init
?LINT:extern version
: determine whether to use a version number suffix for installed binaries
echo " "
$cat <<EOM
Do you want to use a version number suffix for installed binaries? This
will install 'perl$version' instead of 'perl', and likewise for other
```

```
binaries like 'perldoc' and 'cpan'. This allows many versions of perl
to be installed side-by-side. Unless you are a developer, you probably
do *not* want to do this.
EOM
case "$versiononly" in
"$define"|[Yy]*|true) dflt='y' ;;
*) dflt='n';
esac
rp="Do you want to use a version number suffix for installed binaries?"
. ./myread
case "$ans" in
[yY]*) val="$define";;
*) val="$undef" ;;
esac
set versiononly
eval $setvar

case "$versiononly" in
"$define") inc_version_list="
        inc_version_list_init=0
       ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/versiononly.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: packadmin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
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?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:packadmin: cf_email Oldconfig Myread cat spackage package
?MAKE: -pick add $@ %<
?Y:TOP
?S:packadmin:
?S: Electronic mail address of the package administrator.
?S:.
: check wehther they will act as local admin for the package
$cat <<EOM

If you or somebody else will be maintaining $package at your site, please
```

```
fill in the correct e-mail address here so that they may be contacted
if necessary.  You may enter "none"
 for no administrator.

EOM
case "$packadmin" in
'') dflt="$cf_email";;
*) dflt="$packadmin";;
esac
rp="$spackage administrator e-mail address"
. ./myread
packadmin="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/packadmin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:usevendorprefix vendorprefix vendorprefixexp +oldvendorprefix: \
 Getfile Loc Oldconfig cat prefix Myread
?MAKE: -pick add $@ %<
?S:usevendorprefix:
?S: This variable tells whether the vendorprefix
?S: and consequently other vendor* paths are in use.
?S:.
?S:vendorprefix:
?S: This variable holds the full absolute path of the directory below
?S: which
 the vendor will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
?S:vendorprefixexp:
?S: This variable holds the full absolute path of the directory below
?S: which the vendor will install add-on packages.  Derived from vendorprefix.
?S:.
```

```
?S:oldvendorprefix:
?S: This variable is set non-null if the vendorprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
: Set the vendorprefix variables
$cat <<EOM

The installation process will also create a directory for
vendor-supplied add-ons.  Vendors who supply perl with their system
may find it convenient to place all vendor-supplied files in this
directory rather than in the main distribution directory.  This will
ease upgrades between binary-compatible maintenance versions of perl.

Of course you may also use these directories in whatever way you see
fit.  For example, you might use them to access modules shared over a
company-wide network.

The default answer should be
 fine for most people.
This causes further questions about vendor add-ons to be skipped
and no vendor-specific directories will be configured for perl.

EOM
rp='Do you want to configure vendor-specific add-on directories?'
case "$usevendorprefix" in
define|true|[yY]*) dflt=y ;;
*) : User may have set vendorprefix directly on Configure command line.
 case "$vendorprefix" in
 ''|' ') dflt=n ;;
 *) dflt=y ;;
 esac
 ;;
esac
. ./myread
case "$ans" in
[yY]*) fn=d~+
 rp='Installation prefix to use for vendor-supplied add-ons?'
 case "$vendorprefix" in
 '') dflt="$prefix" ;;
 *)  dflt=$vendorprefix ;;
 esac
 . ./getfile
 : XXX Prefixit unit does not yet support siteprefix and vendorprefix
 oldvendorprefix=''
 case "$vendorprefix" in
 '') ;;
 *) case "$ans" in
  "$prefix") ;;
```

```
 *) oldvendorprefix="$prefix";;
 esac
 ;;
esac
usevendorprefix="$define"
vendorprefix="$ans"
vendorprefixexp="$ansexp"
;;
*) usevendorprefix="$undef"
vendorprefix=''
vendorprefixexp=''
;;
esac
```

Found in path(s):

```
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorprefix.U
```

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```
?RCS: $Id: dlsrc.U,v$
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: dlext.U,v $
?RCS:
?X:  hpux support thanks to Jeff Okamoto <okamoto@hpcc101.corp.hp.com>
?X:
?X:  To create a shared library, you must compile ALL source files in the
?X:  library with +z (or possibly +Z if the library is whopping huge),
?X:  then link the library with -b.  Example:
?X:   cc -c +z module_a.c
?X:   cc -c +z module_b.c
?X:   ld -b module_a.o module_b.o -o module.sl
?X:
?MAKE:dlext: \
 Getfile Myread cat usedl so
?MAKE: -pick add $@ %<
?Y:BOTTOM
?S:dlext:
?S: This variable contains the extension that is to be used for the
?S: dynamically loaded modules that perl generates.
?S:.
: Check what extension to use for shared libs
case "$usedl" in
$define|y|true)
```

```
 $cat <<
 EOM

On a few systems, the dynamically loaded modules that perl generates and uses
will need a different extension than shared libs. The default will probably
be appropriate.

EOM
 case "$dlext" in
 '') dflt="$so" ;;
 *) dflt="$dlext" ;;
 esac
 rp='What is the extension of dynamically loaded modules'
 . ./myread
 dlext="$ans"
 ;;
*)
 dlext="none"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/dlext.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun
 like everybody
?RCS: patch54: can now grok Linux nm output with lead __IO (ADO)
```

```
?RCS: patch54: added support for Linux ELF output, using 'W' for alias (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1994/10/29  16:23:40  ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1994/08/29  16:28:10  ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  07:03:24  ram
?RCS: patch30: checks are now presented by succession of if/elif
?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  15:06:33  ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:12:17  ram
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2  1993/09/13  16:09:03  ram
?RCS: patch10: added special handling for Apollo
 systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:40:03  ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libc +nm_extract: echo n c rm test grep Getfile Myread Oldconfig Loc \
 sed libs incpath libpth ar runnm nm nm_opt nm_so_opt contains xlibpth \
 so _a _o osname trnl tr sort uniq sysroot
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp
?LINT:extern PASE
?LINT:extern libnames
?LINT:change nm_opt
?INIT:libnames="
: Figure out where the libc is located
```

```
case "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
:
 get list of predefined functions in a handy place
echo " "
case "$libc" in
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
 -lc|-lc_s)
  : Handle C library specially below.
  ;;
 -l*)
  thislib=`echo $thislib | $sed -e 's/^-l//'`
  if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
   :
  else
   try="
  fi
  libnames="$libnames $try"
  ;;
 *) libnames="$libnames $thislib" ;;
 esac
 done
 ;;
esac
?X:
?X: Some systems (e.g. DG/UX) use
```

```
 "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
?X: part is removed after sorting. Nice efficient work from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing
 pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set $sysroot/usr/ccs/lib/libc.$so
 $test -r $1 || set $sysroot/lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
 libc="$1"
```

```
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
?X:
 echo "Your C library seems to be in both /lib/clib
 and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc
 Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
 cat <<EOM
```

```
If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.

EOM
else
 dflt="
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:

EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...

EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
set X `cat libnames`
shift
xxx=files
case $# in 1) xxx=file; esac
echo
 "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
done >libc.tmp
```

```
$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval "<libc.tmp $com >libc.list"; echo "done." >&4'
?X:
 BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
?X: HP-UX 10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
?X: GNU extension: i is "indirect function"
xxx='[ADTSIWi]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$'
 libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
```

```
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: OS/2
 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[       ]*D[    ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
  echo "$nm didn't seem to work right. Trying $ar instead..." >&4
  com="
```

```
 if $ar t $libc > libc.tmp && \
  $contains '^fprintf$' libc.tmp >/dev/null 2>&1
 then
  for thisname in $libnames $libc; do
   $ar t $thisname >>libc.tmp
  done
  $sed -e "s/\\$_o\$//" < libc.tmp > libc.list
  echo
 "Ok." >&4
 elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
  for thisname in $libnames $libc; do
   $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
   $rm -f tmp.imp
  done
  $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
  echo "Ok." >&4
 else
  echo "$ar didn't seem to work right." >&4
  echo "Maybe this is a Cray...trying bld instead..." >&4
  if  bld t $libc | \
   $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
   $test -s libc.list
  then
   for thisname in $libnames; do
    bld t $libnames | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
    $ar t $thisname >>libc.tmp
   done
   echo "Ok." >&4
  else
   echo
 "That didn't work either.  Giving up." >&4
   exit 1
  fi
 fi
fi
nm_extract="$com"
case "$PASE" in
define)
  echo " "
```

```
  echo "Since you are compiling for PASE, extracting more symbols from libc.a ...">&4
  dump -Tv /lib/libc.a | awk '$7 == "/unix" {print $5 " " $8}' | grep "^SV" | awk '{print $2}' >> libc.list
  ;;
*)  if $test -f /lib/syscalls.exp; then
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
  fi
  ;;
esac
;;
esac
$rm -f libnames libpath

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/libc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Hasproto.U $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasproto string that is used internally
?X: by Configure to check if this system has a prototype for a
?X: particular function
?X:
?X: To use it, say something like:
?X:  set d_getnetent_proto getnetent $i_netdb netdb.h
?X:  eval $hasproto
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/types.h
?X:  $i_systime sys/time.h
?X:  $i_sysselct sys/select.h
?X:  $i_netdb netdb.h"
?X: set d_getnetent_proto getnetent $hdrs
?X: eval $hasproto
?X:
?X: There is also an 'escape' hatch built in.  If you have a pair
?X: of args   'literal 'stuff' then 'stuff' gets included literally
?X: into the test program.  See Protochk.U for more details.
?X:
?MAKE:Hasproto:
 Setvar cppstdin cppflags cppminus contains rm_try test
?MAKE: -pick add $@ %<
```

```
?T:func varname
?F:!try.c
?V:hasproto
: Define hasproto macro for Configure internal use
hasproto='varname=$1; func=$2; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 literal) echo "$2" ;;
 esac ;
   shift 2;
done > try.c;
$cppstdin $cppflags $cppminus < try.c > tryout.c 2>/dev/null;
if $contains "$func.*(" tryout.c >/dev/null 2>&1; then
 echo "$func() prototype found.";
 val="$define";
else
 echo "$func() prototype NOT found.";
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try tryout.c'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Options.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
```

```
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS:
 patch49: this unit now exports file optdef.sh, not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options:
 startsh
?MAKE: -pick wipe $@ %<
?V:reuseval alldone error realsilent silent extractsh fastread \
 knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp ccflags
?F:!Configure
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like    ./Configure -Dcc="gcc -B/usr/ccs/bin/"
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X:
```

```
 to worry too much.
cat > cmdline.opt <<EOSH
: Configure command line arguments.
config_arg0='$0'
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp=''
args_sep=''
for arg in "$@"; do
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by '"'"'
 cat <<EOC | sed -e "s/'/'\"'\"'/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification

 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
   i++;
  }
  opt[c]
 = 1;
 }
}
{
 expect = 0;
 str = $0;
```

```
 if (substr(str, 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prepended to each
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
eval "set $*"
shift
rm -f options.awk

: set up default values
fastread=''
reuseval=false
config_sh=''
alldone=''
error=''
silent=''
extractsh=''
knowitall=''
```

```
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:

: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
   echo "$me: cannot read config file $1."
 >&2
   error=true
  fi
  cd UU
  shift;;
 --help|\
 -h) shift; error=true;;
 -r) shift; reuseval=true;;
 -s) shift; silent=true; realsilent=true;;
 -E) shift; alldone=exit;;
 -K) shift; knowitall=true;;
 -O) shift;;
 -S) shift; silent=true; extractsh=true;;
 -D)
  shift
  case "$1" in
```

```
*=)
 echo "$me: use '-U symbol=', not '-D symbol='." >&2
 echo "$me: ignoring -D $1" >&2
 ;;
*=*) echo "$1" | \
  sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
*) echo "$1='define'" >> optdef.sh;;
esac
shift
;;
-U)
shift
case "$1" in
*=) echo "$1" >> optdef.sh;;
*=*)
 echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
 echo "$me: ignoring -U $1" >&2
 ;;
*) echo "$1='undef'" >> optdef.sh;;
esac
shift
;;
-A)
   shift
   xxx=''
   yyy="$1"
   zzz=''
   uuu=undef
   case "$yyy" in
       *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
           case "$zzz" in
           *:*) zzz='' ;;
           *)   xxx=append

           zzz=" "`echo "$yyy"|sed 's!^[^=]*=!!'`
               yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
           esac
           ;;
       esac
       case "$xxx" in
       '')  case "$yyy" in
           *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
               yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
               zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
               yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
           *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
               yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
           esac
```

```
            ;;
        esac
    case "$xxx" in
    append)
 echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
    clear)
 echo "$yyy=""   >> posthint.sh ;;
    define)
       case "$zzz" in
 ") zzz=define ;;
 esac
 echo "$yyy='$zzz'"  >> posthint.sh ;;
    eval)
 echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
    prepend)
 echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
    undef)

      case "$zzz" in
 ") zzz="$uuu" ;;
 esac
 echo "$yyy=$zzz"  >> posthint.sh ;;
        *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
    esac
    shift
    ;;
 -V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
    exit 0;;
 --) break;;
 -*) echo "$me: unknown option $1" >&2; shift; error=true;;
 *) break;;
 esac
done

case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
 -d : use defaults for all answers.
 -e : go on without questioning past the production of config.sh.
 -f : specify an alternate default configuration file.
 -h : print this help message and exit (with an error status).
 -r : reuse C symbols value if possible (skips costly nm extraction).
 -s : silent mode, only echoes questions and essential information.
 -D : define symbol to have some value:
      -D symbol              symbol gets the
```

```
 value 'define'
        -D symbol='some value'   symbol is set to 'some value'
      common used examples (see INSTALL for more info):
        -Duse64bitint           use 64bit integers
        -Duse64bitall           use 64bit integers and pointers
        -Dusethreads            use thread support
        -Dinc_version_list=none  do not include older perl trees in @INC
        -DEBUGGING=none          DEBUGGING options
        -Dcc=gcc                choose your compiler
        -Dprefix=/opt/perl5      choose your destination
 -E : stop at the end of questions, after having produced config.sh.
 -K : do not use unless you know what you are doing.
 -O : ignored for backward compatibility
 -S : perform variable substitutions on all .SH files (can mix with -f)
 -U : undefine symbol:
        -U symbol    symbol gets the value 'undef'
        -U symbol=   symbol gets completely empty
      e.g.:  -Uversiononly
 -A : manipulate symbol after the platform specific hints
 have been applied:
        -A append:symbol=value   append value to symbol
        -A symbol=value          like append:, but with a separating space
        -A define:symbol=value   define symbol to have value
        -A clear:symbol          define symbol to be ''
        -A define:symbol         define symbol to be 'define'
        -A eval:symbol=value     define symbol to be eval of value
        -A prepend:symbol=value  prepend value to symbol
        -A undef:symbol          define symbol to be 'undef'
        -A undef:symbol=         define symbol to be ''
      e.g.:  -A prepend:libswanted='cl pthread '
             -A ccflags=-DSOME_MACRO
 -V : print version number and exit (with a zero status).
EOM
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and
 cannot use $me, since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
case "$fastread$alldone" in
```

```
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true) exec 1>/dev/null;;
esac

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
?X: -q is POSIX
?X: It does not work in SysV (solaris) or old BSD greps.
grep '\\' optdef.sh >/dev/null 2>&1
if test $? = 0; then
   echo "Configure does not support \\
 in -D arguments"
   exit 1
fi
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Options.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libyacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libyacc.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:09:19  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.3  1994/05/13  15:27:12  ram
?RCS: patch27: added byacc case (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:09:01  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:49  ram
?RCS: patch16: un-obsoleted this unit for smooth yacc compilations
?RCS:
?RCS:
 Revision 3.0  1993/08/18  12:09:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libyacc: Loc yacc libpth _a
?MAKE: -pick add $@ %<
?S:libyacc:
?S: This variable contains the argument to pass to the loader in order
?S: to get the yacc library routines.  If there is no yacc or yacc
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -ly
echo " "
case "$yacc" in
*byacc*)
 echo "You are using byacc, so I won't look for a yacc library." >&4
 libyacc="
 ;;
*yacc)
 xxx=`./loc liby$_a x $libpth`
 case "$xxx" in
 x)
  echo "No yacc library found." >&4
  libyacc="
  ;;
 *)
  echo "yacc library found in $xxx." >&4
  libyacc="$xxx"
  ;;
```

```
 esac
 ;;
*bison*)
 echo "You are using bison, so I won't look for a yacc library." >&4
 libyacc="
 ;;
*)
echo "You don't seem to have yacc, so I won't look for the yacc library." >&4
 libyacc="
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libyacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Inlibc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inlibc.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:55:08  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks for the definition of a given function.
?X:
?X: To use it, say:
?X: set function d_func
?X: eval $inlibc
?X:
?MAKE:Inlibc: Csym Whoa Oldconfig
?MAKE: -pick add $@ %<
?LINT:define inlibc
?V:inlibc
?S:inlibc:
?S: This
 shell variable is used internally by Configure to check
?S: wether a given function is defined or not. A typical use is:
```

```
?S:  set function d_func
?S:  eval $inlibc
?S: That will print a message, saying wether function was found or
?S: not and set d_func accordingly.
?S:.
?T:was tx sym tres td tu var
: define an is-in-libc? function
inlibc='echo " "; td=$define; tu=$undef;
sym=$1; var=$2; eval "was=\$$2";
tx=yes;
case "$reuseval$was" in
true) ;;
true*) tx=no;;
esac;
case "$tx" in
yes)
 set $sym tres -f;
 eval $csym;
 case "$tres" in
 true)
  echo "$sym() found." >&4;
  case "$was" in $undef) . ./whoa; esac; eval "$var=\$td";;
 *)
  echo "$sym() NOT found." >&4;
  case "$was" in $define) . ./whoa; esac; eval "$var=\$tu";;
 esac;;
*)
 case "$was" in
 $define) echo "$sym() found." >&4;;
 *) echo "$sym() NOT found." >&4;;
 esac;;
esac'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Inlibc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: AAAAA.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: AAAAA.U,v $
```

?RCS: Revision 3.0.1.4 1994/06/20 06:50:26 ram
?RCS: patch30: changes from Jarkko Hietaniemi are tagged with JHI
?RCS:
?RCS: Revision 3.0.1.3 1994/05/06 14:01:39 ram
?RCS: patch23: initials for Wayne Davison are now WED
?RCS: patch23: added initials for new unit contributor Andy Dougherty
?RCS:
?RCS: Revision 3.0.1.2 1994/01/24 14:01:09 ram
?RCS: patch16: make metalint shut up on special unit definition for All target
?RCS:
?RCS: Revision
 3.0.1.1 1993/09/13 15:43:57 ram
?RCS: patch10: documents initials used for Wayne Davison's contributions
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:44 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply the head of the Makefile created
?X: by metaconfig. For this reason it must be first in alphabetical order.
?X: The leading '+' in front of the unit name is a hint for metalint, since
?X: the use of that special unit name as a "made" unit is legitimate here.
?X:
?MAKE:+All: Finish
?X:
?X: Throughout the units, the following initials are used to identify comments:
?X:
?X: HMS: Harlan Stenn
?X: RAM: Raphael Manfredi
?X: WED: Wayne Davison (was WAD by mistake--RAM)
?X: ADO: Andy Dougherty
?X: JHI: Jarkko Hietaniemi
?X:
?X: Agreed, this is a weird place to document it, but I couldn't find a better
?X: place to do so. I've bet on the curiosity of users, who would probably
?X: want to know what's in this strangely-named file--RAM.

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/AAAAA.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Extras.U,v$
?RCS:
?RCS: Copyright (c) 2001, Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.

```
?RCS:
?MAKE:extras: Myread Oldconfig Setvar rm
?MAKE: -pick add $@ %<
?Y:TOP
?S:extras:
?S: This variable holds a list of extra modules to install.
?S:.
: See if we want extra modules installed
echo " "
case "$extras" in
'') dflt='n';;
*) dflt='y';;
esac
cat <<EOM
Perl can be built with extra modules or bundles of modules which
will be fetched from the CPAN and installed alongside Perl.

Notice that you will need access to the CPAN; either via the Internet,
or a local copy, for example a CD-ROM or a local CPAN mirror.  (You will
be asked later to configure the CPAN.pm module which will in turn do
the installation of the rest of the extra modules or bundles.)

Notice also that if the modules require
 any external software such as
libraries and headers (the libz library and the zlib.h header for the
Compress::Zlib module, for example) you MUST have any such software
already installed, this configuration process will NOT install such
things for you.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Install any extra modules (y or n)?'
. ./myread
case "$ans" in
y|Y)
 cat <<EOM

Please list any extra modules or bundles to be installed from CPAN,
with spaces between the names.  The names can be in any format the
'install' command of CPAN.pm will understand.  (Answer 'none',
without the quotes, to install no extra modules or bundles.)
EOM
 rp='Extras?'
 dflt="$extras"
 . ./myread
 extras="$ans"
esac
case "$extras" in
```

```
"|'none')
 val="
 $rm -f ../extras.lst
 ;;
*) echo "(Saving the list of extras for later...)"
 echo "$extras" > ../extras.lst
 val="'$extras'"
 ;;
esac
set extras
eval $setvar
echo " "
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Extras.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorhtml3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml3dir vendorhtml3direxp installvendorhtml3dir: html3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml3dir:
?S: This variable contains the name of the directory for html
?S: library pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing
 in this directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages for modules and extensions in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml3direxp:
?S: This variable is the ~name expanded version of vendorhtml3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
```

```
?S:.
?D:installvendorhtml3dir="
?S:installvendorhtml3dir:
?S: This variable is really the same as vendorhtml3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml3dir
: Set the vendorhtml3dir variables
case "$vendorprefix" in
") vendorhtml3dir="
 vendorhtml3direxp="
 ;;
*) : determine where vendor-supplied module html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default
 suggestions would be welcome.
 case "$vendorhtml3dir" in
 ") dflt=`echo "$html3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml3dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml3dir="$ans"
 vendorhtml3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml3dir" = "X" && vendorhtml3dir=' '
prefixvar=vendorhtml3dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorhtml3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cf_who.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:28:50  ram
?RCS: patch61: new computation method avoiding use of temporary file
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:42:34  ram
?RCS: patch23: login name now computed the hard way
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:32  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Oldconfig dependency is there to ensure computation occurs after old values
?X: from config.sh have been loaded, so that we can supersede them.
?X:
?MAKE:cf_time
 cf_by: date Oldconfig
?MAKE: -pick add $@ %<
?S:cf_time:
?S: Holds the output of the "date" command when the configuration file was
?S: produced. This is used to tag both config.sh and config_h.SH.
?S:.
?S:cf_by:
?S: Login name of the person who ran the Configure script and answered the
?S: questions. This is used to tag both config.sh and config_h.SH.
?S:.
?LINT:change LC_ALL LANGUAGE
: who configured the system
?X: Ensure English date -- Jarkko Hietaniemi
cf_time=`LC_ALL=C; LANGUAGE=C; export LC_ALL; export LANGUAGE; $date 2>&1`
?X:
?X: Leave a white space between first two '(' for ksh. The sub-shell is needed
?X: on some machines to avoid the error message when logname is not found; e.g.
?X: on SUN-OS 3.2, (logname || whoami) would not execute whoami if logname was
?X: not found. Sigh!
?X:
?X: Convex had a broken logname executable which returned a non-zero status,
?X: and that broke the previous:
?X:   cf_by=`( (logname) 2>/dev/null || whoami) 2>&1`
?X: Switch to emergency
 mode... -- RAM, 19/04/94
?X:
?X: Parentheses needed to avoid error message if the program does not exist.
?X: Uses case instead of $test so it can be put before $test is defined.
?X: Don't redirect to a file because on Ultrix (under script?) logname
```

?X: outputs a blank line first. This method will apparently work.
```
case "$cf_by" in
"")
 cf_by=`(logname) 2>/dev/null`
 case "$cf_by" in
 "")
  cf_by=`(whoami) 2>/dev/null`
  case "$cf_by" in
  "") cf_by=unknown ;;
  esac ;;
 esac ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_who.U
No license file was found, but licenses were detected in source scan.

* Feel free to modify any of this as the need arises. Note, however,

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/metaconfig.html
No license file was found, but licenses were detected in source scan.

?RCS: You may redistribute only under the terms of the Artistic Licence,

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Obsol_h.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setlnbuf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_syslog.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_perror.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_truncate.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/basicshell.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getprior.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_unistd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_dbl_dig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_charsprf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/defeditor.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_fgetpos.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_locale.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_bsdjmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_bcmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_rmdir.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_fcntl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strtol.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setregid.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_regex.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_shmctl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strstr.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/filexp_path.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mailfile.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_fchmod.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/compiler_warning.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sysioctl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_mkdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sfio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_waitpid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strdup.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_nolnbuf.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strxfrm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ilp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_drem.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mkdep.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_accept4.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Assert.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_termio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_regcmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/nlist_pfx.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_inetd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_siglist.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_lstat.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_whoami.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_syssock.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_memset.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_linuxstd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_SHM_MAC.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_chroot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strcspn.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_itimer.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/locdist.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/vaproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setegid.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_cbrt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_pread.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sjis2jis.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_select.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_systwgcf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/rootid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_scandir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sysparam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_ffs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_PORTAR.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_wctomb.U

```
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getgrps.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_preadv.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msync.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_euc2jis.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: End.U,v 3.0 1993/08/18 12:04:51 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End perllibs: $W cppstdin gzip zip
 libs usedl osname osvers
?MAKE: -pick add $@ %<
?S:perllibs:
?S: The list of libraries needed by Perl only (any libraries needed
?S: by extensions only will by dropped, if using dynamic loading).
?S:.
?INIT:perllibs="
?LINT:use $W
?LINT:use gzip zip
?LINT:change cppstdin
: Remove libraries needed only for extensions
: The appropriate ext/Foo/Makefile.PL will add them back in, if necessary.
: The exception is SunOS 4.x, which needs them.
case "${osname}X${osvers}" in
sunos*X4*)
  perllibs="$libs"
  ;;
*) case "$usedl" in
  $define|true|[yY]*)
    set X `echo " $libs " | sed -e 's@ -lndbm @ @' -e 's@ -lgdbm @ @' -e 's@ -lgdbm_compat @ @' -e 's@ -ldbm @
```

```
@' -e 's@ -ldb @ @'`
    shift
    perllibs="$*"
    ;;
  *) perllibs="$libs"
    ;;
  esac
  ;;
esac

?X: If the user has the cppstdin wrapper, perl.c will try to call
?X: CPPSTDIN, but that will point to a location in the build
?X: directory, not the installed version!.  Here, we'll just strip the
?X: name down to 'cppstdin',
 and rely on the fact that perl.c will
?X: then call SCRIPTDIR/cppstdin, but local things like 'make depend'
?X: will continue to work.
: Remove build directory name from cppstdin so it can be used from
: either the present location or the final installed location.
echo " "
: Get out of the UU directory to get correct path name.
cd ..
case "$cppstdin" in
`pwd`/cppstdin)
 echo "Stripping down cppstdin path name"
 cppstdin=cppstdin
 ;;
esac
cd UU

: end of configuration questions
echo " "
echo "End of configuration questions."
echo " "
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/End.U
No license file was found, but licenses were detected in source scan.

Perl5 Metaconfig Units

Copyright (c) 1996-1998, Andy Dougherty
Copyright (c) 1999-2011, H.Merijn Brand
All rights reserved.

These units are the ones used to build Configure and config_h.SH
in the Perl5 distribution.

metaconfig will first look in its standard locations (specified when you
installed dist). It will then recurse through the 'U' subdirectory
and find any additional "private" units. Private units override
standard ones supplied with metaconfig.

Files in this directory:

README
  This file.

Glossary.patch
  The standard dist units contain some strings that make pod2man
  complain. This patch silences those warnings. As new units are
  added and Configure is regenerated, this patch may need more and more
  'fuzz' to be applied. It should be freshly regenerated every once
  in a while. See also mkgloss.pl

ln-all.pl
  Re-generate the all/ folder

mkglossary
  A script
 to regenerate Porting/Glossary. You have to manually
  edit the top of the script to point the location of your metaconfig
  units. It is called automatically by 'mksample'. See also mkgloss.pl

mkgloss.pl
  A perl script that calls U/mkglossary from the perl source tree, sorts
  the list of symbols, and applies the patch mentioned in Glossary.patch.
  When called on its own, redirect the output to a temporary file, and
  compare that file to Porting/Glossary before applying.

mksample
  A script to regenerate Porting/config.sh and Porting/config.H.
  It also calls mkglossary, if necessary.

Subdirectories:

The units and other related files have been broken up into the following
directories.

a_dvisory/
  These are units that have to go first in the generated config_h.SH.
  A word of explanation: Configure and config_h.SH are generated from 'Units'
  (the *.U files). Files indicate dependencies (using make(1)), and
  Configure is built to follow those dependencies.
 However, config_h.SH
  is simply built by putting all the units in alphabetical order and

extracting the relevant lines. (This could be fixed, I suppose, but it wasn't trivial the one time I looked.)
The a_dvisory/ directory, then, is a place to put units that need to be early in config_h.SH. (Most units are self-contained and ought to be able to go anywhere. However, some things, like byteorder, need to have the #defines from multiarch available.)

acl/
This is an old patch to begin to detect and use ACL (access control list) file protection schemes.

all/
A folder that conveniently holds symbolic links to all the modules that are used to build the current Configure and config_h.SH.

compline/
These are similar to the standard units, but I have modified them to have a more uniform compile command line, usually using the new Compile.U unit. (The ccflags.U unit is perl-specific since it mentions -DDEBUGGING and
-DPOSIX_SOURCE, but that's the only place it is perl-specific.)

dist_patches/
These are patches to dist that must be applied before it is built and installed. I have submitted these for inclusion in the regular dist distribution. They have already been applied to the ../dist-3.0at70b directory.

ebcdic/
These are units that had to be specially modified to work under either EBCDIC or ASCII.

installdirs/
These are units to handle perl's installation directories and related issues.

modified/
These are modified versions of the standard units. Also included in this directory are new units that are clearly derived from existing units. I have submitted these for inclusion in the regular dist distribution.

nullified/
These are null units that replace units in the standard distribution. Typically they are there because some part of the perl source accidentally uses a symbol that metaconfig thinks means we want the corresponding

unit.

perl/
  These are specific to perl. Some are heavily derived from
  original dist units, and are marked as such. Others are original.

perl_patches/
  These are patches to the perl source. This directory
  should ordinarily be empty, but there may have been drift between
  the standard version of perl and the one associated with these
  units.

protos/
  These are units modified to use the new Hasproto.U or Protochk.U
  units to check for prototypes.

threads/
  These are specific to threading perl.

typedefs/
  These are standard units modified to use the modified Typedef.U
  unit to check for typedefs. (The modified Typdef.U includes a
  function to avoid unnecessary prompts if the typdef being searched
  for exists.)

Where appropriate, I submitted these units for inclusion into the
regular dist distribution. However, since dist is no longer actively
maintained, and the alternative is for *me* to actively maintain it,
the units just
sit here.

Copyright Information:

Unless otherwise indicated, the files contained in this
distribution are:

  Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in
this distribution:

You may distribute the files contained in this distribution
under the terms of either

  a) the "Artistic License" which comes with Perl, or

  b) the "Artistic License" which comes with dist, or

c) the GNU General Public License as published by the Free
Software Foundation; either version 1, or (at your option) any
later version (see the file "Copying" that comes with the
Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified
license as contained in dist-3.0-pl60 provides:

7. You may reuse parts of this Package in your own programs, provided
that you explicitly state where you got them from, in the source code
(and, left to your courtesy, in the documentation), duplicating
all the associated copyright notices and disclaimers. Besides
your changes, if any, must be clearly marked as such. Parts reused
that way will no longer fall under this license if, and only if,
the name of your program(s) have no immediate connection with the
name of the Package itself or its associated programs. You may then
apply whatever restrictions you wish on the reused parts or choose
to place them in the Public Domain--this will apply only within the
context of your package.

In accordance with this clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences
between these units and the standard versions, please
feel free to ask.

Andy Dougherty doughera@lafayette.edu
Dept. of Physics
Lafayette College
Easton, PA 18042-1782

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/README
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Chk_MANI.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_MANI.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:57:25  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/31  09:33:14  ram
?RCS: patch44: now lists Begin instead of Myinit in its dependencies
?RCS: patch44: leading comment now explains how this unit is included
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks the package by making sure
 every file listed in MANIFEST
?X: is present. It is systematically "included" via the Finish unit (which
?X: is always present in every Configure script), although it may result in
?X: an empty inclusion when no MANIFEST is present.
?X:
?MAKE:Chk_MANI: Begin c n rsrc
?MAKE: -pick wipe $@ %<
?T:filelist ans tmppwd
?X: This check happens at metaconfig-time, so it's ok to hard-code the path.
@if {test -f ../MANIFEST}
: Now test for existence of everything in MANIFEST
echo " "
if test -f "$rsrc/MANIFEST"; then
 echo "First let's make sure your kit is complete.  Checking..." >&4
?X:
?X: Files spelled uppercased and beginning with PACK are produced by the
?X: shell archive builder and may be removed by the user. Usually, they are
?X: not listed in the MANIFEST file, but you never know...
?X:
?X: "split -l" is the new way of running a split, but we also try the older way
?X:
 awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
  (split -l 50 2>/dev/null || split -50)
 rm -f missing
 tmppwd=`pwd`
 for
 filelist in x??; do
  (cd "$rsrc"; ls `cat "$tmppwd/$filelist"` \
```

```
  >/dev/null 2>>"$tmppwd/missing")
 done
 if test -s missing; then
  cat missing >&4
  cat >&4 <<'EOM'

THIS PACKAGE SEEMS TO BE INCOMPLETE.

You have the option of continuing the configuration process, despite the
distinct possibility that your kit is damaged, by typing 'y'es.  If you
do, don't blame me if something goes wrong.  I advise you to type 'n'o
and contact the author (<MAINTLOC>).

EOM
?X: Can't use $echo at this early stage
  echo $n "Continue? [n] $c" >&4
  read ans
  case "$ans" in
  y*)
   echo "Continuing..." >&4
   rm -f missing
   ;;
  *)
?X:
?X: Use kill and not exit, so that the trap gets executed to clean up
?X:
   echo "ABORTING..." >&4
   kill $$
   ;;
  esac
 else
  echo "Looks good..."
 fi
else
 echo "There is no MANIFEST file.  I hope your kit is complete !"
fi
rm -f missing x??

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Chk_MANI.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: install.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
```

```
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: install.U,v $
?RCS: Revision 3.0.1.2  1995/09/25  09:16:37  ram
?RCS: patch59: all possible install programs are now looked for
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:30:41  ram
?RCS: patch45: created
?RCS:
?MAKE:install installdir: Loc Oldconfig Getfile cat test startsh rm +cc \
 eunicefix package contains mkdir echo n c
?MAKE: -pick add $@ %<
?S:install:
?S: This variable contains the name of an install program that can accept
?S: BSD-style arguments.
 It must correctly support -c, -s, and -m at least.
?S: It is a fully qualified pathname when found. If you have a local
?S: install.SH file at the root directory of your package, it is assumed to
?S: be the default script emulating a BSD install and the variable will be
?S: set to ./install. Otherwise, it is set to plain 'install', relying on
?S: the user's PATH to perform miracles.
?S:.
?S:installdir:
?S: This variable contains the name of a program that can install nested
?S: directories. Often set to 'mkdir -p', it can also be 'install -d' if
?S: you have such a beast and lack the former. If you have an install.SH
?S: file at the root directory of your package, it will be used in last
?S: resort, setting the variable to './install -d'. Otherwise, it is set to
?S: plain 'mkdir', and cross your fingers!
?S:.
?T:dir file tryit prog creatdir either
?F:!tryinst
: locate a BSD compatible install program
echo " "
echo "Looking for a BSD-compatible install program..." >&4
@if installdir
creatdir="
@end
case
 "$install" in
")
 tryit="
 for dir in $pth; do
  for file in ginstall installbsd scoinst install; do
```

```
  if $test -f $dir/$file; then
   tryit="$tryit $dir/$file"
  fi
 done
done
 $cat >try.c <<EOC
int main()
{
 printf("OK\n");
 exit(0);
}
EOC
 if $cc -o try try.c >/dev/null 2>&1; then
  cp try try.ns
  strip try >/dev/null 2>&1
 else
  echo "(I can't seem to compile a trivial C program -- bypassing.)"
  echo "try" >try
  cp try try.ns
 fi
 $cat >tryinst <<EOS
$startsh
$rm -rf foo d
@if installdir
\$1 -d foo/bar
@end
$mkdir d
\$1 -c -m 764 try.ns d
\$1 -c -s -m 642 try.ns d/try
EOS
 chmod +x tryinst
 $eunicefix tryinst
 dflt="
 either="
 for prog in $tryit; do
  $echo $n "Checking $prog... $c"
  ./tryinst $prog >/dev/null 2>&1
@if installdir
  if $test -d foo/bar; then
   creatdir="$prog -d"
  fi
@end
  (ls -l d/try >try.ls; ls -l d/try.ns >tryno.ls) 2>/dev/null
  if (cmp -s d/try try && cmp -s d/try.ns try.ns && \
   $contains 'rwxrw-r--' tryno.ls &&
 \
   $contains 'rw-r---w-' try.ls) >/dev/null 2>&1
  then
```

```
  dflt="$prog"
  echo "ok, that will do."
  break
 fi
 echo "not good$either."
 either=' either'
 $rm -f try*.ls
done
$rm -rf foo d tryinst try try*.ls try.*
case "$dflt" in
")
@if {test -f ../install.SH}
 echo "Hopefully, $package comes with its own install script!"
 dflt='./install'
@else
 dflt='install'
@end
 ;;
esac
;;
*) dflt="$install";;
esac
$cat <<EOM

I will be requiring a BSD-compatible install program (one that allows
options like -s to strip executables or -m to specify a file mode) to
install $package.

If the question below contains a fully qualified default path, then it
is probably ok. If it is an unqualified name such as 'install', then it
means I was unable to find out a good install program I could use. If
@if {test -f ../install.SH}
you know of one, please tell me about it. If the default is './install',
then I shall be using the install script supplied with $package.
@else
you know of one,
 please tell me about it.
@end

EOM
@if {test -f ../install.SH}
fn='/fe~(install,./install)'
@else
fn='/fe~(install)'
@end
rp='Which install program shall I use?'
. ./getfile
install="$ans"
```

```
@if installdir
: how can we create nested directories?
echo " "
echo "Ok, let's see how we can create nested directories..." >&4
case "$installdir" in
")
?X: First time, maybe we already found out a working one in $creatdir above...
?X: Prefer "mkdir -p" because of bugs in GNU install when not running as root
 $mkdir -p foo/bar >/dev/null 2>&1
 if $test -d foo/bar; then
  echo "Great, we can build them using 'mkdir -p'."
  creatdir='mkdir -p'
 else
  case "$creatdir" in
  ")
   if eval "$install -d foo/bar"; $test -d foo/bar; then
    creatdir="install -d"
    echo "It looks like '$creatdir' will do it for us."
   fi
   ;;
  *)
   eval "$creatdir foo/bar" >/dev/null 2>&1
   if $test -d foo/bar; then
    echo "Ah! We can use '$creatdir' to do just that."
   else
    creatdir="
   fi
   ;;
  esac
 fi
 $rm
 -rf foo
 case "$creatdir" in
 ")
  echo "Heck! Another ancient system lacking the comfort of modern ones!"
@if {test -f ../install.SH}
  echo "You can thank $package for bringing you its own install script!"
  installdir='./install -d'
@else
  echo "We have no choice but to use plain old 'mkdir' -- wish me luck!"
  installdir=mkdir
@end
  ;;
 *) installdir="$creatdir";;
 esac
 ;;
*) echo "As you already told me, '$installdir' should work.";;
```

```
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/install.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: etc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: etc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:etc etcexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:etc:
?S: This variable holds the name of the directory in which the user wants
?S: to put "administrative" executable images for the package in question.
?S: It is most often a local directory such as /usr/local/etc. Programs
?S: relying on this variable must be prepared to deal with
 ~name
?S: substitutions.
?S:.
?S:etcexp:
?S: This is the same as the etc variable, but is filename expanded at
?S: configuration time, for convenient use in makefiles.
?S:.
: determine where administrative executables go
case "$etc" in
")
 dflt=`./loc . /local/etc /usr/local/etc /local/etc /usr/etc /etc`
 ;;
*)
 dflt="$etc"
 ;;
esac
fn=d~
rp='Where should the administrative executables go?'
. ./getfile
```

```
etc="$ans"
etcexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/etc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: h_fcntl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_fcntl.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_fcntl: Nothing
?MAKE: -pick add $@ %<
?S:h_fcntl:
?S: This is variable gets set in various places to tell i_fcntl that
?S: <fcntl.h> should be included.
?S:.
: Initialize h_fcntl
h_fcntl=false
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/h_fcntl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extract.U,v 3.0.1.2 1997/02/28 14:58:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
```

```
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running
 Configure from a remote directory ($src is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: src
?MAKE: -pick add $@ %<
?F:./extract
?T:PERL_CONFIG_SH dir file name create mkdir_p
: script used to extract .SH files with variable substitutions
cat >extract <<'EOS'
PERL_CONFIG_SH=true
echo "Doing variable substitutions on .SH files..."
if test -f MANIFEST; then
 set x `awk '{print $1}' < MANIFEST | grep '\.SH$'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$src"; find . -name "*.SH" -print)`
fi
shift
case $# in
0) set x `(cd "$src"; echo *.SH)`; shift;;
esac
if test ! -f "$src/$1"; then
 shift
fi
?X: script to emulate mkdir -p
mkdir_p='
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create";
  name=`echo $name | sed -e "s|^[^/]*$||"`;
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`;
 else
  name="";
 fi;
done;
```

```
for file in $create; do
 mkdir $file;
done
'
for file in $*;
 do
 case "$src" in
 ".")
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (cd "$dir" && . ./$file)
   ;;
  *)
   . ./$file
   ;;
  esac
  ;;
 *)
?X:
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to
 be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
?X:  -- RAM, 18/03/96
?X:
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (set x $dir; shift; eval $mkdir_p)
   sh <"$src/$dir/$file"
   ;;
  *)
   sh <"$src/$file"
   ;;
```

```
  esac
  ;;
 esac
done
if test -f "$src/config_h.SH"; then
 if test ! -f config.h; then
 : oops, they left it out of MANIFEST, probably, so do it anyway.
 . "$src/config_h.SH"
 fi
fi
EOS
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Extract.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: rename.C,v 3.0.1.1 1994/01/24 13:58:42 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
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*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: rename.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:42  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/rename.C
No license file was found, but licenses were detected in source scan.

```
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:     You may distribute under the terms of either the GNU General Public
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_portable.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/archlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/a_dvisory/multiarch.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/privlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/startperl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perlpath.U

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

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure proper semantics. -- RAM, 15/03/96
?X:
?MAKE:Extractall:
 Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
 esac
 echo " "
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
 test "$override" && . ./optdef.sh
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
```

```
 rm -rf UU
 echo "Extraction done."
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Extractall.U
No license file was found, but licenses were detected in source scan.

```
# $Id: makedepend.sh,v 3.0.1.1 1994/01/24 14:00:05 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
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#  as specified in the README file that comes with the distribution.
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#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedepend.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:05  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:37  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/makedepend.SH
No license file was found, but licenses were detected in source scan.

```
# $Id: errnolist.a,v 3.0 1993/08/18 12:04:35 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
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#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.a,v $
# Revision 3.0  1993/08/18 12:04:35  ram
```

```
# Baseline for dist 3.0 netwide release.
#
#
# This is a simple-minded awk script to generate an initialization for
# sys_errnolist on systems that don't have it.
# This file now depends only on sys/errno.h error numbers under maxerr being
# in order.  It will complain and die if not.  NOTE: It will still produce
# a compilable output file, even with errors, so you must
 check the output.
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.a
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasfield string that is used internally
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat st_blocks i_sysstat sys/stat.h
?X:  eval $hasfield
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat st_blocks $hdrs
?X: eval $hasfield
?X:
?MAKE:Hasfield: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct field
?V:hasfield
: Define hasfield macro for Configure internal use
hasfield='varname=$1;
 struct=$2; field=$3; shift; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
```

```
done > try.c;
echo "int main () { struct $struct foo; char* bar; bar = (char*)foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasfield.U
No license file was found, but licenses were detected in source scan.

```
# $Id: makedir.sh,v 3.0.1.1 1994/01/24 14:00:08 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
#  You may redistribute only under the terms of the Artistic Licence,
#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedir.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:08  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:38  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/makedir.SH
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: that same Artistic License; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so: test libpth Loc Myread Oldconfig cat
?MAKE: -pick add $@ %<
?S:so:
?S: This variable holds the extension used to identify
 shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?T: xxx
: compute shared library extension
case "$so" in
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
  dflt='sl'
 else
  dflt='so'
 fi
 ;;
*) dflt="$so";;
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
of this configuration.

EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/so.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4  1995/07/25  13:36:29  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3  1995/05/12  12:00:33  ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/31  09:34:13  ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:00:05  ram
?RCS:
 patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym: Options contains libc libs runnm +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?LINT:define csym
?LINT:use libc
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: wether a given C symbol is defined or not. A typical use is:
?S:  set symbol result [-fva] [previous]
?S:  eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?V:csym
?T:tval tx tlook tf tdc tc
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tc=""; tdc="";;
```

```
-a) tf=libc.tmp; tc="[0]"; tdc="[]";;
*) tlook="^$1\$";
 tf=libc.list; tc=""; tdc="()";;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
case "$tx" in
yes)
 case "$runnm" in
 true)
  if $contains $tlook $tf >/dev/null 2>&1;
  then tval=true;
  else tval=false;
  fi;;
 *)
?X:
?X: We use 'char' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'char' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lifes so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the
 compile test, in case the 'char'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
?X: Lastly, gcc 3.4 otimizes &missing == 0 away, so we use + 2 instead now.
?X: The GNU folks like to do weird things, don't they? -- RAM, 2004-06-05
?X:
  echo "extern char $1$tdc; int main() { return &$1$tc + 2; }" > t.c;
  if $cc $ccflags $ldflags -o t t.c $libs >/dev/null 2>&1;
  then tval=true;
  else tval=false;
  fi;
  $rm -f t t.c;;
 esac;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;;
```

```
esac;
eval "$2=$tval"'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Csym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: MailAuthor.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailAuthor.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  15:04:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:05:09  ram
?RCS: patch32: avoid message sending if they said no previously
?RCS:
?RCS: Revision 3.0.1.3  1993/10/16  13:47:30  ram
?RCS: patch12: now makes sure user-specified address is in Internet format
?RCS:
?RCS: Revision
 3.0.1.2  1993/09/13  15:48:49  ram
?RCS: patch10: reverted to original intent by the Author himself
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:38:38  ram
?RCS: patch7: now prompts user for its e-mail address
?RCS: patch7: no longer silent when mail has been sent
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:06  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?RCS:
?X:
?X: This unit asks the user to please send a message to the author.
?X: To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: This allows a smart mailagent program to automatically let users know
?X: when their package is out of date, and to allow users to be notified of
?X: any future patches.
```

```
?X:
?MAKE:MailAuthor mailpatches notifypatches usermail: test cat mailer \
 package Myread patchlevel baserev rm rsrc Oldconfig Configdir
?MAKE: -pick wipe $@ %<
?S:mailpatches:
?S: Indicates whether the user would like future patches to be mailed
?S: directly
 to them.
?S:.
?S:notifypatches:
?S: Indicates whether the user would like notification of future patches
?S: mailed to them.
?S:.
?S:usermail:
?S: This variable is used internally by Configure to keep track of the
?S: user e-mail address, where notifications or patches should be sent.
?S: A '-' value means the return address will be extracted by parsing
?S: the mail headers.
?S:.
?T:opt mailpatches notifypatches atsh status
: notify author that his package is used
if $test -f ../.config/mailauthor &&
 cmp $rsrc/patchlevel.h ../.config/mailauthor >/dev/null 2>&1
then
 status="say that you're using $package";
 case "$mailpatches" in
 true) status='have patches mailed to you as they are issued';;
 esac
 case "$notifypatches" in
 true) status='be notified when new patches are issued';;
 esac
 $cat <<EOM

You have already sent the author of $package (<MAINTLOC>) mail to
$status. If you wish, you may modify
your previous request by sending a new mail with different options.

EOM
 rp='Should
 I send a status update to <MAINTLOC>?'
 dflt=n
else
 $cat <<EOM

If you are able to send mail to the Internet, the author of $package would
really appreciate you letting me send off a quick note, just to say that you've
tried it. The author is more likely to spend time maintaining $package if it's
known that many people are using it, and you can even ask to get sent new
```

```
patches automagically this way if you wish. To protect your privacy, all I'll
say in the mail is the version of $package that you're using.

EOM
 rp='Should I send mail to <MAINTLOC>?'
 dflt=y
?X: Ensure default is 'n' if question has been asked already, in case they
?X: run Configure -d next time and answered 'n' the first time. Therefore,
?X: an empty nomail will be created later on even if no mail is sent.
 $test -f ../.config/nomail && dflt=n
fi
. ./myread
case "$ans" in
[yY]*)
 echo " "
 echo "Great! Your cooperation is really appreciated."
 $cat <<EOM

Some braindead sites do not set a proper return
 address in the From: header of
their outgoing mail, making it impossible to reply to mail they generate.
If your site is broken in this way, write to your system administrator and get
it fixed!!! In the mean time, you can manually specify the Internet e-mail
address by which the author can get back to you, should there be a need to do
so. If manually specified, it should be something like "user@domain.top".
If your mail system generates addresses correctly, specify "none".

EOM
 case "$usermail" in
 '-'|'') dflt=none;;
 *) dflt="$usermail";;
 esac
 rp='Manually specify a return address to use:'
 . ./myread
 case "$ans" in
 none|*@*.*)
  case "$ans" in
  none) usermail='-';;
  *) usermail="$ans";;
  esac
  ;;
 *)
  echo "(Address does not look like an Internet one -- ignoring it.)"
?X:
?X: If we can't trust their mailer or their return address, it's highly
?X: suggested that they only register and don't ask to get anything from
?X: the author, since it's likely to bounce in null-land --
```

```
 RAM.
?X:
  usermail='-'
  mailpatches=false
  notifypatches=false
  ;;
 esac
 echo " "
 opt=''
 rp='Would you like to have new patches automatically mailed to you?'
 case "$mailpatches" in
 true) dflt=y;;
 *) dflt=n;;
 esac
 . ./myread
 case "$ans" in
 [yY]*) opt=' mailpatches'; mailpatches=true;;
 *)
  mailpatches=false
  echo " "
  rp='Ok, would you like to simply be notified of new patches?'
  case "$notifypatches" in
  false) dflt=n;;
  *) dflt=y;;
  esac
  . ./myread
  echo " "
  case "$ans" in
  [yY]*) opt=' notifypatches'; notifypatches=true;;
  *)
   echo "Fine, I'll simply say that you've tried it then."
   notifypatches=false
   ;;
  esac
  ;;
 esac
 echo "Sending mail to <MAINTLOC>..." >&4
?X: Bizarre hack here. We can't just put @SH in the hereis lines below, because
?X: metaconfig will interpret it as a command, and there's no quoting mechanism.
?X: Do it via a variable instead.
 atsh='@SH'
 $mailer <MAINTLOC> <<EOM >/dev/null 2>&1
Subject: Command
Precedence: junk
To: <MAINTLOC>

$atsh
```

```
 package $usermail $package $baserev $patchlevel$opt
EOM
 $rm -f ../.config/mailauthor ../.config/nomail
 cp $rsrc/patchlevel.h ../.config/mailauthor
 ;;
*)
 case "$dflt" in
 "y")
  echo "Oh well, maybe next time."
  cp /dev/null ../.config/nomail
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/MailAuthor.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: yacc.U,v 3.0.1.1 1994/05/13 15:28:48 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1  1994/05/13  15:28:48  ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:10:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Oldconfig byacc bison cat test _exe
?MAKE: -pick add $@ %<
?S:yacc:
?S: This variable holds the name of the compiler compiler we
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.
?S:.
?S:yaccflags:
?S: This
 variable contains any additional yacc flags desired by the
?S: user.  It is up to the Makefile to use this.
?S:.
?T:comp
```

```
: determine compiler compiler
case "$yacc" in
")
 dflt=yacc;;
*)
 dflt="$yacc";;
esac
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 dflt="$byacc"
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"
fi
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behavior.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH

Your yacc program may need extra flags to normally process the parser sources.
Do NOT specify any -d or -v flags here, since those are explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the
 maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
```

```
. ./myread
case "$ans" in
none) yaccflags="";;
*) yaccflags="$ans";;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/yacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: usenm.U,v 3.0.1.1 1997/02/28 16:26:40 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:26:40  ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig myuname grep \
 nm d_gnulibc osname egrep rsrc
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending
 whether the
?S: nm extraction is wanted or not.
?S:.
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
```

```
?S: to work on a shared library but that can not be used on an
?S: archive library.  Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
?X: Don't bother if we're
 using GNU libc -- skimo
?LINT:extern PASE
case "$usenm" in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "nm probably won't work on the GNU C Library." >&4
  dflt=n
  ;;
 esac
 case "$dflt" in
 ")
  if $test "$osname" = aix -a "X$PASE" != "Xdefine" -a ! -f /lib/syscalls.exp; then
   echo " "
   echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
   echo "'nm' won't be sufficient on this system." >&4
   dflt=n
  fi
  ;;
 esac
 case "$dflt" in
 ") dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
  if $test $dflt -gt 20; then
   dflt=y
  else
   dflt=n
  fi
  ;;
 esac
 ;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
 *) dflt=n;;
 esac
```

```
 ;;
esac
$cat <<EOM

I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the 'nm' extraction part and to compile a small
test
 program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

You probably shouldn't let me use 'nm' if you are using the GNU C Library.

EOM
rp="Shall I use $nm to extract C symbols from the libraries?"
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt='' # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p' # Solaris (and SunOS?)
 elif $test -f /dgux; then
  nm_opt='-p' # DG-UX
 elif $test -f /lib64/rld; then
  nm_opt='-p' # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

: nm options which may be necessary for shared libraries but illegal
: for archive
```

```
 libraries.  Thank you, Linux.
case "$nm_so_opt" in
") case "$myuname" in
 *linux*|gnu*)
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
  fi
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/usenm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun like everybody
?RCS: patch54: can now grok
 linux nm output with lead __IO (ADO)
?RCS: patch54: added support for linux ELF output, using 'W' for alias (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1994/10/29  16:23:40  ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1994/08/29  16:28:10  ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
```

```
?RCS: Revision 3.0.1.5  1994/06/20  07:03:24  ram
?RCS: patch30: checks are now presented by succession of if/elif
?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  15:06:33  ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:12:17  ram
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2  1993/09/13  16:09:03  ram
?RCS: patch10: added special handling for Apollo systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1
  1993/08/27  14:40:03  ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libc libnames +nm_extract: echo n c rm test grep Getfile Myread \
 Oldconfig Loc sed libs incpath libpth ar runnm nm nm_opt nm_so_opt \
 contains xlibpth so osname trnl tr sort uniq _o _a
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:libnames:
?S: The constructed list of library names.  Normally empty, but hint files
?S: may set this for later perusal by Configure.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp
?LINT:change nm_opt runnm
?INIT:libnames="
: Figure out where the libc is located
case
 "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
: get list of predefined functions in a handy place
echo " "
case "$libc" in
```

```
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
 -lc|-lc_s)
  : Handle C library specially below.
  ;;
 -l*)
  thislib=`echo $thislib | $sed -e 's/^-l//'`
  if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
   :
  else
   try=''
  fi
  libnames="$libnames $try"
  ;;
 *) libnames="$libnames $thislib"
 ;;
 esac
 done
 ;;
esac
?X:
?X: Some systems (e.g. DG/UX) use "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
```

```
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
?X: part is removed after sorting. Nice efficient work
 from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set /usr/ccs/lib/libc.$so
 $test -r $1 || set /lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
 libc="$1"
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
?X:
 echo
```

```
 "Your C library seems to be in both /lib/clib and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick
 $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
 cat <<EOM

If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.

EOM
else
```

```
 dflt=''
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:

EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...

EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
set X `cat libnames`
shift
xxx=files
case
 $# in 1) xxx=file; esac
echo "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
done >libc.tmp

$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
```

```
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval
 "<libc.tmp $com >libc.list"; echo "done." >&4'
?X: BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
?X: HPUX10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
xxx='[ADTSIW]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *_[_.]*//p' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval
 $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
```

```
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null
 2>&1; then
  eval $xrun
?X: OS/2 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[        ]*D[     ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
  echo "$nm didn't seem to work right. Trying $ar instead..." >&4
  com="
  if $ar t $libc > libc.tmp && \
   $contains '^fprintf$' libc.tmp >/dev/null 2>&1
  then
   for thisname in $libnames $libc; do
    $ar t $thisname >>libc.tmp
   done
   $sed
```

```
 -e "s/\\$_o\$//" < libc.tmp > libc.list
   echo "Ok." >&4
  elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
   for thisname in $libnames $libc; do
    $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
    $rm -f tmp.imp
   done
   $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
   echo "Ok." >&4
  else
   echo "$ar didn't seem to work right." >&4
   echo "Maybe this is a Cray...trying bld instead..." >&4
   if
    bld t $libc | \
     $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
    $test -s libc.list
   then
    for thisname in $libnames; do
     bld t $libnames | \
     $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
     $ar t $thisname >>libc.tmp
    done
    echo
 "Ok." >&4
   else
    echo "That didn't work either." >&4
    echo "No problem, I'll be compiling test programs then..." >&4
    runnm=false
   fi
  fi
 fi
fi
nm_extract="$com"
if $test -f /lib/syscalls.exp; then
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
fi
?X: remember, indentation is wrong on purpose--RAM
;;
```

esac
$rm -f libnames libpath

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libc.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.0.1.1 1997/02/28 16:10:34 ram
?RCS: patch61: created
?RCS:
?X:
?X: This was originally specific to perl5. Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir. This unit is basically dist's mansrc.U with
?X: man3 used instead of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir
 man3direxp man3ext installman3dir: afs cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile prefix Prefixit Prefixup \
 d_flexfnam privlib Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put. It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using

```
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual
 page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
?S:.
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 '') man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 '') man3dir="none";;
 esac;;
esac

echo "If you don't want the manual sources installed, answer 'none'."
?X: We dont use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with TCL man pages.
?X: However, something like /opt/perl/man/man3
 is fine.
case "$man3dir" in
'') case "$prefix" in
 *$package*) dflt=`echo $man1dir |
```

```
   $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'` ;;
 *) dflt="$privlib/man/man3" ;;
 esac
 ;;
' ') dflt=none;;
*) dflt="$man3dir" ;;
esac
echo " "

fn=dn+~
rp="Where do the $package library man pages (source) go?"
. ./getfile
if test "X$man3direxp" != "X$ansexp"; then
 installman3dir="
fi

man3dir="$ans"
man3direxp="$ansexp"
case "$man3dir" in
") man3dir=' '
 installman3dir="";;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installman3dir" in
 ") dflt=`echo $man3direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman3dir";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman3dir="$ans"
else
 installman3dir="$man3direxp"
fi

: What suffix
 to use on installed man pages

case "$man3dir" in
' ')
 man3ext='0'
```

```
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 '') case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/man3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
```

```
?X: special symbols: defines from patchlevel.h file if any and CONFIG,
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint file or a previous config.sh file.
?X:
?MAKE:Oldsym:
 Config_sh Options test hint src sed sort uniq
?MAKE: -pick add $@ %<
?T:CONFIG sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "CONFIG=true" >>config.sh

: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh |\
  $sort | $uniq -u >UU/oldsyms
 set X `cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  cat <<EOM
Hmm...You had some extra variables I don't know about...I'll
 try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
  for sym in `cat UU/oldsyms`; do
   echo "    Propagating $hint variable '"$"$sym..."
   eval 'tmp="$"${sym}""""'
   echo "$tmp" | \
    sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
  done
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Oldsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Chk_whoami.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_whoami.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit makes sure we don't try to include whoami.h if uname() exists.
?X:
?MAKE:Chk_whoami: d_uname i_whoami
?MAKE: -pick add $@ %<
?LINT:change i_whoami
: weed out incompatibilities
case "$d_uname" in
 "$define") i_whoami="$undef" ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Chk_whoami.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: installprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: installprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
```

```
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:installprefix installprefixexp: Getfile Loc \
 Oldconfig afs cat package prefix
?MAKE: -pick add $@ %<
?S:installprefix:
?S: This variable holds the name of the directory below which
?S: "make install" will install the package.  For most users, this
?S: is the same
 as prefix.  However, it is useful for
?S: installing the software into a different (usually temporary)
?S: location after which it can be bundled up and moved somehow
?S: to the final location specified by prefix.
?S:.
?S:installprefixexp:
?S: This variable holds the full absolute path of installprefix
?S: with all ~-expansion done.
?S:.
: determine installation prefix for where package is to be installed.
if $afs; then
$cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
files will reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installprefix" in
 '') dflt=`echo $prefix | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installprefix";;
 esac
else
$cat <<EOM

In some special cases, particularly when building $package for distribution,
it is convenient to distinguish the directory in which files should be
installed from the directory ($prefix) in which they will
eventually
 reside.  For most users, these two directories are the same.

EOM
 case "$installprefix" in
 '') dflt=$prefix ;;
 *) dflt=$installprefix;;
 esac
fi
fn=d~
```

```
rp='What installation prefix should I use for installing files?'
. ./getfile
installprefix="$ans"
installprefixexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/installprefix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?X:
?X: Useless unit dropped.  Use randfunc instead.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/randbits.U
No license file was found, but licenses were detected in source scan.

```
# Yes, you may rip this off to use in other distribution packages. This
# script belongs to the public domain and cannot be copyrighted.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Head.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Head.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cc.U,v $
?RCS: Revision 3.0.1.4  1995/05/12  12:06:47  ram
```

```
?RCS: patch54: may now abort Configure when cc does not work
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:20:11  ram
?RCS: patch45: changed gcc checking message to a more explicit one (WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:04:29  ram
?RCS: patch36: detect gcc even when not called as 'gcc' (ADO)
?RCS: patch36: simplified gcc version checking (ADO)
?RCS: patch36: added ?F: line for metalint
 file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:26:06  ram
?RCS: patch23: added support for gcc version (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:30  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cc: Myread Oldconfig Checkcc test
?MAKE: -pick add $@ %<
?S:cc:
?S: This variable holds the name of a command to execute a C compiler which
?S: can resolve multiple global references that happen to have the same
?S: name.  Usual values are 'cc' and 'gcc'.
?S: Fervent ANSI compilers may be called 'c89'.  AIX has xlc.
?S:.
?F:!cc.cbu
?D:cc='cc'
: Determine the C compiler to be used
echo " "
case "$cc" in
") dflt=cc;;
*) dflt="$cc";;
esac
rp="Use which C compiler?"
. ./myread
cc="$ans"

: See whether they have no cc but they do have gcc
. ./trygcc
?X: Look for a hint-file generated 'call-back-unit'.  Now that the
?X: user has specified the compiler, we may need to set or change some
?X: other defaults.
if $test -f cc.cbu; then
   . ./cc.cbu
fi
. ./checkcc

Found
```

in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Instruct.U,v 3.0.1.3 1997/02/28 15:02:55 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for
 dist 3.0 netwide release.
?RCS:
?X:
?X: This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Myread Configdir Devel contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
```

```
 dflt=n
 . ./myread
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
fi
if $needman; then
 cat <<EOH

This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a
 command.  Many of the questions will have default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that.  Questions where this is
allowed will be marked "(~name ok)".

EOH
 rp=''
 dflt='Type carriage return to continue'
 . ./myread
 cat <<'EOH'

The prompter used in this script allows you to use shell variables and
backticks in your answers.  You may use $1, $2, etc...  to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell.  This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Every time there is a substitution, you will have to confirm.  If there is an
error (e.g. an unmatched backtick), the default answer
 will remain unchanged
and you will be prompted again.

If you are in a hurry, you may run 'Configure -d'.  This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
 . ./myread
 cat <<EOH
```

Much effort has been expended to ensure that this shell script will run on any
Unix system. If despite that it blows up on yours, your best bet is to edit
Configure and run it again. If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand. Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
  in this kit.
2) it builds a config.h file for inclusion in
 C programs. You may edit
  any of these files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently. The easiest thing to do is to edit config.sh and rerun all the SH
files. Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
 dflt='Type carriage return to continue'
 . ./myread
 case "$firsttime" in
 true) echo $user >>../.config/instruct;;
 esac
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Instruct.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Typedef.U,v 3.0.1.3 1995/07/25 13:42:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3 1995/07/25 13:42:07 ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2 1994/10/29 16:01:16 ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead

```
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:05:14  ram
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef
 val_t default [includes]
?X: eval $typedef
?X:
?MAKE:Typedef: cppstdin cppminus cppflags rm sed contains Oldconfig Myread
?MAKE: -pick add $@ %<
?LINT:define typedef
?LINT:define typedef_ask
?V:typedef typedef_ask
?S:typedef:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?S:typedef_ask:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not.  If it is not defined,
?S: this will call the ./myread script to prompt for an answer.
?S: It is intended to be used to avoid unnecessary prompts.
?S: A typical use is
?S:  rp="What is the type for file position used by fsetpos()?"
?S:  set fpos_t fpostype long stdio.h sys/types.h
?S:  eval $typedef_ask
?S: This
 will set fpostype=fpos_t, if fpos_t is available.  Otherwise
?S: it will call myread with a default of 'long', and a prompt of $rp.
?S:.
?T:type var def inclist varval inc
?F:!temp.c
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
```

```
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'

?X: Originally, I eval'd $typedef and then checked the results against
?X: $type.  Unfortunately, it then became complicated to check
?X: whether you are re-using
 an old config.sh value, and the logic got
?X: so convoluted it became easier to just copy the function above
?X: and alter it slightly.  A.D.  3/1998
: define an is-a-typedef? function that prompts if the type is not available.
typedef_ask='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 echo " " ;
 echo "$rp" | $sed -e "s/What is/Looking for/" -e "s/?/./";
 if $contains $type temp.E >/dev/null 2>&1; then
  echo "$type found." >&4;
  eval "$var=\$type";
 else
  echo "$type NOT found." >&4;
```

```
 dflt="$def";
 . ./myread ;
 eval "$var=\$ans";
fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'
```

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/Typedef.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  13:42:07  ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:01:16  ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:05:14  ram
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef val_t default [includes]
?X: eval $typedef
?X:
?MAKE:Typedef:
 cppstdin cppminus cppflags rm contains Oldconfig
?MAKE: -pick add $@ %<
?F:!temp.c
?LINT:define typedef
?V:typedef
?S:typedef:
?S: This shell variable is used internally by Configure to check
```

```
?S: wether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?T:type var def inclist varval inc
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval
 "$var=\$varval";;
esac'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Typedef.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_passwd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_passwd.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:37:21  ram
```

?RCS: patch61: useless unit dropped.
?RCS:
?RCS: Revision 3.0.1.1 1994/08/29 16:09:51 ram
?RCS: patch32: created by ADO
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_passwd.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: afs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: afs.U,v $
?RCS: Revision 3.0.1.2 1997/02/28 15:23:06 ram
?RCS: patch61: can now explicitly tell Configure whether AFS is running
?RCS:
?RCS: Revision 3.0.1.1 1993/08/24 12:24:43 ram
?RCS: patch3: created
?RCS:
?MAKE:afs afsroot: test
?MAKE: -pick add $@ %<
?S:afs:
?S: This variable is set to 'true' if AFS (Andrew File System) is used
?S: on the system, 'false' otherwise. It is possible to override this
?S: with a hint value or command line option,
 but you'd better know
?S: what you are doing.
?S:.
?S:afsroot:
?S: This variable is by default set to '/afs'. In the unlikely case
?S: this is not the correct root, it is possible to override this with
?S: a hint value or command line option. This will be used in subsequent
?S: tests for AFSness in the configure and test process.
?S:.
: allow them to override the AFS root
case "$afsroot" in

```
") afsroot=/afs ;;
*) afsroot=$afsroot ;;
esac

: is AFS running?
echo " "
case "$afs" in
$define|true) afs=true ;;
$undef|false) afs=false ;;
*) if $test -d $afsroot; then
  afs=true
 else
  afs=false
 fi
 ;;
esac
if $afs; then
 echo "AFS may be running... I'll be extra cautious then..." >&4
else
 echo "AFS does not seem to be running..." >&4
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/afs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libdbm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libdbm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:56:57  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libdbm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libdbm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the dbm library routines.  If there is no dbm or ndbm
```

```
?S: library, it is null.
?S:.
?T:xxx
:
 see if we should include -ldbm
echo " "
if $test -r /usr/lib/libndbm$_a || $test -r /usr/local/lib/libndbm$_a ; then
 echo "-lndbm found." >&4
 libdbm='-lndbm'
elif $test -r /usr/lib/libdbm$_a || $test -r /usr/local/lib/libdbm$_a ; then
 echo "-ldbm found." >&4
 libdbm='-ldbm'
else
 xxx=`./loc libdbm$_a x $libpth`
 case "$xxx" in
 x)
  echo "No dbm library found." >&4
  libdbm=''
  ;;
 *)
  echo "DBM library found in $xxx." >&4
  libdbm="$xxx"
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libdbm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libflex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libflex.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:57:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:07:02  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:25  ram
```

```
?RCS: patch16: un-obsoleted this unit to allow smooth lex/flex compilations
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:59  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:libflex: Loc lex libpth _a
?MAKE: -pick add $@ %<
?S:libflex:
?S: This variable contains the argument to pass to the loader in order
?S: to get the flex/lex library routines.  If there is no flex or flex
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -lfl
echo " "
case "$lex" in
*flex)
 xxx=`./loc libfl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No flex library found." >&4
  libflex="
  ;;
 *)
  echo "flex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*lex)
 xxx=`./loc libl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No lex library found." >&4
  libflex="
  ;;
 *)
  echo "lex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*)
echo "You don't seem to have lex or flex, so I won't look for libraries." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libflex.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1 1997/02/28 15:20:06 ram
?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _a _o firstmakefile archobjs: Oldconfig
?MAKE: -pick add $@ %<
?S:_a (lib_ext):
?S: This variable defines the extension
 used for ordinary libraries.
?S: For unix, it is '.a'. The '.' is included. Other possible
?S: values include '.lib'.
?S:.
?S:_o (obj_ext):
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'. The '.' is included. Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make. On unix,
?S: it is makefile (then Makefile). On case-insensitive systems,
?S: it might be something else. This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture. On unix, it is usually
?S: empty. It is typically used to include emulations of unix calls

```
?S: or other facilities.  For perl on OS/2, for example, this would
?S: include os2/os2.obj.
?S:.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files
 or command line option can be used to override them.
case "$_a" in
") _a='.a';;
esac
case "$_o" in
") _o='.o';;
esac

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
") firstmakefile='makefile';;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: You may distribute under the terms of either the GNU General Public
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sigsetjmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sigsetjmp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libpth.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:08:49  ram
?RCS: patch61: new loclibpth variable
```

```
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:31:30  ram
?RCS: patch45: call ./mips instead of just mips (WED)
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:29:15  ram
?RCS: patch32: added /lib/pa1.1 for HP-UX specially tuned PA-RISC libs (ADO)
?RCS: patch32: fixed information message, making it clearer (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:03:54  ram
?RCS: patch30: added /usr/shlib to
 glibpth for shared-only libraries
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:26:57  ram
?RCS: patch27: fixed a typo (libpth -> glibpth)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:07:53  ram
?RCS: patch23: now asks for library directories to be searched (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit initializes the path for C library lookup.
?X:
?MAKE:libpth glibpth xlibpth plibpth loclibpth: \
 usrinc incpath test cat Myread Oldconfig
?MAKE: -pick add $@ %<
?S:libpth:
?S: This variable holds the general path (space-separated) used to find
?S: libraries. It is intended to be used by other units.
?S:.
?S:glibpth:
?S: This variable holds the general path (space-separated) used to
?S: find libraries.  It may contain directories that do not exist on
?S: this platform, libpth is the cleaned-up version.
?S:.
?S:xlibpth:
?S: This variable holds extra path (space-separated) used to find
?S: libraries on this platform,
 for example CPU-specific libraries
?S: (on multi-CPU platforms) may be listed here.
?S:.
?S:loclibpth:
?S: This variable holds the paths (space-separated) used to find local
?S: libraries.  It is prepended to libpth, and is intended to be easily
?S: set from the command line.
?S:.
?S:plibpth:
```

```
?S: Holds the private path used by Configure to find out the libraries.
?S: Its value is prepend to libpth. This variable takes care of special
?S: machines, like the mips.  Usually, it should be empty.
?S:.
?T: xxx dlist
?LINT:use usrinc
?INIT:: change the next line if compiling for Xenix/286 on Xenix/386
?INIT:xlibpth='/usr/lib/386 /lib/386'
?INIT:: Possible local library directories to search.
?INIT:loclibpth="/usr/local/lib /opt/local/lib /usr/gnu/lib"
?INIT:loclibpth="$loclibpth /opt/gnu/lib /usr/GNU/lib /opt/GNU/lib"
?INIT:
?INIT:: general looking path for locating libraries
?INIT:glibpth="/lib /usr/lib $xlibpth"
?INIT:glibpth="$glibpth /usr/ccs/lib /usr/ucblib /usr/local/lib"
?X: /shlib
 is for Digital Unix 4.0
?X: /usr/shlib is for OSF/1 systems.
?INIT:test -f /usr/shlib/libc.so && glibpth="/usr/shlib $glibpth"
?INIT:test -f /shlib/libc.so     && glibpth="/shlib $glibpth"
?INIT:
?INIT:: Private path used by Configure to find libraries.  Its value
?INIT:: is prepended to libpth. This variable takes care of special
?INIT:: machines, like the mips.  Usually, it should be empty.
?INIT:plibpth="
?INIT:
: Set private lib path
case "$plibpth" in
") if ./mips; then
?X: on mips, we DO NOT want /lib, and we want $incpath/usr/lib
  plibpth="$incpath/usr/lib /usr/local/lib /usr/ccs/lib"
 fi;;
esac
case "$libpth" in
' ') dlist="";;
") dlist="$loclibpth $plibpth $glibpth";;
*) dlist="$libpth";;
esac

: Now check and see which directories actually exist, avoiding duplicates
libpth="
for xxx in $dlist
do
   if $test -d $xxx; then
  case " $libpth " in
  *" $xxx "*) ;;
  *) libpth="$libpth $xxx";;
  esac
```

```
   fi
done
$cat <<'EOM'

Some systems have incompatible or broken versions
 of libraries.  Among
the directories listed in the question below, please remove any you
know not to be holding relevant libraries, and add any that are needed.
Say "none" for none.

EOM
case "$libpth" in
'') dflt='none';;
*)
?X: strip leading space
 set X $libpth
 shift
 dflt=${1+"$@"}
 ;;
esac
rp="Directories to use for library searches?"
. ./myread
case "$ans" in
none) libpth=' ';;
*) libpth="$ans";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libpth.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Warn_v7EXT.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7EXT.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:42  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?X:
?X: This unit issues warnings to V7 sites that they are living dangerously.
?X: This unit needs to get mentioned in End.U to get included.
?X:
?MAKE:Warn_v7EXT: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7;
 then
 cat <<EOM

NOTE: the V7 compiler may ignore some #undefs that $package uses.  If so,
you may get messages about redefining EXT.  Some V7 compilers also have
difficulties with #defines near buffer boundaries, so beware.  You may have
to play with the spacing in some .h files, believe it or not.
EOM
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn_v7EXT.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Warn.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?X:
?X: This unit produces a shell script which can be run in order to emit
?X: an important warning to the user, which will be remembered and shown
?X: at the end of the Configure run as well.
?X:
?X: A typical use would be:
?X:
?X:  ./warn <<EOM
?X:  Problem with your C compiler: can't turn debugging on.
?X:  EOM
?X:
?X: or:
?X:
?X:  ./warn "Problem with your C compiler: can't turn debugging on."
?X:
```

```
?X: Which will both display to the user:
?X:
?X:  ***
 WARNING:
?X:  *** Problem with your C compiler: can't turn debugging on.
?X:  ***
?X:
?MAKE:Warn: startsh eunicefix
?MAKE: -pick add $@ %<
?F:./warn
: script used to emit important warnings
cat >warn <<EOS
$startsh
?X: Read the whole warning message from stdin into a temporary file
?X: when no argument was supplied.
if test \$# -gt 0; then
 echo "\$@" >msg
else
 cat >msg
fi
?X: Emit the warning, prefixing all lines with '*** '
echo "*** WARNING:" >&4
sed -e 's/^/*** /' <msg >&4
echo "*** " >&4
?X: Save the warning in the logs, which will be shown again at the end
cat msg >>config.msg
echo " " >>config.msg
rm -f msg
EOS
chmod +x warn
$eunicefix warn
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: baserev.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: baserev.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:24  ram
```

?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:baserev: Null
?MAKE: -pick wipe $@ %<
?S:baserev:
?S: The base revision level of this package, from the .package file.
?S:.
: set the base revision
baserev=<BASEREV>

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/baserev.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Myread.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myread.U,v $
?RCS: Revision 3.0.1.6 1997/02/28 15:05:39 ram
?RCS: patch61: myread script now starts with a "startsh"
?RCS: patch61: miscellaneous fixes
?RCS:
?RCS: Revision 3.0.1.5 1995/01/11 15:14:22 ram
?RCS: patch45: added & escape allowing user to turn on -d from the prompt
?RCS:
?RCS: Revision 3.0.1.4 1994/10/31 09:48:04 ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.3 1994/10/29
 15:56:20 ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.2 1993/08/30 08:57:59 ram
?RCS: patch8: added new visible 'nostick' symbol, mainly for Finish.U
?RCS:
?RCS: Revision 3.0.1.1 1993/08/27 14:39:20 ram
?RCS: patch7: now sticks to the question when no default and empty answer
?RCS:
?RCS: Revision 3.0 1993/08/18 12:05:08 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:

```
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to do a read.  It allows for shell escapes, default assignment and
?X: parameter evaluation.
?X:
?X: To use this unit, $rp and $dflt must hold the question and the
?X: default answer. The question will be printed by the script itself.
?X: Neither $rp nor $dflt is altered by the script.
?X:
?X: The myread script will stick to the question if no default is proposed
?X: and the user answer is empty, which prevents mistakes. However, at the
?X: end of Configure, there is an exception
 to this rule (Finish.U) where we
?X: set nostick to a non-empty value to allow the Return key to play its role!
?X:
?MAKE:Myread: Options startsh n c trnl
?MAKE: -pick add $@ %<
?V:ans:dflt rp nostick
?F:./myread
?T:COLUMNS xxxm rp dflt answ aok myecho
?LINT:change fastread
?X: Some shells (Ultrix) do not understand ${COLUMNS:-80}, sigh!
: compute the number of columns on the terminal for proper question formatting
case "$COLUMNS" in
'') COLUMNS='80';;
esac

: set up the echo used in my read
?X:
?X: This variable is intended to be eval'ed. It will echo the two
?X: variables $rp and $dflt (provided this latter has a non null value).
?X: It is mainly used by the myread script to echo the questions.
?X:
?X: The $n and $c below are substituted before Loc does its silly echo check
?X: so don't put a $ on the echo below so we get builtin, even if $echo is
?X: pointing to /bin/echo.
?X:
myecho="case \"\$xxxm\" in
'') echo $n \"\$rp $c\" >&4;;
*) case \"\$rp\" in
 '') echo $n \"[\$xxxm] $c\";;
 *)
  if
 test \`echo \"\$rp [\$xxxm]  \" | wc -c\` -ge $COLUMNS; then
   echo \"\$rp\" >&4
   echo $n \"[\$xxxm] $c\" >&4
  else
   echo $n \"\$rp [\$xxxm] $c\" >&4
```

```
  fi
  ;;
 esac;;
esac"

: now set up to do reads with possible shell escape and default assignment
cat <<EOSC >myread
$startsh
?X:
?X: Save value of default -- do not alter original in case of eval
?X:
xxxm=\$dflt
$myecho
?X:
?X: If there is no default, then stop, regardless of the value in fastread.
?X: In silent mode, no new-line is to be echoed if the question is empty,
?X: since this is used to wait for the "return" key.
?X:
ans='!'
case "\$fastread" in
yes) case "\$dflt" in
 '') ;;
 *) ans='';
  case "\$silent-\$rp" in
  true-) ;;
  *) echo " " >&4;;
  esac;;
 esac;;
*) case "\$silent" in
 true) case "\$rp" in
  '') ans='';;
  esac;;
 esac;;
esac
while expr "X\$ans" : "X!" >/dev/null; do
 read answ
?X:
?X: Run 'eval' on the answer, in order to do variable substitution, in case
?X: the user types $HOME or $WHATEVER.
 Variables must be evaluated now.
?X: Typing '\$HOME' won't currently prevent from substitution -- use '\\$HOME'
?X: The $1 .. $9 and $*, as well as $@, are available to refer to the
?X: default value.
?X:
 set x \$xxxm
 shift
 aok=''; eval "ans=\\"\$answ\\"" && aok=y
 case  "\$answ" in
```

```
?X:
?X: Use "!" and not a plain ! because of a bug in BSD 4.4 shell
?X: (reported by Wayne Davison)
?X: We must handle the shell escapes before dealing with possible variable
?X: substitution, since the shell we're launching in that case will be able
?X: to do it as well as we can -- RAM, 15/03/96
?X
 "!")
  sh 1>&4
  echo " "
  $myecho
  ;;
 !*)
  set x \`expr "X\$ans" : "X!\(.*\)\$"\`
  shift
  sh 1>&4 -c "\$*"
  echo " "
  $myecho
  ;;
 "\$ans")
  case "\$ans" in
?X:
?X: Answers starting with & are hooks allowing to dynamically turn on/off
?X: some Configure options. That's for the future. -- RAM, 09/01/95
?X: Today, we only recognize '& -d' to mean 'go on as if Configure -d, which
?X: is a hardwired
 behaviour compatible with our general scheme.
?X:
  \\&*)
   set x \`expr "X\$ans" : "X&\(.*\)\$"\`
   shift
   case "\$1" in
   -d)
    fastread=yes
    echo "(OK, I'll run with -d after this question.)" >&4
    ;;
   -*)
    echo "*** Sorry, \$1 not supported yet." >&4
    ;;
   esac
   $myecho
   ans=!
   ;;
  esac;;
 *)
  case "\$aok" in
  y)
   echo "*** Substitution done -- please confirm."
```

```
  xxxm="\$ans"
  ans=\`echo $n "\$ans$c" | tr '$trnl' ' '\`
  xxxm="\$ans"
  ans=!
  ;;
 *)
  echo "*** Error -- try again."
  ans=!
  ;;
 esac
 $myecho
 ;;
esac
?X: Stick in myread if no default answer and nothing was answered
 case "\$ans\$xxxm\$nostick" in
 '')
  ans=!
  $myecho
  ;;
 esac
done
case "\$ans" in
'') ans="\$xxxm";;
esac
EOSC

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Myread.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: lib.U,v 3.0.1.3 1995/09/25 09:16:47 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
```

?RCS: patch32: now uses installation prefix to set the default
?RCS:
?RCS: Revision 3.0 1993/08/18 12:08:56 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?LINT:
 empty
?X:?MAKE:lib libexp: Getfile Loc Oldconfig Prefixit Prefixup prefixexp
?X:?MAKE: -pick add $@ %<
?X:?Y:TOP
?X:?S:lib:
?X:?S: This variable holds the name of the directory in which the user wants
?X:?S: to put public library files for the package in question. It is most
?X:?S: often a local directory such as /usr/local/lib. Programs using this
?X:?S: variable must be prepared to deal with filename expansion.
?X:?S:.
?X:?S:libexp:
?X:?S: This variable is the same as the lib variable, but is filename expanded
?X:?S: at configuration time, for convenient use in your makefiles.
?X:?S:.
?X:: determine where public libraries go
?X:set lib lib
?X:eval $prefixit
?X:case "$lib" in
?X:")
?X: dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
?X: set dflt
?X: eval $prefixup
?X: ;;
?X:*) dflt="$lib";;
?X:esac
?X:echo " "
?X:fn=d~
?X:rp='Where do you want to put the public libraries?'
?X:. ./getfile
?X:lib="$ans"
?X:libexp="$ansexp"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/nullified/lib.U
No license file was found, but licenses were detected in source scan.

$Id: errnolist.sh,v 3.0.1.1 1994/01/24 14:00:00 ram Exp ram $
#
Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
You may redistribute only under the terms of the Artistic Licence,
as specified in the README file that comes with the distribution.

```
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:00  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:36  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.SH
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: setsid.C,v 3.0.1.1 1994/01/24 13:58:47 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: setsid.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:47  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/setsid.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

```
?RCS:
?RCS: $Log: patchlevel.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:patchlevel: package baserev test rsrc
?MAKE: -pick add $@ %<
?T:Revision
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S:.
: get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r
 $rsrc/patchlevel.h;then
 patchlevel=`awk \
  '/^#[  ]*define[  ][  ]*PATCHLEVEL/ {print $3}' \
  < $rsrc/patchlevel.h`
else
 patchlevel=0
fi
echo "(You have $package $baserev PL$patchlevel.)"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/patchlevel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_group.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_group.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:34:52  ram
?RCS: patch61: useless unit dropped.
?RCS:
```

```
?RCS: Revision 3.0.1.1  1994/08/29  16:07:48  ram
?RCS: patch32: created by ADO
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_group.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: rcs_branch.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: rcs_branch.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:40  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:rcs_branch: Myread contains Loc
?MAKE: -pick add $@ %<
?S:rcs_branch:
?S: This variable will hold "true" if rcs can take the -b<revision>
?S: option, which can make Life Easier on those folks who like to run
?S: rcsdiff manually.
?S:.
?T:xxx
: Tra la la la la
echo " "
echo "Checking to see if RCS understands the -b switch..." >&4
xxx=`./loc
 rcs " $pth`
case "$xxx" in
")
 rcs_branch=false
 echo "Oh.  You don't seem to have RCS here."
 ;;
*)
 rcs > rcsbranch.out 2>&1
 if $contains 'b\[rev\]' rcsbranch.out  >/dev/null 2>&1 ; then
  rcs_branch=true
```

```
 echo "Nice!  Your RCS is spiffy!"
 else
  rcs_branch=false
 echo "Well, at least you have RCS.  You know, a newer version is available."
 fi
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/rcs_branch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman3dir siteman3direxp installsiteman3dir: Getfile \
 Setprefixvar prefix siteprefix man3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman3dir="
?S:siteman3dir:
?S: This variable contains the name of the directory in which site-specific
?S: library man source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
 perl has been installed, users may install their own local
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman3direxp="
?S:siteman3direxp:
?S: This variable is the same as the siteman3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsiteman3dir="
?S:installsiteman3dir:
?S: This variable is really the same as siteman3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
```

```
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman3dir
?LINT:set siteman3dir
?LINT:set siteman3direxp
: determine where add-on library man pages go
case "$siteman3dir" in
'') dflt=`echo $man3dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman3dir ;;
esac
case "$dflt" in
'|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific library manual pages should be installed?'
. ./getfile
prefixvar=siteman3dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteman3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml3dir sitehtml3direxp installsitehtml3dir: Getfile \
 Setprefixvar prefix siteprefix html3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml3dir=''
?S:sitehtml3dir:
?S: This variable contains the name of the directory in which site-specific
?S: library html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
```

```
 perl has been installed, users may install their own local
?S: library html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml3direxp="
?S:sitehtml3direxp:
?S: This variable is the same as the sitehtml3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml3dir="
?S:installsitehtml3dir:
?S: This variable is really the same as sitehtml3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml3dir
?LINT:set sitehtml3dir
?LINT:set sitehtml3direxp
: determine where add-on library html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case
 "$sitehtml3dir" in
")    dflt=`echo "$html3dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml3dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific library html pages should be installed?'
. ./getfile
prefixvar=sitehtml3dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitehtml3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End: $W
?MAKE: -pick add $@ %<
?LINT:use $W
: end of configuration
 questions
echo " "
echo "End of configuration questions."
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/End.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: dup2.C,v 3.0.1.1 1994/01/24 13:58:37 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: Larry Wall <lwall@netlabs.com>
*
* $Log: dup2.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:37  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/dup2.C

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

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Finish.U,v $
?RCS: Revision 3.0.1.6  1995/02/15  14:09:30  ram
?RCS: patch51: now clearer about how to edit config.sh at the prompt (WED)
?RCS:
?RCS: Revision 3.0.1.5  1994/10/29  15:53:14  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  14:19:37  ram
?RCS: patch23: added blank lines around 'End of Configure'
?RCS:
?RCS: Revision 3.0.1.3  1993/10/16  13:46:09  ram
?RCS: patch12: replaced Config_h by Magic_h in the dependency line
?RCS:
?RCS:
 Revision 3.0.1.2  1993/09/13  15:45:26  ram
?RCS: patch10: fixed shell evaluation w/o shell escape while in silent mode
?RCS:
?RCS: Revision 3.0.1.1  1993/08/30  08:55:59  ram
?RCS: patch8: prevents myread from blocking on empty answers, exceptionally
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit is the very last one in the Configure script.  It runs all the
?X: SH files, which among other things produce config.h and (usually) Makefile.
?X: It offers to do a make depend if the Makefile contains that target.
?X:
?MAKE:Finish: Chk_MANI Extract Myread Oldsym Magic_h cat rm contains \
 test package make
?MAKE: -pick add $@ %<
?F:!config.sh
?T:pwd
: Finish up by extracting the .SH files
case "$alldone" in
exit)
```

```
?X: They supplied the -E switch
 echo "Stopping at your request, leaving temporary files around."
 exit 0
 ;;
cont)
 ;;
")
 dflt="
 nostick=true
 $cat <<EOM

If you'd like to make any changes to the config.sh
 file before I begin
to configure things, do it as a shell escape now (e.g. !vi config.sh).

EOM
 rp="Press return or use a shell escape to edit config.sh:"
 . UU/myread
 nostick="
 case "$ans" in
 ") ;;
 *) : in case they cannot read
  sh 1>&4 -c "$ans";;
 esac
 ;;
esac

: if this fails, just run all the .SH files by hand
. ./config.sh

?X:
?X: Turn silent mode off from now on (we want a verbose file extraction).
?X: This means we have to explicitly test for '$silent' from now on to
?X: strip off any verbose messages.
?X:
echo " "
exec 1>&4
pwd=`pwd`
. ./UU/extract
cd "$pwd"

if $contains '^depend:' [Mm]akefile >/dev/null 2>&1; then
 dflt=y
 case "$silent" in
 true) ;;
 *)
  $cat <<EOM
```

```
Now you need to generate make dependencies by running "$make depend".
You might prefer to run it in background: "$make depend > makedepend.out &"
It can take a while, so you might not want to run it right now.

EOM
  ;;
 esac
 rp="Run $make depend now?"
 . UU/myread
 case "$ans" in
 y*)
  $make depend
 && echo "Now you must run '$make'."
  ;;
 *)
  echo "You must run '$make depend' then '$make'."
  ;;
 esac
elif test -f [Mm]akefile; then
 echo " "
 echo "Now you must run a $make."
else
 echo "Configure done."
fi

if $test -f Policy.sh; then
   $cat <<EOM

If you compile $package on a different machine or from a different object
directory, copy the Policy.sh file from this object directory to the
new one before you run Configure -- this will help you with most of
the policy defaults.

EOM
fi
if $test -f UU/config.msg; then
   echo "Hmm.  I also noted the following information while running:"
   echo " "
   $cat UU/config.msg >&4
fi
?X:
?X: kit*isdone files are left over by shell archives built using the makedist
?X: script which comes from dist, while ark*isdone files are left over by
?X: the cshar archive maker.
?X:
$rm -f kit*isdone ark*isdone
$rm -rf UU
```

: End of Configure

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Finish.U
No license file was found, but licenses were detected in source scan.

Perl5 Metaconfig Units

Copyright (c) 1996-1998, Andy Dougherty
Copyright (c) 1999-2011, H.Merijn Brand
All rights reserved.

These units are the ones I used to build Configure and config_h.SH
in the Perl5 distribution.

The Configure script and config_h.SH file in the Perl distribution are
generated by a program called metaconfig. To run metaconfig, you will
need the full dist 3.0 distribution, maintained by Raphael Manfredi.
As of this writing, the current version is dist3.0, patchlevel 70.
Dist version dist-3.0@70.tar.gz is available on CPAN (the Comprehensive
Perl Archive Network) as
<http://www.perl.com/perl/CPAN/authors/id/RAM/dist-3.0@70.tar.gz>.

Instructions:

1. Unpack the full perl5 sources. Execute the following command

chmod +w Configure config_h.SH Porting/Glossary Porting/config*

2. Unpack the archive containing this file in the perl5 source
directory. This will create a directory
'U' under the perl5
sources. That directory will contain the metaconfig units for perl5.
This will also create two files in the perl5 source tree:
MANIFEST.new and .package.

3. Apply any patches to perl in the perl_patches/ directory.
(This may well be empty.)

4. Obtain and install dist-3.0pl70.

4. Apply any patches to dist under the dist_patches subdirectory.

5. From your main perl5 source directory, run packinit to
regenerate the .package file. IMPORTANT: Change the name and
address of the maintainer to your own name and address. I don't
want bug reports intended for you coming to me.

6. From your main perl5 source directory, run

 metalint (or mlint)

   and repair every failure it reports.

7. From your main perl5 source directory, run

 metaconfig -m (or mconfig -m)

8. Edit U/mkglossary and/or U/mkgloss.pl to point to your dist-3.0pl70
   location. (See comments at the top.)

9. Run the Porting/mksample script to update the contents
 of the Porting/
   subdirectory, or run all parts by hand. (see README)

   NB: this script used to be U/mksample replaced by Porting/mksample;
   see Porting/pumpkin.pod instead for current documentation on its
   use.

10. Let me know about any changes, corrections, or enhancements.

Things to watch out for:

1. Future support of better random number generators should probably
   start with the randfunc.U unit included here. It's currently
   broken, but well commented and probably a good place to start.

Descriptions:

The units and other related files have been broken up into the following
directories:

acl/
   This is an old patch to begin to detect and use ACL (access
   control list) file protection schemes.

compline/
   These are similar to the standard units, but I have modified them
   to have a more uniform compile command line, usually using the new
   Compile.U unit. I have submitted these for inclusion into the
   regular dist distribution. (The ccflags.U
 unit is actually
   perl-specific since it mentions -DDEBUGGING and -DPOSIX_SOURCE,
   but that's the only place it is perl-specific.)

dist_patches/

These are patches to dist that must be applied before it is built and installed. I have submitted these for inclusion in the regular dist distribution.

modified/

These are modified versions of the standard units. Also included in this directory are new units that are clearly derived from existing units. I have submitted these for inclusion in the regular dist distribution.

perl/

These are specific to perl. Some are heavily derived from original dist units, and are marked as such. Others are original.

perl_patches/

These are patches to the perl source. This directory should ordinarily be empty, but there may have been drift between the standard version of perl and the one associated with these units.

protos/

These are units modified to use the new Hasproto.U or Protochk.U units to check for prototypes. I have submitted these for inclusion into the regular dist distribution.

target/

This is the very, very beginning of cross-compiler support. It doesn't work yet, and many standard units will need modification.

typedefs/

These are standard units modified to use the modified Typedef.U unit to check for typedefs. (The modified Typdef.U includes a function to avoid unnecessary prompts if the typdef being searched for exists.) I have submitted these for inclusion into the regular dist distribution.

threads/

These are specific to threading perl.

Copyright Information:

Unless otherwise indicated, the files contained in this distribution are:

Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in

this distribution:

You may distribute the files contained in this distribution
under the terms of either

  a) the "Artistic License" which comes with Perl,
or

  b) the "Artistic License" which comes with dist, or

  c) the GNU General Public License as published by the Free
  Software Foundation; either version 1, or (at your option) any
  later version (see the file "Copying" that comes with the
  Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified license as contained in dist-3.0-pl60 provides:

  7. You may reuse parts of this Package in your own programs, provided
  that you explicitly state where you got them from, in the source code
  (and, left to your courtesy, in the documentation), duplicating
  all the associated copyright notices and disclaimers. Besides
  your changes, if any, must be clearly marked
as such. Parts reused
  that way will no longer fall under this license if, and only if,
  the name of your program(s) have no immediate connection with the
  name of the Package itself or its associated programs. You may then
  apply whatever restrictions you wish on the reused parts or choose
  to place them in the Public Domain--this will apply only within the
  context of your package.

In accordance with this clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences between these units and the standard versions, please
feel free to ask.

  Andy Dougherty   doughera@lafayette.edu
  Dept. of Physics
  Lafayette College
  Easton, PA 18042-1782

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/README.dist
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: n.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: n.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:n c: contains
?MAKE: -pick add $@ %<
?S:n:
?S: This variable contains the -n flag if that is what causes the echo
?S: command to suppress newline.  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
?S:c:
?S: This variable contains the \c string if that is what causes the echo
?S: command to suppress newline.
  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
: first determine how to suppress newline on echo command
echo " "
echo "Checking echo to see how to suppress newlines..."
(echo "hi there\c" ; echo " ") >.echotmp
if $contains c .echotmp >/dev/null 2>&1 ; then
 echo "...using -n."
 n='-n'
 c=''
else
 cat <<'EOM'
...using \c
EOM
 n=''
 c='\c'
fi
echo $n "The star should be here-->$c"
```

```
echo '*'
rm -f .echotmp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/n.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sitebin.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitebin.U,v $
?RCS:
?MAKE:sitebin sitebinexp installsitebin : Getfile Oldconfig \
 Setprefixvar siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitebin="
?S:sitebin:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard distribution will put nothing
 in this directory.
?S: After perl has been installed, users may install their own local
?S: executables in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitebinexp="
?S:sitebinexp:
?S: This is the same as the sitebin variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitebin="
?S:installsitebin:
?S: This variable is usually the same as sitebinexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
```

```
?LINT:set installsitebin
?LINT:set sitebin
?LINT:set sitebinexp
: determine where add-on public executables go
case "$sitebin" in
") dflt=$siteprefix/bin ;;
*) dflt=$sitebin ;;
esac
fn=d~
rp='Pathname where the add-on public executables should be installed?'
. ./getfile
prefixvar=sitebin
. ./setprefixvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitebin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:perladmin: cf_email Oldconfig Myread cat
?MAKE: -pick add $@ %<
?Y:TOP
?S:perladmin:
?S: Electronic mail address of the perl5 administrator.
?S:.
: Ask e-mail of administrator
$cat <<EOM

If you or somebody else will be maintaining perl at your site, please
fill in the correct e-mail address here so that they may be contacted
if necessary. You may enter "none" for no administrator.

EOM
case "$perladmin" in
") dflt="$cf_email";;
*) dflt="$perladmin";;
esac
rp='Perl administrator e-mail address'
. ./myread
perladmin="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perladmin.U

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

```
?RCS: $Id: Warn_v7ND.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7ND.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:46  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit warns V7 sites that they may not have a non-blocking read.
?X: This unit needs to be mentioned in End.U to get included.
?X:
?MAKE:Warn_v7ND: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7; then
 cat
 <<EOM

NOTE: many V7 systems do not have a way to do a non-blocking read.  If you
don't have any of FIONREAD, O_NDELAY, or rdchk(), the $package package
may not work as well as it might.  It might not work at all.
EOM
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn_v7ND.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: prototype.U,v 3.0.1.3 1994/05/06 15:11:49 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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```

?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: prototype.U,v $
?RCS: Revision 3.0.1.3 1994/05/06 15:11:49 ram
?RCS: patch23: ensure cc flags used when looking for prototype support
?RCS:
?RCS: Revision 3.0.1.2 1994/01/24 14:15:36 ram
?RCS: patch16: prototype handling macros now appear only when needed
?RCS:
?RCS: Revision 3.0.1.1 1993/08/25 14:03:12 ram
?RCS: patch6: defines were referring to non-existent VOID symbol
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:36 ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:prototype: Nothing
?S:prototype:
?S: This variable holds the eventual value of CAN_PROTOTYPE, which
?S: indicates the C compiler can handle function prototypes.
?S:.
: stub, never used
prototype=nothing

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/prototype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sitescript.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitescript.U,v $
?RCS:
?MAKE:sitescript sitescriptexp installsitescript : Getfile Oldconfig test \
 Setprefixvar sitebin siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitescript=''
?S:sitescript:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question. It

```
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard
 distribution will put nothing in this directory.
?S: After perl has been installed, users may install their own local
?S: scripts in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitescriptexp="
?S:sitescriptexp:
?S: This is the same as the sitescript variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitescript="
?S:installsitescript:
?S: This variable is usually the same as sitescriptexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitescript
?LINT:set sitescript
?LINT:set sitescriptexp
: determine where add-on public executable scripts go
case "$sitescript" in
") dflt=$siteprefix/script
 $test -d $dflt || dflt=$sitebin ;;
*)  dflt="$sitescript" ;;
esac
fn=d~+
rp='Pathname where add-on public executable scripts
 should be installed?'
. ./getfile
prefixvar=sitescript
. ./setprefixvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitescript.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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```

```
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
?RCS: patch32: now uses installation prefix to set the default
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lib libexp: Getfile
 Loc Oldconfig Prefixit Prefixup prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?S:lib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public library files for the package in question.  It is most
?S: often a local directory such as /usr/local/lib. Programs using this
?S: variable must be prepared to deal with filename expansion.
?S:.
?S:libexp:
?S: This variable is the same as the lib variable, but is filename expanded
?S: at configuration time, for convenient use in your makefiles.
?S:.
: determine where public libraries go
set lib lib
eval $prefixit
case "$lib" in
")
 dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$lib";;
esac
echo " "
fn=d~
rp='Where do you want to put the public libraries?'
. ./getfile
lib="$ans"
libexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lib.U
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?RCS: Id
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1 1997/02/28 16:26:40 ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:57 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig grep \
 d_gnulibc nm egrep rsrc osname Guess
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction is wanted
 or not.
?S:.
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
?S: to work on a shared library but that can not be used on an
?S: archive library. Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm

```
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
?X: Don't bother if we're using GNU libc -- skimo
case "$usenm"
 in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "$nm probably won't work on the GNU C Library." >&4
  dflt=n
  ;;
 esac
 case "$dflt" in
 ")
  if $test "$osname" = aix -a ! -f /lib/syscalls.exp; then
   echo " "
   echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
   echo "'nm' won't be sufficient on this system." >&4
   dflt=n
  fi
  ;;
 esac
 case "$dflt" in
 ")
  if ./gnu; then
   echo " "
   echo "Hmm...  A GNU system without a GNU C Library?  Weird..." >&4
   dflt=n
  else
   dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
   if $test $dflt -gt 20; then
    dflt=y
   else
    dflt=n
   fi
  fi
  ;;
 esac
 ;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
 *) dflt=n;;
 esac
 ;;
esac
```

```
$cat <<EOM

I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the
 'nm' extraction part and to compile a small
test program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

EOM
rp='Shall I use nm to extract C symbols from the libraries?'
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt=''  # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p'  # Solaris (and SunOS?)
 elif $test -f /dgux; then
  nm_opt='-p'  # DG-UX
 elif $test -f /lib64/rld; then
  nm_opt='-p'  # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

?X: nm options which may be necessary for shared libraries but illegal
?X: for archive libraries.  Thank you,
 Linux.
case "$nm_so_opt" in
'') case "$osname" in
 *linux*)
```

```
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
  fi
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/usenm.U
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```
?RCS: $Id: man3dir.U,v 3.1 1999/07/08 20:52:19 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996-1999, Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:34  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man3 used instead
 of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir man3direxp man3ext installman3dir: cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile Setprefixvar Prefixit Prefixup \
 d_flexfnam privlib Myread test
?MAKE: -pick add $@ %<
?Y:TOP
?D:man3dir="
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
```

```
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?D:man3direxp="
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman3dir="
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only
 points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
?S:.
?T:prog tdflt
?LINT:change prefixvar
?LINT:set man3direxp
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 ") man3dir="none";;
```

```
 esac;;
esac

echo "If you don't want the manual sources installed, answer 'none'."
?X: In 5.005_57 and earlier, I had the following notes:
?X:
 We do not use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with Tcl man pages.
?X: However, something like /opt/perl/man/man3 is fine.
?X:
?X: However, opinion seems to be shifting such that 'man POSIX' ought
?X: to just work.  -- Andy Dougherty  July 8, 1999
?X:
?X: remove any trailing -3.0 or other version indication from $package
prog=`echo $package | $sed 's/-*[0-9.]*$//'`
case "$man3dir" in
'') dflt=`echo "$man1dir" | $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'`
 if $test -d "$privlib/man/man3"; then
  cat <<EOM >&4

WARNING:  Previous versions of perl installed man3 pages into
$privlib/man/man3.  This version will suggest a
new default of $dflt.
EOM
  tdflt=$dflt
  dflt='n'
  rp='Do you wish to preserve the old behavior?(y/n)'
  . ./myread
  case "$ans" in
  y*) dflt="$privlib/man/man3"
 ;;
  *)  dflt=$tdflt ;;
  esac
   fi
 ;;
*) dflt="$man3dir" ;;
esac
case "$dflt" in
' ') dflt=none ;;
esac
echo " "
fn=dn+~
rp="Where do the $package library man pages (source) go?"
. ./getfile
prefixvar=man3dir
. ./setprefixvar
```

```
case "$man3dir" in
") man3dir=' '
 installman3dir=";;
esac

: What suffix to use on installed man pages
case "$man3dir" in
' ')
 man3ext='0'
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 ") case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/man3dir.U
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Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/models.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_flexfnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ebcdic.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/sizetype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/randfunc.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_varhdr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_gethent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/alignbytes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gnulibc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sunscanf.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/sockopt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/voidflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_portable.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strftime.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setnent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/sizesize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/acl/i_syssecrt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_casti32.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_neterrno.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/modetype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_attribut.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gconvert.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_vprintf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_getnetprotos.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethbynm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getnent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_ndbm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_gethbynm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/charorder.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_htonl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cppstdin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_htonl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getpwent.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/nullified/fpu.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_bitfield.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_time.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cpp_stuff.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Cppsym.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_vfork.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_snprintf_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_mprotect.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_memchr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/i_machcthr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_safemcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/stdio_streams.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_castneg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/uidsign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/abortsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/fpostype.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/pidtype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/bitpbyte.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_db.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_wifstat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/doublesize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/charorder.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endhent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/alignbytes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/gidtype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/scriptdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endsent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_dosuid.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_pwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/archname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getpagsz.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/d_time.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_dirent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/sunscanf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_gai_strerror.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/usrinc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/archlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_usleepproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/a_dvisory/intsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_scannl.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/bitpbyte.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Oldconfig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strtoul.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorbin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_drand48proto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/st_dev_def.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/ccflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_wcscmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/doublesize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorscript.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_dir_dd_fd.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_dlopen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_syscallproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_mbrlen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_getprotoprotos.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setpgrp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_const.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sigaction.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_dbminitproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/perlpath.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/libpth.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getpent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_inttypes.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getespwnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/pidtype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_isascii.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/pager.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Cross.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_closedir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d__fwalk.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/d_times.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/i_pthread.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sem.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sockatmarkproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_neterrno.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_eofpipe.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_dlopen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strctcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ssizetype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_closedir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/randfunc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_NOFILE.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_sethent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_gconvert.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/byteorder.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Tr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/inc_version_list.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/cpp_stuff.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_backtrace.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/lseektype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Cppsym.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sig_name.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_safebcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/prototype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_inttypes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/fpossize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_safebcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_access.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sgndchr.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_dosuid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ccflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_scannl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorarch.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_wctype.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidsign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endpent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_stdstdio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Signal.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getspnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sh.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endnent.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lintlib.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: lintlib.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lintlib lintlibexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:lintlib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public lint-library files for the package in question.  It is
?S: most often a local directory such as /usr/local/lib/lint. Programs using
?S: this variable must be prepared to
 deal with ~name expansion.
?S:.
?S:lintlibexp:
?S: This variable is the same as the lintlib variable, but is filename
?S: expanded at configuration time, for convenient use in your makefiles.
?S:.
: determine where public lint libraries go
case "$lintlib" in
") dflt=`./loc . "." /usr/local/lib/lint /usr/lib/lint /usr/lib`;;
*) dflt="$lintlib" ;;
esac
echo " "
fn=d~
rp='Where do you want to put the public lint libraries?'
. ./getfile
lintlib="$ans"
lintlibexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lintlib.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.0.1.1 1997/02/28 16:10:29 ram
?RCS: patch61: created
?RCS:
?X:
?X: This was originally specific to perl5. Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir. This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: afs cat nroff Loc Oldconfig \
 spackage test Getfile Prefixit prefixexp
 Prefixup sysman Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put. It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:

```
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
: determine
 where manual pages go
set man1dir man1dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 '') man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$man1dir" in
' ') dflt=none
 ;;
'')
 lookpath="$prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
*)
  dflt="$man1dir"
 ;;
esac
echo " "
fn=dn+~
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
```

```
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir="
fi
man1dir="$ans"
man1direxp="$ansexp"
case "$man1dir" in
'') man1dir=' '
 installman1dir='';;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installman1dir" in
 '') dflt=`echo $man1direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman1dir";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman1dir="$ans"
else
 installman1dir="$man1direxp"
fi

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 '') case "$man1dir" in
  *1)  dflt=1 ;;
  *1p)
 dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
```

```
  *L) dflt=L;;
  *L1) dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/man1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: orderlib.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:18:18  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS: patch61: now uses the ar located by Loc.U
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:33:04  ram
?RCS: patch45: allows hint files to specify their own value for 'ranlib'
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:26:48  ram
?RCS: patch36: now performs a real small compile for accurate checks (ADO)
?RCS:
?RCS: Revision 3.0.1.1
  1994/08/29  16:31:17  ram
?RCS: patch32: use cc variable instead of hardwired 'cc' in 1st compile
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:orderlib ranlib: Loc ar cat test rm +cc +ccflags +ldflags +libs _a _o
?MAKE: -pick add $@ %<
?S:orderlib:
```

```
?S: This variable is "true" if the components of libraries must be ordered
?S: (with `lorder $* | tsort`) before placing them in an archive.  Set to
?S: "false" if ranlib or ar can generate random libraries.
?S:.
?S:ranlib:
?S: This variable is set to the pathname of the ranlib program, if it is
?S: needed to generate random libraries.  Set to ":" if ar can generate
?S: random libraries or if random libraries are not supported
?S:.
?F:!foobar
: see if ar generates random libraries by itself
echo " "
echo "Checking how to generate random libraries on your machine..." >&4
?X: Some systems (like MIPS) complain when running ar... Others like Ultrix
?X: need an explicit 'ar ts'
 to add the table of contents.
?X: Still others like Linux run ar ts successfully, but still need ranlib.
?X: This set of tests seems the minimum necessary to check out Linux.
?X: We need to explicitly put the entries in out-of-order so that Sun's ld
?X: will fail.  (Otherwise it complains, but gives an exit status of 0.)
echo 'int bar1() { return bar2(); }' > bar1.c
echo 'int bar2() { return 2; }' > bar2.c
$cat > foo.c <<'EOP'
int main() { printf("%d\n", bar1()); exit(0); }
EOP
$cc $ccflags -c bar1.c >/dev/null 2>&1
$cc $ccflags -c bar2.c >/dev/null 2>&1
$cc $ccflags -c foo.c >/dev/null 2>&1
$ar rc bar$_a bar2$_o bar1$_o >/dev/null 2>&1
if $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
 echo "ar appears to generate random libraries itself."
 orderlib=false
 ranlib=":"
elif $ar ts bar$_a >/dev/null 2>&1 &&
 $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
  echo "a table of contents
 needs to be added with 'ar ts'."
  orderlib=false
  ranlib="$ar ts"
else
?X: Allow hints to specify their own ranlib "script". For instance, on
?X: some NeXT machines, the timestamp put by ranlib is not correct, and this
?X: may raise tedious recompiles for nothing. Therefore, NeXT may add the
?X: ranlib='sleep 5; /bin/ranlib' line in their hints to "fix" that.
?X: (reported by Andreas Koenig <k@franz.ww.tu-berlin.de>)
 case "$ranlib" in
```

```
 :) ranlib='';;
 '')
  ranlib=`./loc ranlib X /usr/bin /bin /usr/local/bin`
  $test -f $ranlib || ranlib=''
  ;;
 esac
 if $test -n "$ranlib"; then
  echo "your system has '$ranlib'; we'll use that."
  orderlib=false
 else
  echo "your system doesn't seem to support random libraries"
  echo "so we'll use lorder and tsort to order the libraries."
  orderlib=true
  ranlib=':'
 fi
fi
$rm -f foo* bar*
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/orderlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: so.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so d_libname_unique: test libpth Loc Myread Oldconfig cat Setvar
?MAKE: -pick add $@ %<
?S:so:
?S: This
```

```
 variable holds the extension used to identify shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?S:d_libname_unique:
?S: This variable is defined if the target system insists on unique
?S: basenames for shared library files. This is currently true on Android,
?S: false everywhere else we know of.
?S: Defaults to 'undef'.
?S:.
?LINT:set d_libname_unique
?T: xxx
: compute shared library extension
case "$so" in
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
  dflt='sl'
 else
  dflt='so'
 fi
 ;;
*) dflt="$so";;
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
of this configuration.

EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"

: Does target system insist that shared library basenames are unique
$cat << EOM

Some dynamic loaders assume that the *basename* of shared library
 filenames
are globally unique.  We'll default this to undef as we assume your system
is not this weird. Set to defined if you're on one of them.

EOM

dflt='n'
rp='Make shared library basenames unique?'
. ./myread
case "$ans" in
y|Y) val="$define" ;;
```

```
*)   val="$undef"  ;;
esac
set d_libname_unique
eval $setvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/so.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Compile.U,v $
?RCS:
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?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
?X: to be used in all the other metaconfig units.
?X:
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs test
?MAKE: -pick wipe $@ %<
?LINT:extern usedevel maintloc
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
?S: OS/2
 users will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
```

```
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile, except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
case "$usedevel" in $define|true|[yY]*) if $test ! -f "${mc_file}.c"; then
echo "Internal Configure script bug - compiler test file ${mc_file}.c is missing. Please report this to <$maintloc>"
>&4;
exit 1;
fi;
esac;
$cc
 -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/Compile.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Oldsym.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
```

```
?X: special symbols: defines from patchlevel.h file if any and PERL_CONFIG_SH,
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint
 file or a previous config.sh file.
?X:
?MAKE:Oldsym: Config_sh cat test hint src sed sort uniq perl_patchlevel
?MAKE: -pick add $@ %<
?T:PERL_CONFIG_SH PERL_PATCHLEVEL sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define[  ]+PERL_/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "PERL_PATCHLEVEL='$perl_patchlevel'" >>config.sh
echo "PERL_CONFIG_SH=true" >>config.sh

: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh
 |\
  $sort | $uniq -u >UU/oldsyms
 set X `$cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  $cat <<EOM
Hmm...You had some extra variables I don't know about...I'll try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
  for sym in `$cat UU/oldsyms`; do
   echo "    Propagating $hint variable "'$'"$sym..."
   eval 'tmp="$'"${sym}"'"'
   echo "$tmp" | \
    sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
  done
  ;;
 esac
```

```
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Oldsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Mkdirp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can launched to create a
?X: directory path like "mkdir -p" would do.
?X:
?MAKE:Mkdirp:
 eunicefix startsh
?MAKE: -pick add $@ %<
?F:./mkdirp
?T:name create file
: script used to emulate mkdir -p
cat >mkdirp <<EOS
$startsh
EOS
cat >>mkdirp <<'EOS'
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create"
  name=`echo $name | sed -e "s|^[^/]*$||"`
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`
 else
```

```
  name=""
 fi
done
for file in $create; do
 mkdir $file
done
EOS
chmod +x mkdirp
$eunicefix mkdirp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Mkdirp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in order
?X: to make quick check on whether the current C compiler is working.
?X:
?MAKE:Checkcc ccname ccversion: Myread Warn startsh cat contains test
?MAKE: -pick add $@ %<
?S:ccname:
?S: This can set either by hints files or by Configure.  If using
?S: gcc, this is gcc, and if not, usually equal to cc, unimpressive, no?
?S: Some platforms, however, make good use of this by storing the
?S: flavor
 of the C compiler being used here.  For example if using
?S: the Sun WorkShop suite, ccname will be 'workshop'.
?S:.
?S:ccversion:
?S: This can set either by hints files or by Configure.  If using
?S: a (non-gcc) vendor cc, this variable may contain a version for
?S: the compiler.
?S:.
?F:./checkcc ./trygcc !checktmp
?V:despair
?T:trygcc
```

```
?LINT:extern cc rm ccflags ldflags
?LINT:change cc ccflags
?LINT:usefile checktmp
?INIT:ccname=''
?INIT:ccversion=''
: generate the trygcc script for later perusal
cat <<EOS >trygcc
$startsh
EOS
cat <<'EOSC' >>trygcc
case "$cc" in
'') ;;
*)  $rm -f try try.*
  $cat >try.c <<EOM
int main(int argc, char *argv[]) {
 (void) argc;
 (void) argv;
 return 0;
}
EOM
  if $cc -o try $ccflags $ldflags try.c; then
    :
  else
     echo "Uh-oh, the C compiler '$cc' doesn't seem to be working." >&4
     despair=yes
     trygcc=yes
     case "$cc" in
     *gcc*) trygcc=no ;;
     esac
     case "`$cc -v -c try.c 2>&1`" in

    *gcc*) trygcc=no ;;
     esac
     if $test X"$trygcc" = Xyes; then
        if gcc -o try -c try.c; then
           echo " "
           echo "You seem to have a working gcc, though." >&4
           rp="Would you like to use it?"
           dflt=y
           if $test -f myread; then
              . ./myread
           else
              if $test -f UU/myread; then
                 . ./UU/myread
              else
                 echo "Cannot find myread, sorry.  Aborting." >&2
                 exit 1
              fi
```

```
            fi
            case "$ans" in
            [yY]*) cc=gcc; ccname=gcc; ccflags=''; despair=no;
?X: Look whether we have 'call-back units' generated by hints that would
?X: seemingly affect the compiling environment.
                    $cat *.cbu >checktmp 2>/dev/null
                    if $contains ccflags checktmp >/dev/null; then

      ./warn <<EOM
Any previous setting of the C compiler flags has been lost.
It may be necessary to pass -Dcc=gcc to Configure right away.
EOM
                    fi;;
            esac
          fi
      fi
  fi
  $rm -f try try.*
  ;;
esac
EOSC

: generate the checkcc script for later perusal
cat <<EOS >checkcc
$startsh
EOS
cat <<'EOSC' >>checkcc
case "$cc" in
'') ;;
*)  $rm -f try try.*
  $cat >try.c <<EOM
int main(int argc, char *argv[]) {
 (void) argc;
 (void) argv;
 return 0;
}
EOM
  if $cc -o try $ccflags $ldflags try.c; then
     :
  else
     if $test X"$despair" = Xyes; then
        echo "Uh-oh, the C compiler '$cc' doesn't seem to be working." >&4
     fi
     $cat >&4 <<EOM
You need to find a working C compiler.
Either (purchase and) install the C compiler supplied by your OS vendor,
or for a free C compiler try http://gcc.gnu.org/
I cannot continue any further, aborting.
```

```
EOM
	exit 1
  fi

 $rm -f try try.*
  ;;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Checkcc.U
No license file was found, but licenses were detected in source scan.

```
/* $Id: Jmake.rules 18 2006-12-27 10:35:09Z rmanfredi $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
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*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: Jmake.rules,v $
* Revision 3.0.1.7  2004/08/22 08:28:58  ram
* patch71: random cleanup
*
* Revision 3.0.1.6  1997/02/28  14:56:01  ram
* patch61: now handles USRINC for dependencies
* patch61: smarter about dependencies computation
*
* Revision 3.0.1.5  1995/09/25  09:07:19  ram
* patch59: smarter sed command to strip /usr/include dependencies
*
* Revision 3.0.1.4  1995/07/25  13:33:59  ram
* patch56: install of script man pages can now cope with missing files
* patch56: the clobber
 target now removes the .config directory as well
*
* Revision 3.0.1.3  1995/03/21  08:35:28  ram
* patch52: suppressed extra argument to NormalProgramTarget call
*
* Revision 3.0.1.2  1995/01/11  14:49:55  ram
* patch45: new macros ShellScriptTargetExt and SimpleShellScriptTargetExt
* patch45: directory installation is now made via INSTALLDIR (Configure)
*
* Revision 3.0.1.1  1994/10/29  15:46:30  ram
* patch36: added RemoteDependency rule
```

*
* Revision 3.0 1993/08/18 12:04:14 ram
* Baseline for dist 3.0 netwide release.
*
*/

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/Jmake.rules
No license file was found, but licenses were detected in source scan.

?RCS: $Id: h_sysfile.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_sysfile.U,v $
?RCS: Revision 3.0 1993/08/18 12:08:13 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_sysfile: Nothing
?MAKE: -pick add $@ %<
?S:h_sysfile:
?S: This is variable gets set in various places to tell i_sys_file that
?S: <sys/file.h> should be included.
?S:.
: Initialize h_sysfile
h_sysfile=false

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/h_sysfile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Rcs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Rcs.U,v $

?RCS: Revision 3.0 1993/08/18 12:05:15 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This is a unit that helps people who write SH scripts and keep them under
?X: RCS, but don't think to protect the $Log and other $Id keywords from
?X: variable substitution (or people like me who do not like to).
?X:
?MAKE:Author Date Header Id Locker Log RCSfile Revision Source State: Oldconfig
?MAKE: -pick weed $@ %<
?LINT:describe Author
 Date Header Id Locker Log RCSfile Revision Source State
: preserve RCS keywords in files with variable substitution, grrr
?Author:Author='$Author'
?Date:Date='$Date'
?Header:Header='$Header'
?Id:Id='$Id'
?$Locker'
?Log:Log='$Log'
?RCSfile:RCSfile='$RCSfile'
?Revision:Revision='$Revision'
?Source:Source='$Source'
?State:State='$State'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Rcs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Begin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Begin.U,v $
?RCS: Revision 3.0.1.3 1997/02/28 14:56:35 ram
?RCS: patch61: added Extractall dependency
?RCS:
?RCS: Revision 3.0.1.2 1995/01/30 14:25:08 ram
?RCS: patch49: avoid an empty rmlist: systems might choke on it (WED)
?RCS:
?RCS: Revision 3.0.1.1 1994/10/31 09:32:20 ram
?RCS: patch44: created
?RCS:

```
?X:
?X: This file comes after option processing had been done and after all
?X: the default values have been set up. It marks the beginning
 of questions.
?X: It is important that Options be listed *after* Myinit to ensure that the
?X: default initializations performed by Init and Myinit will not clobber
?X: any setting done on the command line via -D or -U.
?X:
?MAKE:Begin: Myinit Options package Extractall
?MAKE: -pick add $@ %<
: Eunice requires " " instead of "", can you believe it
echo " "
: Here we go...
echo "Beginning of configuration questions for $package."

?X: Make sure the rm below is given a non-empty list for some systems.
?X: This is run only when within the UU directory, hence we can safely
?X: attempt to rm a non-existent 'X' file...
trap 'echo " "; test -d ../UU && rm -rf X $rmlist; exit 1' 1 2 3 15
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Begin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: html1dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html1dir.U,v $
?RCS:
?MAKE:html1dir html1direxp installhtml1dir: cat Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?D:html1dir="
?S:html1dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe whole programs, not libraries or modules.  It
?S: is intended to correspond roughly to section 1 of the Unix
?S: manuals.
?S:.
```

```
?D:html1direxp="
?S:html1direxp:
?S: This
 variable is the same as the html1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml1dir="
?S:installhtml1dir:
?S: This variable is really the same as html1direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html1direxp
?LINT:set installhtml1dir
: determine where html pages for programs go
set html1dir html1dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for programs in $spackage, indicate
the appropriate directory here.  To skip installing html files,
answer "none".
EOM
case "$html1dir" in
"|none|$undef|' ') dflt=none ;;
*) dflt=$html1dir ;;
esac
fn=dn+~
rp="Directory for the main $spackage html pages?"
. ./getfile
prefixvar=html1dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html1dir" = "X" && html1dir=' '

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/html1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: contains.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: contains.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:contains: Nothing
?MAKE: -pick add $@ %<
?S:contains:
?S: This variable holds the command to do a grep with a proper return
?S: status.  On most sane systems it is simply "grep".  On insane systems
?S: it is a grep followed by a cat followed by a test.  This variable
?S: is primarily for the use of other Configure units.
?S:.
: Some
 greps do not return status, grrr.
echo "grimblepritz" >grimble
if grep blurfldyick grimble >/dev/null 2>&1 ; then
 contains=contains
elif grep grimblepritz grimble >/dev/null 2>&1 ; then
 contains=grep
else
 contains=contains
fi
rm -f grimble
: the following should work in any shell
case "$contains" in
contains*)
 echo " " >&4
 echo "AGH!  Grep doesn't return a status.  Attempting remedial action." >&4
 cat >contains <<'EOSS'
grep "$1" "$2" >.greptmp && cat .greptmp && test -s .greptmp
EOSS
contains=./contains
chmod +x $contains
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/contains.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Nothing.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Nothing.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply an empty target for the private
?X: Makefile built by metaconfig to order the units.
?X:
?MAKE:Nothing: Head
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Nothing.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: perl5.U,v $
?RCS:
?RCS: Copyright (c) 2000 Andrew Dougherty
?RCS:
?RCS:    You may distribute under the terms of either the GNU General Public
?RCS:    License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: perl5.U,v $
?RCS:
?X:
?X: The purpose of this unit is to locate a previously installed
?X: version of perl5 suitable for running inc_version_list.U.
?X: We check for 5.005 and later because inc_version_list is
?X: irrelevant for earlier versions.
?X:
?MAKE:perl5: path_sep binexp test sed exe_ext
?MAKE: -pick add $@ %<
?Y:TOP
?S:perl5:
?S: This variable contains the full path (if any) to a previously
?S: installed perl5.005 or later suitable for running the script
?S: to determine inc_version_list.
?S:.
?T: tdir
: Find perl5.005 or later.
echo "Looking for a previously installed perl5.005 or later... "
case "$perl5" in
'') for tdir in `echo "$binexp$path_sep$PATH" | $sed "s/$path_sep/
 /g"`; do
  : Check if this perl is recent and can load a simple module
```

```
  if $test -x $tdir/perl$exe_ext && $tdir/perl -Mless -e 'use 5.005;' >/dev/null 2>&1; then
   perl5=$tdir/perl
   break;
  elif $test -x $tdir/perl5$exe_ext && $tdir/perl5 -Mless -e 'use 5.005;' >/dev/null 2>&1; then
   perl5=$tdir/perl5
   break;
  fi
 done
 ;;
*) perl5="$perl5"
 ;;
esac
case "$perl5" in
") echo "None found.  That's ok.";;
*) echo "Using $perl5." ;;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/perl5.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: package.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: package.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:27:21  ram
?RCS: patch36: beware of non-ascii character sets when translating case
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:37:02  ram
?RCS: patch14: skip definition of spackage if not otherwise used
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:11:10  ram
?RCS: patch10: added spackage, suitable for starting sentences
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:28  ram
?RCS: Baseline for dist 3.0
 netwide release.
?RCS:
?MAKE:package spackage: Nothing
?MAKE: -pick wipe $@ %<
?S:package:
```

```
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
?S: This variable contains the name of the package being constructed,
?S: with the first letter uppercased, i.e. suitable for starting
?S: sentences.
?S:.
?X: dist-4 has defined PACKAGE: here, which clashes with perly.h
?X:  as package is a reserved keyword in perl
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`"-"`echo AbyZ | tr '[:upper:]' '[:lower:]'
 2>/dev/null`" in
ABYZ-abyz) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/package.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: shm_for.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: shm_for.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:28:37  ram
?RCS: patch36: call ./Cppsym explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:46  ram
?RCS: Baseline for dist 3.0 netwide release.
```

```
?RCS:
?MAKE:shm_for shm_att shm_lim: Cppsym Myread ipc uname
?MAKE: -pick add $@ %<
?S:shm_for:
?S: This variable tells us the type of machine we're expecting the
?S: shared memory code to run on.  The value is available to C
 programs
?S: in the C_SHM_FOR manifest.
?S:.
?S:shm_att:
?S: This variable tells us where a shared memory segment should be
?S: attached.  Good values are HIGH, LOW, and ZERO.
?S:.
?S:shm_lim:
?S: This variable tells us if shared memory attached HIGH should
?S: have an upper limit.
?S:.
?X: ------------------------------------------------------------
?X: It's a potential lose to define anything beginning with SHM...
?X: At least we can think that S_ stands for "String version of ..." -- HMS
?X: ------------------------------------------------------------
?C:S_SHM_FOR ~ %<:
?C: This symbol identifies what we chose for the target system's
?C: default shared memory configuration parameters.
?C:.
?C:S_SHM_ATT ~ %<:
?C: This symbol holds the default "place" to attach shared memory.
?C: Values are "HIGH", "ZERO", and "LOW".
?C:.
?C:S_SHM_LIM ~ %<:
?C: This symbol holds the default upper bound address limit if shared
?C: memory is attached HIGH.  If zero, there is no upper limit.
?C:.
?H:?%<:#ifdef
 SERVE_SHM
?H:?%<:#define S_SHM_FOR "$shm_for"
?H:?%<:#define S_SHM_ATT "$shm_att"
?H:?%<:#define S_SHM_LIM "$shm_lim"
?H:?%<:#endif
?H:.
?W:%<:S_SHM_FOR S_SHM_ATT S_SHM_LIM
: see how to attach shared memory
echo " "
echo "Deciding how to attach shared memory..." >&4

case "$ipc" in
shm)
 shm_for='Default case'
```

```
shm_att='HIGH'
shm_lim='0x0'
if ./Cppsym tower32 tower32_600; then
 echo "NCR Towers are usually normal..."
 : echo "Oh, an NCR Tower."
 : This works for the 600
 shm_for='NCR Tower 32'
 shm_att='LOW'
else
 case "$uname" in
 */uname)
  case "`uname -m`" in
  ACS??68*)
   echo "Oh, an Altos 3068."
   shm_for='Altos 3068:'
   shm_lim='0x800000'
   ;;
   esac
   ;;
 *)
  echo "Looks normal to me..."
  ;;
 esac
fi

dflt="$shm_for"
rp='Description of shared memory configuration?'
. ./myread
shm_for="$ans"

dflt="$shm_att"
rp='Where should shared memory be attached?'
. ./myread
shm_att="$ans"

case "$shm_att" in
HIGH)
 dflt="$shm_lim"
 rp='What is
the upper address limit for shared memory?'
 . ./myread
 shm_lim="$ans"
 ;;
*)
 shm_lim="
 ;;
esac
;;
```

```
*)
 echo "but you aren't using shared memory so I won't bother." >&4
 shm_for='NOT CONFIGURED'
 shm_att='NONE'
 shm_lim='-1'
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/shm_for.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: warnflags.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: warnflags.U,v $
?RCS: Revision 3.0  1993/08/18  12:10:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:warnflags: cat cc contains Myread Guess Oldconfig Findhdr
?MAKE: -pick add $@ %<
?S:warnflags:
?S: This variable contains any additional C compiler flags to generate
?S: warnings from the compiler. It is up to the Makefile to use this.
?S:.
: offer additional
 warning flags for compilation
$cat <<EOH

You may wish to compile with extra compiler warnings enabled.
Note that doing so enhances your chance of receiving your free set of steak
knives, particularly if you find any bugs and report them.
If you don't want extra warnings, answer "none".

EOH
case "$warnflags" in
") case "$cc" in
 *gcc*)
```

```
 dflt="-Wall -Wno-comment"
 if $contains 'fprintf' `./findhdr stdio.h` >/dev/null 2>&1; then
  :
 else
  dflt="$dflt -Wno-implicit"
 fi
 ;;
*) dflt="none";;
esac
;;
' ') dflt="none";;
*) dflt="$warnflags";;
esac

rp="Any $cc flags to enable warnings?"
. ./myread
case "$ans" in
none) warnflags=' ';;
*) warnflags="$ans";;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/warnflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: html3dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html3dir.U,v $
?RCS:
?MAKE:html3dir html3direxp installhtml3dir: cat sed Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup html1dir
?MAKE: -pick add $@ %<
?Y:TOP
?D:html3dir="
?S:html3dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe libraries or modules.  It is intended to
?S: correspond roughly to section 3 of the Unix manuals.
?S:.
```

```
?D:html3direxp="
?S:html3direxp:
?S: This variable
 is the same as the html3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml3dir="
?S:installhtml3dir:
?S: This variable is really the same as html3direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html3direxp
?LINT:set installhtml3dir
: determine where html pages for libraries and modules go
set html3dir html3dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for modules associated with $spackage,
indicate the appropriate directory here.  To skip installing html files,
answer "none".
EOM
: There is no obvious default.  If they have specified html1dir, then
: try to key off that, possibly changing .../html1 into .../html3.
case "$html3dir" in
") html3dir=`echo "$html1dir" | $sed 's/1$/3$/'` ;;
*) dflt=$html3dir ;;
esac
fn=dn+~
rp="Directory for the $spackage module
 html pages?"
. ./getfile
prefixvar=html3dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html3dir" = "X" && html3dir=' '
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/html3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
```

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running Configure from a remote directory ($src
 is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: Mkdirp src
?MAKE: -pick add $@ %<
?F:./extract
?T:CONFIG SRC dir file
: script used to extract .SH files with variable substitutions
cat >extract <<EOS
CONFIG=true
SRC="$src"
EOS
cat >>extract <<'EOS'
echo "Doing variable substitutions on .SH files..."
if test -f "$SRC/MANIFEST"; then
 set x `awk '{print $1}' <$SRC/MANIFEST | grep '\.SH'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$SRC"; find . -name "*.SH" -print)`
fi
shift
case $# in
0) set x `(cd "$SRC"; echo *.SH)`; shift;;
esac
if test ! -f "$SRC/$1"; then
 shift
fi
for file in $*; do
```

```
 case "$SRC" in
 ".")
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (cd $dir && . ./$file)
   ;;
  *)
   . ./$file
   ;;
  esac
  ;;
 *)
?X:
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause
 the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
?X:  -- RAM, 18/03/96
?X:
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   ./mkdirp $dir
   sh <"$SRC/$dir/$file"
   ;;
  *)
   sh <"$SRC/$file"
   ;;
  esac
  ;;
 esac
done
if
```

```
 test -f "$SRC/config_h.SH"; then
 if test ! -f config.h; then
?X: oops, they left it out of MANIFEST, probably, so do it anyway.
  sh <"$SRC/config_h.SH"
 fi
fi
EOS
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Extract.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: manfmt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: manfmt.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  16:11:57  ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:16:52  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:39:20  ram
?RCS: patch49: new installmanfmt and AFS-lookup for formatted man pages
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS:
 Revision 3.0.1.2  1994/08/29  16:30:31  ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:09:22  ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:manfmt manfmtexp installmanfmt: Getfile Loc Oldconfig cat manext \
 spackage Prefixit prefixexp Prefixup afs test
?MAKE: -pick add $@ %<
?Y:TOP
?S:manfmt:
```

```
?S: This variable contains the name of the directory in which formatted
?S: manual pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command. Note
?S: that you may have to do ~name substitution. Use manfmtexp otherwise.
?S:.
?S:manfmtexp:
?S: This is the same as the manfmt variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
?S:installmanfmt:
?S: This variable is really
 the same as manfmtexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change manext
?T:lookpath
: determine where manual pages go
set manfmt manfmt
eval $prefixit
$cat <<EOM

$spackage has pre-formatted manual pages.  If you don't want these installed,
answer 'none' to the next question.

EOM
case "$manfmt" in
")
 lookpath="$prefixexp/catman/man1 $prefixexp/man/cat1"
 lookpath="$lookpath $prefixexp/catman/u_man/man1"
 lookpath="$lookpath $prefixexp/catman/l_man/man1"
 lookpath="$lookpath $prefixexp/catman/cat1 /usr/catman/local/man1"
 lookpath="$lookpath /usr/catman/manl /usr/man/cat1"
 lookpath="$lookpath /usr/catman/mann /usr/catman/l_man/man1"
 lookpath="$lookpath /usr/catman/u_man/man1 /usr/catman/man1"
 dflt=`./loc . none $lookpath`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$manfmt"
 ;;
esac
fn=dn~
rp='Where
 do pre-formatted manual pages go?'
. ./getfile
```

```
if test "X$manfmtexp" != "X$ansexp"; then
 installmanfmt="
fi
manfmt="$ans"
manfmtexp="$ansexp"
if $afs && $test "$manfmt"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installmanfmt" in
 '') dflt=`echo $manfmtexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmanfmt";;
 esac
 fn=de~
 rp='Where will pre-formatted man pages be installed?'
 . ./getfile
 installmanfmt="$ans"
else
 installmanfmt="$manfmtexp"
fi

case "$manfmt" in
'') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/manfmt.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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```

```
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cf_email.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:05:06  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:cf_email: cat cf_by test myhostname mydomain Oldconfig Myread
?MAKE: -pick add $@ %<
?S:cf_email:
?S: Electronic mail address of the person who ran Configure. This can be
?S: used by units that require the user's e-mail, like MailList.U.
?S:.
?T:cont maildomain
?LINT:extern MAILDOMAIN
: determine the e-mail address of the user who is running us
$cat <<EOM

I need to get your e-mail address
 in Internet format if possible, i.e.
something like user@host.domain. Please answer accurately since I have
no easy means to double check it. The default value provided below
is most probably close to reality but may not be valid from outside
your organization...

EOM
cont=x
while test "$cont"; do
 case "$MAILDOMAIN" in
 '')
  if $test -s /etc/mailname; then
   maildomain=`$cat /etc/mailname`
  else
   maildomain="$myhostname$mydomain"
  fi
  ;;
 *)  maildomain="$MAILDOMAIN";;
 esac
 case "$cf_email" in
 '') dflt="$cf_by@$maildomain";;
 *)  dflt="$cf_email";;
 esac
 rp='What is your e-mail address?'
 . ./myread
 cf_email="$ans"
 case "$cf_email" in
 *@*.*) cont='' ;;
```

```
 *)
  rp='Address does not look like an Internet one.  Use it anyway?'
  case "$fastread" in
  yes) dflt=y ;;
  *) dflt=n ;;
  esac
  . ./myread
  case "$ans" in
  y*) cont='' ;;
  *) echo " " ;;
  esac
  ;;
 esac
done
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_email.U
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```
?RCS: $Id$
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman1dir siteman1direxp installsiteman1dir: Getfile \
 Setprefixvar prefix siteprefix man1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman1dir=''
?S:siteman1dir:
?S: This variable contains the name of the directory in which site-specific
?S: manual source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman1direxp=''
?S:siteman1direxp:
```

```
?S: This variable is the same as the siteman1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsiteman1dir="
?S:installsiteman1dir:
?S: This variable is really the same as siteman1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman1dir
?LINT:set siteman1dir
?LINT:set siteman1direxp
: determine where add-on manual pages go
case "$siteman1dir" in
") dflt=`echo $man1dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman1dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific manual pages should be installed?'
. ./getfile
prefixvar=siteman1dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteman1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2  1994/06/20  07:08:43  ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
```

```
?RCS: Revision 3.0.1.1  1993/09/13  16:13:50  ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:sysman: test
 Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.
?T:syspath
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
 syspath="$syspath /usr/man/u_man/man1 /usr/share/man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form." >&4
fi

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sysman.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: startsh.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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```

```
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: startsh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:25:31  ram
?RCS: patch61: avoid needless chatter since this is now done very early
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:startsh: sh sharpbang eunicefix
?MAKE: -pick add $@ %<
?S:startsh:
?S: This variable contains the string to put on the front of a shell
?S: script to make sure (hopefully) that it runs with sh and not some
?S: other
 shell.
?S:.
?F:!sharp
: figure out how to guarantee sh startup
?X: Avoid needless chatter since this is now done very early.
?X: echo " "
?X: echo "Checking out how to guarantee sh startup..." >&2
case "$startsh" in
") startsh=${sharpbang}${sh} ;;
*)
?X: echo "Let's see if '$startsh' works..." ;;
esac
cat >sharp <<EOSS
$startsh
set abc
test "$?abc" != 1
EOSS

chmod +x sharp
$eunicefix sharp
if ./sharp; then
 : echo "Yup, it does."
else
 echo "Hmm... '$startsh' does not guarantee sh startup..."
 echo "You may have to fix up the shell scripts to make sure $sh runs them."
fi
rm -f sharp

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/startsh.U
No license file was found, but licenses were detected in source scan.
```

```
?RCS: Copyright (c) 2016 Dagfinn Ilmari Mannsker & H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
?X: To use it, say:
?X: set d_siginfo_si_errno siginfo_t int si_errno $d_sigaction signal.h
?X: eval $hasfield_t;
?X:
?MAKE:Hasfield_t: test Compile rm_try Setvar
?MAKE: -pick add $@ %<
?LINT:define hasfield_t
?S:hasfield_t:
?S: Internal macro for Configure
?S:.
?V:hasfield_t:
?T:varname struct type field
: Define hasfield_t macro for Configure internal use
hasfield_t='varname=$1; struct=$2; type=$3; field=$4; shift; shift; shift; shift;
while $test $# -ge 2; do
   case
 "$1" in
 $define) echo "#include <$2>";;
   esac ;
   shift 2;
done > try.c;
echo "int main () { $struct foo; $type bar = foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Hasfield_t.U
No license file was found, but licenses were detected in source scan.

```
/*|?:[\\/]*)
```

```
if test -f "$xxx"; then
: ok
else
echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't know where '$file' is, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
done
echo " "
echo "Don't worry if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
eval xxx=\$$file
case "$xxx" in
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*)
 xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
```

```
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't see $file out there, $say."
say=either
;;
esac
done
case "$egrep" in
egrep)
echo "Substituting grep for egrep."
egrep=$grep
_egrep=$grep
;;
esac
@if less
case "$less" in
") ;;
*) if $less -R </dev/null >/dev/null 2>&1; then
echo "Substituting less -R for less."
less="$less -R"
_less=$less
fi
;;
esac
@end
@if ln
case "$ln" in
ln)
echo "Substituting cp for ln."
ln=$cp
_ln=$cp
;;
esac
@end
@if make || gmake
case "$make" in
make)
case "$gmake" in
gmake)
echo "I can't find make or gmake, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
```

```
exit 1
;;
esac
;;
esac
case "$gmake" in
gmake) ;;
*) # We can't have osname yet.
if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
# Assume that gmake, if found, is definitely
 GNU make
# and prefer it over the system make.
echo "Substituting gmake for make."
make=$gmake
_make=$gmake
fi
;;
esac
@end
case "$test" in
test)
echo "Hopefully test is built into your sh."
;;
*)
if `sh -c "PATH= test true" >/dev/null 2>&1`; then
echo "Using the test built into your sh."
?X:
?X: We need to set both test and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
?X: we choose to load an old config.sh generated on another platform.
?X:
test=test
_test=test
fi
;;
esac
?LINT:change n c
case "$echo" in
echo)
echo "Hopefully echo is built into your sh."
;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
echo " "
echo "Checking compatibility between $echo and builtin echo (if any)..." >&4
$echo $n "hi there$c" >foo1
echo $n "hi there$c" >foo2
```

```
if cmp foo1 foo2 >/dev/null 2>&1; then
echo "They are compatible.  In fact, they may be identical."
else
case "$n" in
'-n') n='' c='\c';;
*) n='-n' c='';;
esac
cat
 <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built in and we may have to run some Bourne shell scripts.  That
means I'll have to use '$n$c' to suppress newlines now.  Life is ridiculous.

FOO
$echo $n "The star should be here-->$c"
$echo "*"
fi
$rm -f foo1 foo2
;;
esac

?X: The next part is irrelevant to the real process
# This question was auctioned at YAPC::Europe-2007 in Vienna
# I never promised you could answer it. I only auctioned the question.
cat <<FOO
The following message is sponsored by

Dresden.pm<--The stars should be here.

Dear Perl user, system administrator or package
maintainer, the Perl community sends greetings to
you. Do you (emblematical) greet back [Y/n]? n

FOO

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Loc.U
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?RCS: $Id: Configdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Configdir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  14:58:36  ram
?RCS: patch61: have README explicitly mention the package name
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Configdir: package
?MAKE: -pick add $@ %<
: create .config dir to save info across Configure sessions
test -d ../.config || mkdir ../.config
cat >../.config/README <<EOF
This directory created by Configure to save
 information that should
persist across sessions for $package.

You may safely delete it if you wish.
EOF
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Configdir.U
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```
?RCS: $Id: libnlist.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libnlist.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:02  ram
?RCS: patch61: added usrinc and mips on the dependency line
?RCS: patch61: make sure we call ./mips
?RCS: patch61: added a ?LINT: hint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:00  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnlist: Loc libpth Guess usrinc _a
?MAKE: -pick add $@ %<
?S:libnlist (libmld):
?S: This variable contains the name of the library required to
```

```
 get the
?S: definition of the nlist() function.  On a MIPS RISC/OS box, it is -lmld.
?S: Under Sys Vr4, it is -lelf.  Otherwise, its value is empty.
?S:.
?T:xxx
?LINT:use usrinc
: see if we need a special library for 'nlist()'
echo " "
: How about doing this if nlist is not in libc...
if ./mips ; then
 libnlist='-lmld'
else
 xxx=`./loc libelf$_a x $libpth`
 case "$xxx" in
 x)  ;;
 *)
  libnlist="$xxx"
  ;;
 esac
fi
case "$libnlist" in
") echo "No special library for nlist() seems necessary." >&4
 ;;
*)  echo "nlist() can be found in $libnlist." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libnlist.U
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```
?RCS: $Id: vendorman1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman1dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman1dir vendorman1direxp installvendorman1dir: man1dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
```

```
?Y:TOP
?S:vendorman1dir:
?S: This variable contains the name of the directory for man1
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman1direxp:
?S: This variable is the ~name expanded version of vendorman1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman1dir="
?S:installvendorman1dir:
?S: This variable is really the same as vendorman1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman1dir
: Set the vendorman1dir variables
case "$vendorprefix" in
") vendorman1dir="
 vendorman1direxp="
 ;;
*) : determine where vendor-supplied manual pages go.
 case "$vendorman1dir" in
 ") dflt=`echo "$man1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman1dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname for
 the vendor-supplied manual section 1 pages?'
 . ./getfile
 vendorman1dir="$ans"
 vendorman1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman1dir" = "X" && vendorman1dir=' '
prefixvar=vendorman1dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorman1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: maildir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: maildir.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:21:56  ram
?RCS: patch15: now also looks under /var/mail for BSD/386
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:maildir maildirexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:maildir:
?S: This variable contains the name of the directory in which mail is
?S: spooled. Programs using this variable must be prepared to deal with
?S: ~name
 substitutions.
?S:.
?S:maildirexp:
?S: This is the same as the maildir variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
: determine where mail is spooled
case "$maildir" in
") dflt=`./loc . /usr/spool/mail /usr/spool/mail /usr/mail /var/mail`;;
*) dflt="$maildir";;
esac
echo " "
fn=d~
rp='Where is yet-to-be-read mail spooled?'
. ./getfile
maildir="$ans"
maildirexp="$ansexp"
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/maildir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libnm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libnm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:26  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libnm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the new math library routines.  If there is no new math
?S: library, it is null.
?S:.
?T:ans
?O:
 use libswanted='-lnm' instead (see libs.U).
: see if we should include -lnm
echo " "
if $test -r /usr/lib/libnm$_a || $test -r /usr/local/lib/libnm$_a ; then
 echo "New math library found." >&4
 libnm='-lnm'
else
 ans=`./loc libnm$_a x $libpth`
 case "$ans" in
 x)
  echo "No nm library found--the normal math library will have to do." >&4
  libnm=''
  ;;
 *)
  echo "New math library found in $ans." >&4
  libnm="$ans"
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libnm.U
No license file was found, but licenses were detected in source scan.

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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Thomas Neumann <tom@smart.bo.open.de>
?RCS:
?RCS: $Log: Findhdr.U,v $
?RCS: Revision 3.0.1.2 1994/10/29 15:53:08 ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.1 1994/05/06 14:03:56 ram
?RCS: patch23: cppminus must be after other cppflags, not before
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:54 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a findhdr script which is used to locate the header
?X: files
 in $usrinc or other stranger places using cpp capabilities. The
?X: script is given an include file base name, like 'stdio.h' or 'sys/file.h'
?X: and it returns the full path of the include file and a zero status or an
?X: empty string with an error status if the file could not be located.
?X:
?MAKE:Findhdr: grep test tr rm +usrinc awk cat startsh \
 cppstdin cppminus +cppflags eunicefix osname
?MAKE: -pick add $@ %<
?LINT:define fieldn
?S:fieldn:
?S: This variable is used internally by Configure. It contains the position
?S: of the included file name in cpp output. That is to say, when cpp
?S: pre-processes a #include <file> line, it replaces it by a # line which
?S: contains the original position in the input file and the full name of
?S: included file, between "quotes".
?S:.
?V:fieldn
?F:./findhdr !fieldn

```
?T:cline pos wanted name awkprg cppfilter testaccess status usrincdir
: determine filename position in cpp output
echo " "
echo "Computing filename position in cpp output for #include
 directives..." >&4
echo '#include <stdio.h>' > foo.c
case "$osname" in
vos)
 testaccess=-e
?X: VOS: path component separator is >
 cppfilter="tr '\\\\>' '/' |"
 ;;
*)
 testaccess=-r
 cppfilter="
 ;;
esac
$cat >fieldn <<EOF
$startsh
$cppstdin $cppflags $cppminus <foo.c 2>/dev/null | \
$grep '^[  ]*#.*stdio\.h' | \
while read cline; do
 pos=1
 set \$cline
 while $test \$# -gt 0; do
  if $test $testaccess \`echo \$1 | $tr -d ""\`; then
   echo "\$pos"
   exit 0
  fi
  shift
  pos=\`expr \$pos + 1\`
 done
done
EOF
chmod +x fieldn
fieldn=`./fieldn`
$rm -f foo.c fieldn
case $fieldn in
") pos='???';;
1) pos=first;;
2) pos=second;;
3) pos=third;;
*) pos="${fieldn}th";;
esac
echo "Your cpp writes the filename in the $pos field of the line."

?X: To locate a header file, we cannot simply check for $usrinc/file.h, since
?X: some machine have the headers in weird places and our only hope is that
```

```
?X: the C pre-processor will know how to find those headers. Thank you NexT!
: locate header file
$cat
 >findhdr <<EOF
$startsh
wanted=\$1
name="
for usrincdir in $usrinc; do
 if test -f \$usrincdir/\$wanted; then
  echo "\$usrincdir/\$wanted"
  exit 0
 fi
done
awkprg='{ print \$$fieldn }'
echo "#include <\$wanted>" > foo\$\$.c
$cppstdin $cppminus $cppflags < foo\$\$.c 2>/dev/null | \
$cppfilter $grep "^[  ]*#.*\$wanted" | \
while read cline; do
 name=\`echo \$cline | $awk "\$awkprg" | $tr -d '"'\`
 case "\$name" in
 *[/\\\\]\$wanted) echo "\$name"; exit 1;;
 *[\\\\/]\$wanted) echo "\$name"; exit 1;;
 *) exit 2;;
 esac
done
?X: status = 0: grep returned 0 lines, case statement not executed
?X: status = 1: headerfile found
?X: status = 2: while loop executed, no headerfile found
status=\$?
$rm -f foo\$\$.c
if test \$status -eq 1; then
 exit 0
fi
exit 1
EOF
chmod +x findhdr
$eunicefix findhdr

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Findhdr.U
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0.1.1 1994/10/31 09:47:29 ram
?RCS: patch44: leading comment states this unit comes before option processing
?RCS:
?RCS: Revision 3.0 1993/08/18 12:05:07 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end. This file
?X: is included after variables are initialized but before any old
?X: config.sh file is read in and before
 any Configure switch processing.
?X:
?MAKE:Myinit: Init
?MAKE: -pick add $@ %<
?LINT: nocomment

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Myinit.U
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1 1994/05/13 15:28:48 ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:10:03 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Loc Oldconfig byacc bison cat test
?MAKE: -pick add $@ %<
?S:yacc:
?S: This variable holds the name of the compiler compiler we
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.

```
?S:.
?S:yaccflags:
?S: This variable contains any
 additional yacc flags desired by the
?S: user.  It is up to the Makefile to use this.
?S:.
?T:comp
: determine compiler compiler
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"
fi
case "$yacc" in
")
 yacc=`./loc yacc yacc $pth`
 if $test -f "$yacc$_exe"; then
  dflt='yacc'
 elif $test -f "$byacc$_exe"; then
  dflt='byacc'
 elif $test -f "$bison$_exe"; then
  dflt='bison'
 else
  dflt=''
 fi
 ;;
*) dflt="$yacc";;
esac
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behaviour.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
```

```
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH

Your yacc program may need extra flags to normally process the parser sources.
Do NOT specify any -d or -v flags here, since those are
 explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
. ./myread
case "$ans" in
none) yaccflags=";;
*) yaccflags="$ans";;
esac

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/yacc.U
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?RCS: $Id: inc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS:
?RCS: $Log: inc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:inc incexp: Loc Oldconfig Getfile usrinc
?MAKE: -pick add $@ %<
?S:inc:
?S: This variable holds the name of the directory in which the user wants
?S: to put public header files for the package in question.  It is most
?S: often a local directory such as /usr/local/include.
?S:.
```

```
?S:incexp:
?S: This is the same as the inc variable, but is filename
 expaned
?S: at configuration time for convenient use in your makefiles.
?S:.
: determine where public header files go
case "$inc" in
")
 dflt=`./loc . "." /usr/local/include /usr/include/local $usrinc`
 ;;
*)  dflt="$inc"
 ;;
esac
fn=d~
rp='Where do you want to put the public header files?'
. ./getfile
inc="$ans"
incexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/inc.U
No license file was found, but licenses were detected in source scan.

```
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```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/Jmake.tmpl
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```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:09:11  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5  1995/07/25  14:12:05  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  16:24:22  ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
```

```
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:05:44  ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
?RCS: patch30: undone patch23 for libswanted default
 setting
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:08:45  ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:02:31  ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libs libsfound libsfiles libsdirs libspath libscheck: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 +usesocks sed +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it.  The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
?S:.
?S:libsdirs:
?S: This variable holds the directory
 names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:libscheck:
?S: This variable is intended to be set by hint files, if needed.
?S: It should contain shell code that will be eval'ed with $xxx holding
?S: some library file.  It may change $xxx if needed.
?S: For instance, on an Irix platform, you may make sure the right
?S: library file is used depending on the cc command line, so that the
?S: correct library is used depending on the selected ABI (for 32 and
?S: 64-bit compilations).
```

```
?S:
?S: Here is an example of code that could be found in a hint file on Irix
?S: when the selected compiler was for 32-bit -- that code is put in the
?S: cc.cbu call-back unit to be invoked AFTER the C compiler and its
?S: flags have been chosen:
?S:
?S:  libscheck='case "$xxx" in
?S:  *.a) /bin/ar p $xxx `/bin/ar t $xxx | sed q` >$$.o;
?S:   case "`/usr/bin/file $$.o`" in
?S:   *N32*)
 rm -f $$.o ;;
?S:   *) rm -f $$.o; xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  *) case "`/usr/bin/file $xxx`" in
?S:   *N32*) ;;
?S:   *) xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  esac'
?S:.
?D:libs="
?LINT:extern libswanted
?LINT:change libswanted
?INIT:: default library list
?INIT:libswanted="
?X: This order is chosen so that libraries  -lndir, -ldir, -lucb, -lbsd,
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatability
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
?X: -lc_s proceeds -lc so we pick up the shared library version, if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private
 Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: should be set by hint files if needed
?INIT:libscheck="
```

```
?T:xxx yyy thislib thisdir libstyle linkmsg
?F:lt.c lt
: Looking for optional libraries
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
' '|'') dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
"$define") libswanted="$libswanted socks5 socks5_sh" ;;
esac
?X: Used later for link checks
echo "extern char printf(); int main() { printf(); return 0; }" > lt.c
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted;
 do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" ; then
  xxx=`ls $thisdir/lib$thislib.$so.[0-9]* 2>/dev/null | $sed -n '1p'`
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib.$so
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/$thislib$_a
       $test -f "$xxx" && eval $libscheck
```

```
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib${thislib}_s$_a
        $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
  $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/Slib$thislib$_a
        $test -f "$xxx" && eval $libscheck
  $test
 -f "$xxx" && libstyle=static
    fi
    if $test -f "$xxx"; then
?X:
?X: It is not sufficient to find a .so on the disk.  We must make sure
?X: that we can indeed supply the -lfoo line on the cc line to link against
?X: that library.  On Linux for instance, a versionned .so will not be
?X: implicitly linked against, whereas it will work fine on Solaris 2.6.
?X:  --RAM, 10/10/2003
?X:
  if $cc -o lt $ccflags $ldflags lt.c -l$thislib >/dev/null 2>&1;
  then
   linkmsg=""
  else
   linkmsg=" but I can't link against it"
  fi
  case "$libstyle" in
  shared) echo "Found -l$thislib (shared)$linkmsg." ;;
  static) echo "Found -l$thislib$linkmsg." ;;
  *)      echo "Found -l$thislib ($libstyle)$linkmsg." ;;
  esac
  case " $dflt " in
  *"-l$thislib "*) ;;
  *)
   case "$linkmsg" in
   ")
    dflt="$dflt -l$thislib"
    libsfound="$libsfound $xxx"
    yyy=`basename $xxx`
    libsfiles="$libsfiles $yyy"
    yyy=`echo $xxx|$sed -e "s%/$yyy\\$%%"`
    case " $libsdirs
 " in
    *" $yyy "*) ;;
    *) libsdirs="$libsdirs $yyy" ;;
    esac
```

```
      ;;
    esac
    ;;
  esac
  break
    fi
 done
 if $test ! -f "$xxx"; then
    echo "No -l$thislib."
 fi
done
set X $dflt
shift
dflt="$*"
case "$libs" in
'') dflt="$dflt";;
*) dflt="$libs";;
esac
case "$dflt" in
' '|'') dflt='none';;
esac
$rm -f lt.c lt

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed.  Include any other special libraries here as well.
Say "none" for none.  The default list is almost always right.
EOM

echo " "
rp="Which libraries to use?"
. ./myread
case "$ans" in
none) libs=' ';;
*) libs="$ans";;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libs.U
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```
/* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises.  Note, however,
* that running config_h.SH again will wipe out any changes you've made.
```

```
* For a more permanent change edit $CONFIG_SH and rerun config_h.SH.
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Config_h.U
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```
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?RCS:
?X: This unit generates a $hasstruct string that is used internally
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat i_sysstat sys/stat.h
?X:  eval $hasstruct
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat $hdrs
?X: eval $hasstruct
?X:
?MAKE:Hasstruct: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct
?V:hasstruct
: Define hasstruct macro for Configure internal use
hasstruct='varname=$1; struct=$2; shift;
 shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
echo "int main () { struct $struct foo; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
```

```
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasstruct.U
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```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Init.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:45:59  ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file initializes certain default variables
 used by Configure.  They
?X: may be overridden or added to by definitions in Myinit.U.
?X:
?MAKE:Init eunicefix _exe: Null
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell.  On other systems it is a no-op.
?S:.
?S:_exe (exe_ext):
?S: This variable defines the extension used for executable files.
?S: For unix it is empty.  Other possible values include '.exe'.
?S: DJGPP, Cygwin and OS/2 use '.exe'.  Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
```

```
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in
?X: the dependency line since this unit makes them visible via ?V:, and
?X:
 everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
?T: DJGPP
: Initialize wide constants
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
rmlist=''

: We must find out about Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
 : Amiga OS
  _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
 : Stratus VOS
 _exe=".pm"
elif test -n "$DJGPP"; then
 : DOS DJGPP
  _exe=".exe"
elif test -d c:/. ; then
 : OS/2 or cygwin
 _exe=".exe"
else
 : All other UNIX systems
 _exe=""
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: man1dir.U,v 3.2 1999/07/08 20:57:21 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996, 1999 Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.2  1999/07/08 20:57:21  doughera
?RCS: Used installprefix.
?RCS:
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:29  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and
 man3dir.  This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: cat nroff Loc Oldconfig \
 spackage test Getfile Setprefixvar Prefixit Prefixup sysman Myread \
 prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?D:man1dir="
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?D:man1direxp="
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman1dir="
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
```

```
?S: man1direxp only points to the read-only access location.
 For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
?LINT:change prefixvar
?LINT:set man1direxp
: determine where manual pages go
set man1dir man1dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 ") man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$man1dir" in
' ') dflt=none
 ;;
")
 lookpath="$prefixexp/share/man/man1"
 lookpath="$lookpath $prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people
 expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
```

```
*)  dflt="$man1dir"
 ;;
esac
echo " "
fn=dn+~
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir="
fi
prefixvar=man1dir
. ./setprefixvar

case "$man1dir" in
") man1dir=' '
 installman1dir="";;
esac

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 ") case "$man1dir" in
  *1)  dflt=1 ;;
  *1p) dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L1)
 dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/man1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorman3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999-2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman3dir vendorman3direxp installvendorman3dir: man3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman3dir:
?S: This variable contains the name of the directory for man3
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman3direxp:
?S: This variable is the ~name expanded version of vendorman3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman3dir="
?S:installvendorman3dir:
?S: This variable is really the same as vendorman3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman3dir
: Set the vendorman3dir variables
case "$vendorprefix" in
") vendorman3dir="
```

```
 vendorman3direxp="
 ;;
*) : determine where vendor-supplied module manual pages go.
 case "$vendorman3dir" in
 '') dflt=`echo "$man3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman3dir ;;
 esac
 case "$dflt" in
 '|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname
 for the vendor-supplied manual section 3 pages?'
 . ./getfile
 vendorman3dir="$ans"
 vendorman3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman3dir" = "X" && vendorman3dir=' '
prefixvar=vendorman3dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorman3dir.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: scandir.C,v 3.0.1.1 1994/01/24 13:58:45 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: scandir.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:45  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/scandir.C
No license file was found, but licenses were detected in source scan.

?RCS: $Id: installstyle.U,v 1.2 1999/07/13 14:56:06 doughera Exp $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: installstyle.U,v $
?RCS: Revision 1.2 1999/07/13 14:56:06 doughera
?RCS: Fix dependencies. Add more comments.
?RCS:
?RCS: Revision 1.1 1999/07/12 17:30:41 doughera
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:installstyle: prefix Myread
?MAKE: -pick add $@ %<
?X: Myread dependence is for dflt.
?S:installstyle:
?S: This variable describes the "style" of the perl installation.
?S: This is intended to be useful for tools that need to
?S: manipulate entire perl
 distributions. Perl itself doesn't use
?S: this to find its libraries -- the library directories are
?S: stored directly in Config.pm. Currently, there are only two
?S: styles: "lib" and "lib/perl5". The default library locations
?S: (e.g. privlib, sitelib) are either $prefix/lib or
?S: $prefix/lib/perl5. The former is useful if $prefix is a
?S: directory dedicated to perl (e.g. /opt/perl), while the latter
?S: is useful if $prefix is shared by many packages, e.g. if
?S: $prefix=/usr/local.
?S:
?S: Unfortunately, while this "style" variable is used to set
?S: defaults for all three directory hierarchies (core, vendor, and
?S: site), there is no guarantee that the same style is actually
?S: appropriate for all those directories. For example, $prefix
?S: might be /opt/perl, but $siteprefix might be /usr/local.
?S: (Perhaps, in retrospect, the "lib" style should never have been
?S: supported, but it did seem like a nice idea at the time.)
?S:
?S: The situation is even less clear for
 tools such as MakeMaker
?S: that can be used to install additional modules into
?S: non-standard places. For example, if a user intends to install
?S: a module into a private directory (perhaps by setting PREFIX on

```
?S: the Makefile.PL command line), then there is no reason to
?S: assume that the Configure-time $installstyle setting will be
?S: relevant for that PREFIX.
?S:
?S: This may later be extended to include other information, so
?S: be careful with pattern-matching on the results.
?S:
?S: For compatibility with perl5.005 and earlier, the default
?S: setting is based on whether or not $prefix contains the string
?S: "perl".
?S:.
: determine installation style
: For now, try to deduce it from prefix unless it is already set.
: Reproduce behavior of 5.005 and earlier, maybe drop that in 5.7.
case "$installstyle" in
") case "$prefix" in
  *perl*) dflt='lib';;
  *) dflt='lib/perl5' ;;
 esac
 ;;
*) dflt="$installstyle" ;;
esac
: Probably not worth prompting for this since we prompt
 for all
: the directories individually, and the prompt would be too long and
: confusing anyway.
installstyle=$dflt

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/installstyle.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Setprefixvar.U,v 3.0 2006/04/01 17:25:29 hmbrand $
?RCS:
?RCS: Copyright (c) 2006-2006, H.Merijn Brand & Nicholas Clark
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:   You may distribute under the terms of either the GNU General Public
?RCS:   License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit sets up the scripts installprefix and setprefixvar, so code
?X: in other parts can be more simple and maintainable
?X:
?MAKE:Setprefixvar: Myread Getfile startsh eunicefix test \
```

```
 prefix prefixexp installprefix installprefixexp
?MAKE: -pick add $@ %<
?LINT:extern prefixvar
?X: metalint still sees "`\$${prefixvar}exp`" as variable :(
?T:prefixvarexp
?F:./setprefixvar
?F:./installprefix
: Perform
 the prefixexp/installprefixexp correction if necessary
cat <<EOS >installprefix
$startsh
EOS
cat <<'EOSC' >>installprefix
: Change installation prefix, if necessary.
if $test X"$prefix" != X"$installprefix"; then
   eval "install${prefixvar}=\`echo \$${prefixvar}exp | sed \"s#^\$prefixexp#\$installprefixexp#\"\`"
else
   eval "install${prefixvar}=\"\$${prefixvar}exp\""
fi
EOSC
chmod +x installprefix
$eunicefix installprefix

: Set variables such as privlib and privlibexp from the output of ./getfile
: performing the prefixexp/installprefixexp correction if necessary.
cat <<EOS >setprefixvar
$startsh
EOS
cat <<'EOSC' >>setprefixvar
eval "${prefixvar}=\"\$ans\""
eval "${prefixvar}exp=\"\$ansexp\""
. ./installprefix
EOSC
chmod +x setprefixvar
$eunicefix setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/Setprefixvar.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
?RCS:
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:passcat groupcat hostcat:
 Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S:.
?S:groupcat:
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S:.
: see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
 if $test -f /usr/etc/nibindd; then
  echo
 " "
  echo "I'm fairly confident you're on a NeXT."
@if passcat || groupcat
  echo " "
  rp='Do you get the passwd file via NetInfo?'
  dflt=y
  case "$passcat" in
  nidump*) ;;
```

```
 ") ;;
 *) dflt=n;;
 esac
 . ./myread
 case "$ans" in
 y*) passcat='nidump passwd .'
@if groupcat
  echo "(Assuming /etc/group is also distributed.)"
  groupcat='nidump group .'
@end
  ;;
 *) echo "You told me, so don't blame me."
  case "$passcat" in
  nidump*) passcat="
@if groupcat
    groupcat=";;
@end
  esac
@if groupcat
  echo "(Assuming /etc/group is handled the same way.)"
@end
  ;;
 esac
@end
@if hostcat
 echo " "
 rp='Do you get the hosts file via NetInfo?'
 dflt=y
 case "$hostcat" in
 nidump*) ;;
 ") ;;
 *) dflt=n;;
 esac
 . ./myread
 case "$ans" in
 y*) hostcat='nidump hosts .';;
 *) case "$hostcat" in
  nidump*) hostcat=";;
  esac
  ;;
 esac
@end
 fi
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
  case "$passcat" in
```

```
 *ypcat*) dflt=y;;
 ")
 if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
   dflt=y
  else
   dflt=n
  fi;;
 *) dflt=n;;
 esac
 echo " "
 rp='Are you getting the passwd file via yellow pages?'
 . ./myread
 case "$ans" in
 y*) passcat='ypcat passwd'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='ypcat group'
@end
   ;;
 *) passcat='cat /etc/passwd'
@if groupcat
   echo "(Assuming /etc/group is also local.)"
   groupcat='cat /etc/group'
@end
   ;;
 esac
 ;;
esac
@end
@if hostcat
 case "$hostcat" in
 nidump*) ;;
 *)
  case "$hostcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the hosts file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) hostcat='ypcat hosts';;
  *) hostcat='cat /etc/hosts';;
```

```
  esac
  ;;
 esac
@end
fi
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
") hostcat=':'
 $test -f /etc/hosts && hostcat='cat
 /etc/hosts';;
esac
case "$groupcat" in
") groupcat=':'
 $test -f /etc/group && groupcat='cat /etc/group';;
esac
case "$passcat" in
") passcat=':'
 $test -f /etc/passwd && passcat='cat /etc/passwd';;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/nis.U
No license file was found, but licenses were detected in source scan.

```
?RCS:     c) the GNU General Public License as published by the Free
?RCS:     Software Foundation; either version 1, or (at your option) any
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_builtin_overflow.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Unix.U,v 3.0.1.1 1997/02/28 15:20:06 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:20:06  ram
?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
```

?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _exe _a _o exe_ext lib_ext obj_ext path_sep \
 firstmakefile archobjs rm_try: Oldconfig rm
?MAKE: -pick add $@ %<
?S:_exe:
?S: This
 variable defines the extension used for executable files.
?S: DJGPP, Cygwin and OS/2 use '.exe'. Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
?S:.
?S:_a:
?S: This variable defines the extension used for ordinary library files.
?S: For unix, it is '.a'. The '.' is included. Other possible
?S: values include '.lib'.
?S:.
?S:_o:
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'. The '.' is included. Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make. On unix,
?S: it is makefile (then Makefile). On case-insensitive systems,
?S: it might be something else. This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture. On unix, it is usually
?S: empty.
  It is typically used to include emulations of unix calls
?S: or other facilities. For perl on OS/2, for example, this would
?S: include os2/os2.obj.
?S:.
?X: Metaconfig's Obsolete symbol stuff is too over-eager. In the
?X: perl sources, it picks up things like "P" and "FLOCK" that are
?X: not used in the way Metaconfig thinks they are. Thus I can't
?X: just declare these obsolete and then run metaconfig -o.
?X: Instead, I'll just handle them here.
?X: Sadly, history has conspired to give us a web of definitions;
?X: this could have been much simpler.
?S:lib_ext:
?S: This is an old synonym for _a.
?S:.
?S:exe_ext:

```
?S: This is an old synonym for _exe.
?S:.
?S:obj_ext:
?S: This is an old synonym for _o.
?S:.
?S:path_sep:
?S: This is an old synonym for p_ in Head.U, the character
?S: used to separate elements in the command shell search PATH.
?S:.
?S:rm_try:
?S: This is a cleanup variable for try test programs.
?S: Internal Configure use only.
?S:.
?LINT: change p_
?INIT::
 Trailing extension.  Override this in a hint file, if needed.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files or command line option can be used to override them.
: The convoluted testing is in case hints files set either the old
: or the new name.
case "$_exe" in
") case "$exe_ext" in
 ") ;;
 *) _exe="$exe_ext" ;;
 esac
 ;;
esac
case "$_a" in
") case "$lib_ext" in
   ") _a='.a';;
 *) _a="$lib_ext" ;;
 esac
 ;;
esac
case "$_o" in
") case "$obj_ext" in
 ") _o='.o';;
 *) _o="$obj_ext";;
 esac
 ;;
esac
case "$p_" in
") case "$path_sep" in
 ") p_=':';;
 *) p_="$path_sep";;
 esac
```

```
 ;;
esac
exe_ext=$_exe
lib_ext=$_a
obj_ext=$_o
path_sep=$p_

rm_try="$rm -f try try$_exe a.out .out try.[cho] try.$_o core core.try* try.core*"

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
'') firstmakefile='makefile';;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
?X:
?MAKE:lns: ln rm touch test
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic links (if they are supported).
```

```
 It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$rm -f blurfl sym
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 && $test -f sym; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lns.U
No license file was found, but licenses were detected in source scan.

?RCS: You may distribute under the terms of either the GNU General Public

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpos64_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_crypt_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lroundl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_trunc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysstatfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ilogb.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/libperl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usesocks.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isinfl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_scalbnl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtoull.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_crypt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_cmsghdr_s.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Protochk.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_asctime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getmnt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nl_langinfo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_hypot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Extensions.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_expm1.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_remquo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endgrent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sockatmark.U
*

/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtouq.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usemultiplicity.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpclass.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getprotobynumber_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_mkstemp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_union_semun.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_hasmntopt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ftello.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_prctl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_off64_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/a_dvisory/quadtype.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_cplusplus.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ptrdiff_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_truncl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysmount.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Sysroot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtold.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getnetbyaddr_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getpwent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strerror_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_setproctitle.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ualarm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_statvfs.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_bfd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_copysignl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nan.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_faststdio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_setitimer.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_timefuncs64.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setlocale_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/use64bits.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtoq.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_libm_lib_version.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fma.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isnanl.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usedtrace.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fseeko.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setvbuf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/defaultincdot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gethostent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fstatfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nearbyint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perlxv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getgrent_r.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getcwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isless.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getgrgid_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setpwent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_shadow.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fp_class.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_timegm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_strtod_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_tgamma.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gethostbyname_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getlogin_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysmode.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_mkdtemp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_thread_local.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fmin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endservent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getservbyport_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_prot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_nl_langinfo_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_readdir_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fmax.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_mntent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/time_size.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nextafter.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fdim.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getpwnam_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_asinh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sitecustomize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_ctermid_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpclassl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/ebcdic/ebcdic.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getnbynm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_sysuio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lround.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_round.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getspnam_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getnameinfo.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_exp2.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_memmem.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setservent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endprotoent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_clearenv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usebacktrace.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_futimes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usefaststdio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/socksizetype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getprotoent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_inetntop.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getfsstat.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_dlsymun.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llroundl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_unsetenv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_pthrattrj.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/uselfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_strtold_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llrint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/useperlio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_localeconv_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setgrent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_poll.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usedefaultstrict.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endgrent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysvfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_atanh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_netdb.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lrintl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_localtime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_pthread_y.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setgrent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_ieeefp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getnetbyname_r.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_memrchr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_langinfo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_gethbyad.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_unordered.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysstatvfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_qgcvt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_random_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_scalbn.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_sethostent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getsrvby.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/atoll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isnormal.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_recvmsg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lrint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_towlower.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/uselongdbl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strlcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endpwent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/dlsrc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/longdblfio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setprotoent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_inetpton.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fsat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_writev.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/infnan.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_strerror_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtoll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpgetround.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sunmath.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_drand48_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getservent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_siginfo_si.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sendmsg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_newlocale.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_fp_class.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fsync.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ilogbl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lgamma_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_mkstemps.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_erfc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lgamma.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_log1p.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_ustat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_ctime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sqrtl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_statfs_f_flags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getgrent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_tmpnam_r.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fs_data_s.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getmntent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_remainder.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strlcat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_rint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isfinitel.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isfinite.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_longlong.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/netdbtype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llround.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_copysign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getservbyname_r.U

*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perlxvf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fp_classl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strnlen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_pthread_atfork.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/dtraceobject.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usemorebits.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/atolf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nexttoward.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_quadmath.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_frexpl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getenv_thread.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_readdir64_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/acl/d_accessx.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fdclose.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_statfs_s.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/usethreads.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_acosh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getaddrinfo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llrintl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/mantbits.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fegetround.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_finitel.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_erf.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_srand48_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getnbyad.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_msghdr_s.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getprotobyname_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_modfl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fchdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/acl/d_eaccess.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_socks.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_aintl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_syslog.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getpwuid_r.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_ttyname_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_stdbool.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Cross.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getitimer.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_socks5_init.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_signbit.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_towupper.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_srandom_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/uidf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usequadmath.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_class.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getgrnam_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_libutil.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_fp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endhostent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getprotby.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strftime.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gethostbyaddr_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_readv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fcntl_can_lock.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpclassify.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_j0.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_logb.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_log2.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/quadfio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isnan.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_longdbl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isinf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysutsname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gmtime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_finite.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Myinit.U,v 3.0 1993/08/18 12:05:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0 1993/08/18 12:05:07 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end. This file
?X: is included after variables are initialized but before any old

```
?X: config.sh file is read in and before any Configure switch processing.
?X:
?MAKE:Myinit
 libswanted: Init
?MAKE: -pick add $@ %<
?S:libswanted:
?S: This variable holds a list of all the libraries we want to
?S: search.  The order is chosen to pick up the c library
?S: ahead of ucb or bsd libraries for SVR4.
?S:.
?LINT:extern usevfork glibpth
?LINT:change usevfork glibpth
: List of libraries we want.
?X: Put crypt here, even though I should really fix d_crypt.U to look
?X: for it correctly, including possible shared library versions.
: If anyone needs extra -lxxx, put those in a hint file.
libswanted="cl pthread socket bind inet nsl ndbm gdbm dbm db malloc dl ld"
libswanted="$libswanted sun m crypt sec util c cposix posix ucb bsd BSD"
: We probably want to search /usr/shlib before most other libraries.
: This is only used by the lib/ExtUtils/MakeMaker.pm routine extliblist.
glibpth=`echo " $glibpth " | sed -e 's! /usr/shlib ! !'`
glibpth="/usr/shlib $glibpth"
: Do not use vfork unless overridden by a hint file.
usevfork=false
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Myinit.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mansrc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mansrc.U,v $
?RCS: Revision 3.0.1.9  1997/02/28  16:12:03  ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.8  1995/09/25  09:16:58  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.7  1995/02/15  14:15:31  ram
?RCS: patch51: was mistakenly duplicating /usr/local/man/man1 (ADO)
```

?RCS: patch51: added /opt/man/man1 to the lookpath (ADO)
?RCS:
?RCS: Revision
 3.0.1.6 1995/01/30 14:39:34 ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.5 1995/01/11 15:32:25 ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.4 1994/08/29 16:30:38 ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
?RCS: Revision 3.0.1.3 1994/05/06 15:11:10 ram
?RCS: patch23: added lint hint, assuring that nroff is used
?RCS:
?RCS: Revision 3.0.1.2 1994/01/24 14:14:39 ram
?RCS: patch16: now uses _nroff in case user asked for portability
?RCS:
?RCS: Revision 3.0.1.1 1993/09/13 16:09:31 ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:14 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mansrc mansrcexp manext installmansrc: afs cat nroff Loc Oldconfig \
 sysman spackage test Getfile Prefixit prefixexp Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?S:mansrc:
?S: This variable
 contains the name of the directory in which manual
?S: source pages are to be put. It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:mansrcexp:
?S: This variable is the same as the mansrc variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installmansrc:
?S: This variable is really the same as mansrcexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:manext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'. The Makefile must supply the '.'.

```
?S: See mansrc.
?S:.
?T:lookpath
: determine where manual pages go
set mansrc mansrc none
eval $prefixit
$cat <<EOM

$spackage has manual
 pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$mansrc" in
 '') mansrc="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$mansrc" in
'')
 lookpath="$prefixexp/share/man/man1 $prefixexp/man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/man1 /opt/man/man1 /usr/man/manl"
 lookpath="$lookpath /usr/share/man/man1 /usr/local/share/man/man1"
 lookpath="$lookpath /usr/man/local/man1 /usr/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 lookpath="$lookpath /usr/man/man.L"
 mansrc=`./loc . $prefixexp/man/man1 $lookpath`
 if $test -d "$mansrc"; then
  dflt="$mansrc"
 else
  dflt="$sysman"
 fi
 set dflt
 eval $prefixup
 ;;
' ') dflt=none;;
*)  dflt="$mansrc"
 ;;
esac
echo " "
fn=dn~
rp='Where do the manual pages (source) go?'
. ./getfile
if test
 "X$mansrcexp" != "X$ansexp"; then
 installmansrc="
```

```
fi
mansrc="$ans"
mansrcexp="$ansexp"
case "$mansrc" in
") mansrc=' '
 installmansrc=";;
esac
if $afs && $test "$mansrc"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installmansrc" in
 ") dflt=`echo $mansrcexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmansrc";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installmansrc="$ans"
else
 installmansrc="$mansrcexp"
fi

case "$mansrc" in
' ') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mansrc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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```

```
?RCS: as specified in the README file that comes with the distribution.
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?X:
?X: This unit allows the duplication of the source tree to the current
?X: directory via symbolic links.  This must be requested explicitly
?X: by them issuing a -Dmksymlinks on the command line.
?X:
?MAKE:Mksymlinks: Mkdirp lns issymlink src rsrc pkgsrc
?MAKE: -pick add $@ %<
?F:!UU
?T: dir filename tmppwd filelist
?LINT:extern mksymlinks
@if {test -f ../MANIFEST}
: Duplicate the tree with symbolic links if -Dmksymlinks was supplied
case "$mksymlinks"
 in
$define|true|[yY]*)
 echo " "
 case "$src" in
 "|'.') echo "Cannot create symlinks in the original directory." >&4
  exit 1
  ;;
 *) case "$lns:$issymlink" in
  *"ln"*" -s:"*"test -"?)
   echo "Creating the symbolic links..." >&4
   echo "(First creating the subdirectories...)" >&4
   cd ..
   awk '{print $1}' $src/MANIFEST | grep / | sed 's:/[^/]*$::' | \
    sort -u | while true
   do
    read dir
    test -z "$dir" && break
    ./UU/mkdirp $dir 2>/dev/null
    if test -d $dir; then
     : ok
    else
     echo "Failed to create '$dir'.  Aborting." >&4
     exit 1
    fi
   done
   echo "(Now creating the symlinks...)" >&4
   awk '{print $1}' $src/MANIFEST | while true; do
    read filename
```

```
    test -z "$filename" && break
    if test -f $filename; then
     if $issymlink $filename; then
      rm -f $filename
     fi
    fi
    if test -f $filename; then
     echo "$filename already exists, not symlinking."
    else
?X: Note that the following works because "$pkgsrc" is absolute
     ln
 -s $pkgsrc/$filename $filename
    fi
   done
?X: Check that everything was correctly copied
   echo "(Checking current directory...)" >&4
   cd UU
   awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
    (split -l 50 2>/dev/null || split -50)
   rm -f missing
   tmppwd=`pwd`
   for filelist in x??; do
    (cd ..; ls `cat "$tmppwd/$filelist"` \
     >/dev/null 2>>"$tmppwd/missing")
   done
   if test -s missing; then
    echo "Failed duplication of source tree.  Aborting." >&4
    exit 1
   fi
   ;;
  *) echo "(I cannot figure out how to do symbolic links, ignoring!)" >&4
   ;;
  esac
  ;;
 esac
 ;;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Mksymlinks.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Whoa.U,v 3.0.1.2 1997/02/28 15:21:21 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
```

```
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Whoa.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable
 is noticed.
?X:
?X: To use this unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was td tu hintfile
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
case "$hint" in
  recommended)
 case "$hintfile" in
 ") echo "The $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 *) echo "Hmm.  Based on the hints in hints/$hintfile.sh, " >&4
  echo "the $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 esac
 ;;
  *) echo " "
```

```
 echo "*** WHOA THERE!!! ***" >&4
 echo "    The $hint value for \$$var on this machine was
 \"$was\"!" >&4
 ;;
esac
rp="    Keep the $hint value?"
. ./myread
case "$ans" in
y) td=$was; tu=$was;;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Whoa.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sysman.U,v 3.0.1.2 1994/06/20 07:08:43 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2  1994/06/20  07:08:43  ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:13:50  ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:55  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:sysman: test Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.
?T:syspath
```

```
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
 syspath="$syspath /usr/man/u_man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form."
 >&4
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/sysman.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extractall.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure
 proper semantics. -- RAM, 15/03/96
?X:
```

```
?MAKE:Extractall: Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
 esac
 echo " "
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
?X: extract has to be run from the top directory, not within UU.
 . UU/optdef.sh
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
 rm -rf UU
 echo "Extraction done."
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Extractall.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
```

```
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS: patch49: this unit now exports file optdef.sh,
 not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options: startsh
?MAKE: -pick wipe $@ %<
?V:reuseval
 alldone error realsilent silent extractsh fastread \
 override knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp
?F:!Configure
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like    ./Configure -Dcc="gcc -B/usr/ccs/bin/"
```

```
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X: to worry too much.
cat > cmdline.opt
 <<EOSH
: Configure command line arguments.
config_arg0='$0'
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp="
args_sep="
for arg in "$@"; do
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by """
 cat <<EOC | sed -e "s/'/"""""""""""""/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification

 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
   i++;
  }
  opt[c] = 1;
 }
}
```

```
{
 expect = 0;
 str = $0;
 if (substr(str,
 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prependend to each
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
eval "set $*"
shift
rm -f options.awk

: set up default values
fastread=''
reuseval=false
config_sh=''
alldone=''
```

```
error=''
silent=''
extractsh=''
override=''
knowitall=''
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:

: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
   echo "$me: cannot read config file $1." >&2
   error=true
  fi
  cd UU
  shift;;
 -h)
 shift; error=true;;
 -r) shift; reuseval=true;;
 -s) shift; silent=true; realsilent=true;;
 -E) shift; alldone=exit;;
 -K) shift; knowitall=true;;
 -O) shift; override=true;;
```

```
-S) shift; silent=true; extractsh=true;;
-D)
 shift
 case "$1" in
 *=)
  echo "$me: use '-U symbol=', not '-D symbol='." >&2
  echo "$me: ignoring -D $1" >&2
  ;;
 *=*) echo "$1" | \
   sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
 *) echo "$1='define'" >> optdef.sh;;
 esac
 shift
 ;;
-U)
 shift
 case "$1" in
 *=) echo "$1" >> optdef.sh;;
 *=*)
  echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
  echo "$me: ignoring -U $1" >&2
  ;;
 *) echo "$1='undef'" >> optdef.sh;;
 esac
 shift
 ;;
-A)
    shift
    xxx=''
    yyy="$1"
    zzz=''
    uuu=undef
    case "$yyy" in
         *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
              case "$zzz" in
              *:*) zzz='' ;;
              *)   xxx=append
                   zzz=" "`echo
"$yyy"|sed 's!^[^=]*=!!'`
                   yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
              esac
              ;;
         esac
         case "$xxx" in
         '')  case "$yyy" in
              *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
                   yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
                   zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
```

```
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
            esac
            ;;
        esac
    case "$xxx" in
    append)
 echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
    clear)
 echo "$yyy=""   >> posthint.sh ;;
    define)
        case "$zzz" in
 ") zzz=define ;;
 esac
 echo "$yyy='$zzz'"  >> posthint.sh ;;
    eval)
 echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
    prepend)
 echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
    undef)
        case "$zzz" in
 ")
 zzz="$uuu" ;;
 esac
 echo "$yyy=$zzz"  >> posthint.sh ;;
        *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
    esac
    shift
    ;;
 -V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
    exit 0;;
 --) break;;
 -*) echo "$me: unknown option $1" >&2; shift; error=true;;
 *) break;;
 esac
done

case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
 -d : use defaults for all answers.
 -e : go on without questioning past the production of config.sh.
 -f : specify an alternate default configuration file.
 -h : print this help message and exit (with an error status).
 -r : reuse C symbols value if possible (skips costly nm extraction).
```

```
 -s : silent mode, only echoes questions and essential information.
 -D : define symbol to have some value:
      -D symbol         symbol gets the value 'define'
      -D symbol=value
   symbol gets the value 'value'
 -E : stop at the end of questions, after having produced config.sh.
 -K : do not use unless you know what you are doing.
 -O : let -D and -U override definitions from loaded configuration file.
 -S : perform variable substitutions on all .SH files (can mix with -f)
 -U : undefine symbol:
      -U symbol    symbol gets the value 'undef'
      -U symbol=   symbol gets completely empty
 -A : manipulate symbol after the platform specific hints have been applied:
  -A symbol=value  append " "value to symbol
  -A append:symbol=value  append value to symbol
  -A define:symbol=value  define symbol to have value
      -A clear:symbol  define symbol to be "
  -A define:symbol  define symbol to be 'define'
  -A eval:symbol=value  define symbol to be eval of value
  -A prepend:symbol=value prepend value to symbol
  -A undef:symbol  define symbol to be 'undef'
  -A undef:symbol=  define symbol to be "
 -V : print version number and exit (with
 a zero status).
EOM
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and cannot use $me, since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
case "$fastread$alldone" in
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
```

```
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true)
 exec 1>/dev/null;;
esac

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Options.U
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?RCS: $Id$
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Filexp.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  15:52:53  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: added HOME to the ?T: line since metalint now checks ${HOME}
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:03:00  ram
?RCS: patch23: made sure error status from csh is propagated (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?X:
?X: This unit produces a shell script which will expand filenames beginning
?X:
 with tildes.  The script is deleted at the end of Configure.
?X:
?MAKE:Filexp: startsh sed test expr eunicefix
?MAKE: -pick add $@ %<
?F:./filexp
?T:HOME LOGDIR dir me name failed
: set up shell script to do ~ expansion
cat >filexp <<EOSS
$startsh
: expand filename
?X:
?X: The case entries below escape the ~ as some shells have shown expansion
?X: of the ~ during here-doc processing.
?X:
case "\$1" in
\~/*|\~)
 echo \$1 | $sed "s|~|\${HOME-\$LOGDIR}|"
 ;;
\~*)
 if $test -f /bin/csh; then
  /bin/csh -f -c "glob \$1"
  failed=\$?
  echo ""
  exit \$failed
 else
  name=\`$expr x\$1 : '..\([^/]*\)'\`
  dir=\`$sed -n -e "/^\${name}:/{s/^[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\).*"'\$"'/\1/" -e p -e q -e '}' </etc/passwd\`
  if $test ! -d "\$dir"; then
   me=\`basename \$0\`
   echo "\$me: can't locate home directory for: \$name" >&2
   exit 1
  fi
  case "\$1" in
  */*)
   echo \$dir/\`$expr x\$1 : '..[^/]*/\(.*\)'\`
   ;;
  *)
   echo \$dir
   ;;
  esac
 fi
 ;;
*)
 echo \$1
 ;;
```

```
esac
EOSS
chmod
 +x filexp
$eunicefix filexp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Filexp.U
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```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Whoa.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable is noticed.
?X:
?X: To use this
 unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was
?LINT:change td tu
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
```

```
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
echo " "
echo "*** WHOA THERE!!! ***" >&4
echo "    The $hint value for \$$var on this machine was \"$was\"!" >&4
rp="    Keep the $hint value?"
. ./myread
case "$ans" in
y) td=$was; tu=$was;;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Whoa.U
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```
?RCS: $Id: MailList.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailList.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:01:49  ram
?RCS: patch16: created
?RCS:
?RCS:
?X:
?X: This unit offers the user the option of subscribing to the mailing
?X: list. To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: The address of the mailing list server must be set via a "list_request=..."
?X:
 entry in the .package file. This is usually done by running packinit and
?X: answering the proper questions.
?X:
?MAKE:MailList: cat mailer package Myread cf_name cf_email
?MAKE: -pick wipe $@ %<
?T:list_request list_sub list_unsub list_name
?X:
```

```
?X: The cf_name dependency is used through list_sub when the mailing list
?X: manager happens to be listserv, whereas cf_email is used whith majordomo
?X: or when the mailing list request address is scanned by a human. Since
?X: they do not appear within the unit itself, we need a lint hint.
?X:
?LINT:use cf_name cf_email
: offer to join the mailing list
list_request='<$list_request>'
list_sub="<$list_sub>"
list_unsub="<$list_unsub>"
list_name="<$list_name>"
$cat <<EOM

There is a mailing list for discussion about $package and related issues.
This is the preferred place to ask questions about the program and discuss
modifications and additions with the author and other users.  If you are able
to send mail to the Internet, you
 are encouraged to subscribe.  You need only
ever subscribe once, and you can unsubscribe automatically at any time in the
future.  If you have already subscribed and you wish to unsubscribe now, you
may do so by answering "unsubscribe".  Answer "subscribe" to subscribe to the
list.

EOM
rp="Subscribe to or unsubscribe from the $list_name mailing list?"
dflt=neither
. ./myread
case "$ans" in
[sS]*) $cat <<EOM

You will be sent a message from the list server to let you know when your
subscription has been successful and telling you how to submit articles and
how to unsubscribe again when necessary. You may also unsubscribe by running
this script again and asking it to do so for you.

EOM
 echo "Sending mail to subscribe you to the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To: $list_request

$list_sub
EOM
 ;;
[uU]*) echo "Sending mail to unsubscribe you from the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To:
```

```
 $list_request

$list_unsub
EOM
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/MailList.U
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```
?RCS: $Id: Setvar.U 1 2006-08-24 12:32:52Z rmanfredi $
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Setvar.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:58:28  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:16  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
?X:
 To use it, say:
?X: val=<value>
?X: set d_variable
?X: eval $setvar
?X:
?MAKE:Setvar: Whoa
?MAKE: -pick add $@ %<
?LINT:define setvar
?S:setvar:
?S: This shell variable is used internally by Configure to set a value
?S: to a given symbol that is defined or not. A typical use is:
?S: val=<value computed>
?S:  set d_variable
```

?S: eval $setvar
?S: That will print a message in case the $val value is not the same
?S: as the previous value of $d_variable.
?S:.
?V:setvar:val
?T:var was td tu
: function used to set '$1' to '$val'
setvar='var=$1; eval "was=\$$1"; td=$define; tu=$undef;
case "$val$was" in
$define$undef) . ./whoa; eval "$var=\$td";;
$undef$define) . ./whoa; eval "$var=\$tu";;
*) eval "$var=$val";;
esac'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Setvar.U

1.268 perl-base 5.36.0-7+deb12u2

1.268.1 Available under license :

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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: package.U,v $
?RCS: Revision 3.0.1.3 1994/10/29 16:27:21 ram
?RCS: patch36: beware of non-ascii character sets when translating case
?RCS:
?RCS: Revision 3.0.1.2 1993/11/10 17:37:02 ram
?RCS: patch14: skip definition of spackage if not otherwise used
?RCS:
?RCS: Revision 3.0.1.1 1993/09/13 16:11:10 ram
?RCS: patch10: added spackage, suitable for starting sentences
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:28 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:package spackage:

```
 Nothing
?MAKE: -pick wipe $@ %<
?S:package:
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
?S: This variable contains the name of the package being constructed,
?S: with the first letter uppercased, i.e. suitable for starting
?S: sentences.
?S:.
?C:PACKAGE:
?C: This variable contains the name of the package being built.
?C:.
?H:#define PACKAGE "$package"
?H:.
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`" in
ABYZ) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo
 $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/package.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_remquo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_quadmath.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getsrvby.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llrint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fdclose.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fmax.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Sysroot.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_log2.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sockatmark.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fmin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_bfd.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gmtime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_strerror_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_rint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sendmsg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_longlong.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_thread_local.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_unordered.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_prot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_pthread_atfork.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_fp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_logb.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_scalbn.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_srand48_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llrintl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/atoll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_stdbool.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_acosh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_statvfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_drand48_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setvbuf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_modfl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_mntent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_random_r.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysstatvfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpos64_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/infnan.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpclass.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtoll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_cmsghdr_s.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isnormal.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_prctl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nexttoward.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_hypot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/atolf.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getenv_thread.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_msghdr_s.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysvfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_signbit.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_scalbnl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_srandom_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getmnt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpclassify.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getnameinfo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_gethbyad.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nearbyint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/socksizetype.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setlocale_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_mkdtemp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpgetround.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/uselfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_timefuncs64.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_j0.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getprotobyname_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fp_class.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_frexpl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strlcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_union_semun.U
*
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/defaultincdot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fma.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perlxv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_atanh.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getspnam_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_clearenv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/a_dvisory/quadtype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_recvmsg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_exp2.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_pthrattrj.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sqrtl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_trunc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtouq.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_asinh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/useperlio.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ptrdiff_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strerror_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getcwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/dtraceobject.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_sysuio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gethostbyaddr_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getaddrinfo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sunmath.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: patchlevel.U,v 3.0.1.1 1997/02/28 16:18:41 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:    You may distribute under the terms of either the GNU General Public
?RCS:    License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: patchlevel.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:patchlevel revision version subversion \
 perl_patchlevel version_patchlevel_string \
 api_revision api_version api_subversion api_versionstring: \
 package test rsrc echo awk osname
?MAKE: -pick
 add $@ %<
?S:revision:
?S: The value of revision comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "5".
?S: In patchlevel.h, this is referred to as "PERL_REVISION".
?S:.
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "6".
?S: In patchlevel.h, this is referred to as "PERL_VERSION".
?S:.
?S:subversion:
?S: The subversion level of this package.
?S: The value of subversion comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "1".
?S: In patchlevel.h, this is referred to as "PERL_SUBVERSION".
?S: This is unique to perl.
?S:.
?S:version:
?S: The full version number of this package, such as 5.6.1 (or 5_6_1).
?S: This combines revision, patchlevel, and subversion to get the
?S: full version number, including any possible subversions.
?S: This is suitable for use as a directory name, and hence is
?S: filesystem
```

dependent.
?S:.
?S:api_revision:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_revision is the '5'.
?S: Prior to 5.5.640, the format was a floating point number,
?S: like 5.00563.
?S:
?S: perl.c:incpush() and lib/lib.pm will automatically search in
?S: $sitelib/.. for older directories back to the limit specified
?S: by these api_ variables. This is only useful if you have a
?S: perl library directory tree structured like the default one.
?S: See INSTALL for how this works. The versioned site_perl
?S: directory was introduced in 5.005, so that is the lowest
?S: possible value. The version list appropriate for the current
?S: system is determined in inc_version_list.U.
?S:
?S: XXX To do: Since compatibility can depend on compile time
?S: options (such as bincompat, longlong, etc.) it should
?S: (perhaps) be set by
Configure, but currently it isn't.
?S: Currently, we read a hard-wired value from patchlevel.h.
?S: Perhaps what we ought to do is take the hard-wired value from
?S: patchlevel.h but then modify it if the current Configure
?S: options warrant. patchlevel.h then would use an #ifdef guard.
?S:.
?S:api_version:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_version is the '6'. See api_revision for
?S: full details. As a special case, 5.5.0 is rendered in the
?S: old-style as 5.005. (In the 5.005_0x maintenance series,
?S: this was the only versioned directory in $sitelib.)
?S:.
?S:api_subversion:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_subversion is the
'1'. See api_revision for
?S: full details.
?S:.
?S:api_versionstring:
?S: This variable combines api_revision, api_version, and
?S: api_subversion in a format such as 5.6.1 (or 5_6_1) suitable

```
?S: for use as a directory name.  This is filesystem dependent.
?S:.
?S:perl_patchlevel:
?S: This is the Perl patch level, a numeric change identifier,
?S: as defined by whichever source code maintenance system
?S: is used to maintain the patches; currently Perforce.
?S: It does not correlate with the Perl version numbers or
?S: the maintenance versus development dichotomy except
?S: by also being increasing.
?S:.
?S:version_patchlevel_string:
?S: This is a string combining version, subversion and
?S: perl_patchlevel (if perl_patchlevel is non-zero).
?S: It is typically something like
?S: 'version 7 subversion 1'  or
?S: 'version 7 subversion 1 patchlevel 11224'
?S: It is computed here to avoid duplication of code in myconfig.SH
?S: and lib/Config.pm.
?S:.
?LINT:extern LC_ALL
?LINT:extern LANGUAGE
:
 get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r $rsrc/patchlevel.h;then
 revision=`awk '/define[  ]+PERL_REVISION/ {print $3}' $rsrc/patchlevel.h`
 patchlevel=`awk '/define[  ]+PERL_VERSION/ {print $3}' $rsrc/patchlevel.h`
 subversion=`awk '/define[  ]+PERL_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 api_revision=`awk '/define[  ]+PERL_API_REVISION/ {print $3}' $rsrc/patchlevel.h`
 api_version=`awk '/define[  ]+PERL_API_VERSION/ {print $3}' $rsrc/patchlevel.h`
 api_subversion=`awk '/define[  ]+PERL_API_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 perl_patchlevel=`egrep ','"(MAINT|SMOKE)[0-9][0-9]*"' $rsrc/patchlevel.h|tail -1|sed 's/[^0-9]//g'`
else
 revision=0
 patchlevel=0
 subversion=0
 api_revision=0
 api_version=0
 api_subversion=0
 perl_patchlevel=0
 $echo "(You do not have patchlevel.h.  Eek.)"
fi
: Define a handy string here to avoid duplication in myconfig.SH and configpm.
version_patchlevel_string="version $patchlevel subversion $subversion"
case
 "$perl_patchlevel" in
0|'') ;;
```

```
*)  perl_patchlevel=`echo $perl_patchlevel | sed 's/.* //'`
   version_patchlevel_string="$version_patchlevel_string patch $perl_patchlevel"
   ;;
esac

$echo "(You have $package $version_patchlevel_string.)"

case "$osname" in
dos|vms)
 : XXX Should be a Configure test for double-dots in filenames.
 version=`echo $revision $patchlevel $subversion | \
   $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
   $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 ;;
*)
 version=`echo $revision $patchlevel $subversion | \
   $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
   $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 ;;
esac
: Special case the 5.005_xx maintenance series, which used 5.005
: without any subversion label as a subdirectory in $sitelib
if test "${api_revision}${api_version}${api_subversion}" = "550"; then
 api_versionstring='5.005'
fi

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/patchlevel.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_byacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_byacc.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:31:14  ram
?RCS: patch61: created
?RCS:
```

```
?MAKE:d_byacc: byacc Setvar
?MAKE: -pick add $@ %<
?S:d_byacc:
?S: This variable indicates whether byacc is available.
?S: If the user has specified 'portability', then Makefile.SH
?S: sees $byacc='byacc' whether or not the user actually has
?S: byacc.  This variable allows us to determine in a makefile
?S: if we really
 have byacc.
?S:.
?LINT:set d_byacc
: Check if we really have byacc
case "$byacc" in
"|'byacc') val="$undef" ;;
*) val="$define" ;;
esac
set d_byacc
eval $setvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_byacc.U
No license file was found, but licenses were detected in source scan.

```
# Yes, you may rip this off to use in other distribution packages. This
# script belongs to the public domain and cannot be copyrighted.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Head.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Head.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Prefixup.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Prefixup.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:30:40  ram
?RCS: patch49: created
?RCS:
?X:
?X: Used as: "set dflt; eval $prefixup" to set $dflt to be $prefix/dir
```

```
?X: instead of $prefixexp/dir, in case portability was involved somehow
?X: and $prefix uses ~name expansion.
?X:
?MAKE:Prefixup: prefix prefixexp
?MAKE: -pick add $@ %<
?LINT:define prefixup
?S:prefixup:
?S: This shell variable is used internally by Configure to reset
?S: the leading
 installation prefix correctly when $prefix uses
?S: ~name expansion.
?S:  set dflt
?S:  eval $prefixup
?S: That will set $dflt to $prefix/dir if it was $prefixexp/dir and
?S: $prefix differs from $prefixexp.
?S:.
?V:prefixup
: set the prefixup variable, to restore leading tilda escape
prefixup='case "$prefixexp" in
"$prefix") ;;
*) eval "$1=\`echo \$$1 | sed \"s,^$prefixexp,$prefix,\"\`";;
esac'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Prefixup.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: siteprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: siteprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:siteprefix siteprefixexp +oldsiteprefix: Getfile Loc Oldconfig cat package prefix
?MAKE: -pick add $@ %<
?S:siteprefix:
?S: This variable holds the full absolute path of the directory below
?S: which the user will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
```

```
?S:siteprefixexp:
?S: This variable holds the full absolute path of the
 directory below
?S: which the user will install add-on packages.  Derived from siteprefix.
?S:.
?S:oldsiteprefix:
?S: This variable is set non-null if the siteprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
: Set the siteprefix variables
$cat <<EOM

After $package is installed, you may wish to install various
add-on modules and utilities.  Typically, these add-ons will
be installed under $prefix with the rest
of this package.  However, you may wish to install such add-ons
elsewhere under a different prefix.

If you do not wish to put everything under a single prefix, that's
ok.  You will be prompted for the individual locations; this siteprefix
is only used to suggest the defaults.

The default should be fine for most people.

EOM
fn=d~+
rp='Installation prefix to use for add-on modules and utilities?'
: XXX Here might be another good place for an installstyle setting.
case "$siteprefix" in
'') dflt=$prefix ;;
*)  dflt=$siteprefix
 ;;
esac
. ./getfile
: XXX Prefixit unit does not yet support siteprefix and vendorprefix
oldsiteprefix=''
case "$siteprefix" in
'') ;;
*) case "$ans" in
 "$prefix") ;;
 *) oldsiteprefix="$prefix";;
 esac
 ;;
esac
siteprefix="$ans"
siteprefixexp="$ansexp"

Found in path(s):
```

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteprefix.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Inhdr.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inhdr.U,v $
?RCS: Revision 3.0.1.2 1995/05/12 12:01:31 ram
?RCS: patch54: deleted tabs that caused some /bin/sh to core dump (ADO)
?RCS:
?RCS: Revision 3.0.1.1 1994/10/29 15:55:01 ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0 1993/08/18 12:05:01 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks wether a set of header files exists or not.
?X: If the first header is not
 found, the function tries to locate
?X: the next header, and so on, until one is found or there is no
?X: more header in the list.
?X:
?X: To use it, say:
?X: set header i_header [header2 i_header2 ...]
?X: eval $inhdr
?X:
?MAKE:Inhdr: test Findhdr Whoa
?MAKE: -pick add $@ %<
?LINT:define inhdr
?V:inhdr
?S:inhdr:
?S: This shell variable is used internally by Configure to check
?S: wether a set of headers exist or not. A typical use is:
?S: set header i_header [header2 i_header2 ...]
?S: eval $inhdr
?S: That will print a message, saying wether header was found or not
?S: and set i_header* accordingly. If the first header is not found,
?S: we try the next one, until the list is empty or one is found.
?S:.
?T:xxx xxf var td xxnf tu yyy instead was cont

```
: define an alternate in-header-list? function
inhdr='echo " "; td=$define; tu=$undef; yyy=$@;
cont=true; xxf="echo \"<\$1> found.\" >&4";
case $# in 2) xxnf="echo \"<\$1> NOT found.\" >&4";;
*) xxnf="echo \"<\$1> NOT found, ...\" >&4";;
esac;
case
 $# in 4) instead=instead;; *) instead="at last";; esac;
while $test "$cont"; do
 xxx=`./findhdr $1`
 var=$2; eval "was=\$$2";
 if $test "$xxx" && $test -r "$xxx";
 then eval $xxf;
?X: Next line shifted left 1 tabstop to avoid sh core dump on MachTen 2.1.1.
 eval "case \"\$$var\" in $undef) . ./whoa; esac"; eval "$var=\$td";
  cont="";
 else eval $xxnf;
?X: Likewise, the next line has been shifted left 1 tabstop -- ADO, 08/03/95
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu"; fi;
 set $yyy; shift; shift; yyy=$@;
 case $# in 0) cont="";;
 2) xxf="echo \"but I found <\$1> $instead.\" >&4";
  xxnf="echo \"and I did not find <\$1> either.\" >&4";;
 *) xxf="echo \"but I found <\$1\> instead.\" >&4";
  xxnf="echo \"there is no <\$1>, ...\" >&4";;
 esac;
done;
?X: Remaining values are set to 'undef'
while $test "$yyy";
do set $yyy; var=$2; eval "was=\$$2";
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu";
 set $yyy; shift; shift; yyy=$@;
done'

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Inhdr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: nis.U,v 3.0.1.3 1997/02/28 16:17:38 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
```

```
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
?RCS:
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:passcat
 groupcat hostcat: Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:groupcat:
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
:
 see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
```

```
 case "$passcat" in
 *ypcat*) dflt=y;;
 ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
   dflt=y
  else
   dflt=n
  fi;;
 *) dflt=n;;
 esac
 echo " "
 rp='Are you getting the passwd file via yellow pages?'
 . ./myread
 case "$ans" in
 y*) passcat='ypcat passwd'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='ypcat group'
@end
   ;;
 *) passcat='cat /etc/passwd'
@if groupcat
   echo "(Assuming /etc/group is also local.)"
   groupcat='cat /etc/group'
@end
   ;;
 esac
 ;;
esac
@end
@if hostcat
 case "$hostcat" in
 nidump*) ;;
 *)
  case
 "$hostcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the hosts file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) hostcat='ypcat hosts';;
```

```
  *) hostcat='cat /etc/hosts';;
  esac
  ;;
 esac
@end
fi
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
'') test -f /etc/hosts && hostcat='cat /etc/hosts';;
esac
case "$groupcat" in
'') test -f /etc/group && groupcat='cat /etc/group';;
esac
case "$passcat" in
'') test -f /etc/passwd && passcat='cat /etc/passwd';;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/nis.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: kernel.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: kernel.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:kernel: Getfile test
?MAKE: -pick add $@ %<
?S:kernel:
?S: This variable becomes the (fully rooted) path name of the kernel.
?S:.
: find the name of the kernel.
echo " "
case "$kernel" in
'')
 if $test -r /unix; then
  dflt=/unix
 elif $test -r /vmunix; then
  dflt=/vmunix
```

```
 elif $test -r /xenix; then
  dflt=/xenix
 elif $test -r /mach; then
  dflt=/mach
 elif
 $test -r /dgux; then
  dflt=/dgux
 elif $test -r /hp-ux; then
  dflt=/hp-ux
 elif $test -r /syst; then
  dflt=/syst
 elif $test -r /arix; then
  dflt=/arix
 elif $test -r /irix; then
  dflt=/arix
 else
  dflt='unknown'
  set X /*x
  shift
  case $# in
  1)
   if $test -r "$1"; then
    dflt="$1"
   fi
   ;;
  esac
 fi
 ;;
*)
 dflt="$kernel"
 ;;
esac
fn=f
rp='What is the name of your kernel?'
. ./getfile
kernel="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/kernel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Csym.U,v 3.0.1.4 1995/07/25 13:36:29 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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```

?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4 1995/07/25 13:36:29 ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3 1995/05/12 12:00:33 ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:
?RCS: Revision 3.0.1.2 1994/10/31 09:34:13 ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision
 3.0.1.1 1993/08/25 14:00:05 ram
?RCS: patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:50 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym mistrustnm extern_C: Options contains libc libs runnm test \
 +cc +optimize +ccflags +ldflags run rm_try _exe d_cplusplus
?MAKE: -pick add $@ %<
?LINT:define csym
?LINT:use libc
?LINT:extern mistrustnm
?LINT:set mistrustnm
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: whether a given C symbol is defined or not. A typical use is:
?S: set symbol result [-fva] [previous]
?S: eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?S:extern_C:
?S: ANSI C
 requires 'extern' where C++ requires 'extern "C"'. This
?S: variable can be used in Configure to do the right thing.
?S:.
?S:mistrustnm:
?S: This variable can be used to establish a fallthrough for the cases
?S: where nm fails to find a symbol. If usenm is false or usenm is true
?S: and mistrustnm is false, this variable has no effect. If usenm is true

```
?S: and mistrustnm is "compile", a test program will be compiled to try to
?S: find any symbol that can't be located via nm lookup.  If mistrustnm is
?S: "run", the test program will be run as well as being compiled.
?S:.
?V:csym
?T:tval tx tlook tf tdc
?F:!try
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tdc="";;
-a) tf=libc.tmp; tdc="[]";;
*) tlook="^$1\$"; tf=libc.list; tdc="()";;
esac;
case "$d_cplusplus" in
   $define) extern_C="extern \"C\"" ;;
   *)  extern_C="extern" ;;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
case "$tx"
 in
yes)
?X:
?X: Put symbol inside a printf to fool optimizing compilers...
?X:
?X: We use 'short' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'short' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lives so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the compile test, in case the 'short'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
 tval=false;
 if $test "$runnm" = true; then
  if $contains $tlook $tf >/dev/null 2>&1; then
   tval=true;
  elif $test "$mistrustnm"
```

```
 = compile -o "$mistrustnm" = run; then
   echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() !=
(void *)argv[0]) return(0); else return(1); }"> try.c;
   $cc -o try $optimize $ccflags $ldflags try.c >/dev/null 2>&1 $libs && tval=true;
   $test "$mistrustnm" = run -a -x try && { $run ./try$_exe >/dev/null 2>&1 || tval=false; };
   $rm_try;
  fi;
 else
  echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() !=
(void *)argv[0]) return(0); else return(1); }"> try.c;
  $cc -o try $optimize $ccflags $ldflags try.c $libs >/dev/null 2>&1 && tval=true;
  $rm_try;
 fi;
 ;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;
 ;;
esac;
eval "$2=$tval"'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/Csym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mailer.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mailer.U,v $
?RCS: Revision 3.0.1.3  1995/01/11  15:32:11  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:10:04  ram
?RCS: patch23: ensure full path value is used for rmail also
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:14:18  ram
?RCS: patch16: now use _sendmail vars and friends for portability issues
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:10  ram
```

```
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:mailer: test cat rmail mail smail sendmail Getfile Oldconfig
?MAKE: -pick add $@ %<
?S:mailer:
?S: This variable contains the full pathname of a reasonable mailer.
?S: By reasonable, we mean some program which can understand internet
?S: addresses or at least forward them to some internet router. This
?S: mailer should be invoked as "mailer [options] recipients <mail".
?S:.
: determine the name of a reasonable mailer
case "$mailer" in
")
 if $test -f "$sendmail"; then
  dflt="$sendmail"
 elif $test -f "$smail"; then
  dflt="$smail"
 elif $test -f "$rmail"; then
  dflt="$rmail"
 elif $test -f /bin/mail; then
  dflt=/bin/mail
 else
  dflt=$mail
 fi
 ;;
*)  dflt="$mailer";;
esac
$cat <<EOM

I need the full pathname of the program used to deliver mail on your system.
A typical answer would be /usr/lib/sendmail or /bin/rmail, but you may choose
any other program, as long as it can be fed from standard input and will
honour any user-supplied headers.

EOM
fn=f
rp='Mail
 transport agent to be used?'
. ./getfile
mailer="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mailer.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cf_name.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: cf_name.U,v $
?RCS: Revision 3.0.1.2  1994/05/06  14:29:36  ram
?RCS: patch23: fixed user name computation from /etc/passwd in bsd systems
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:05:11  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:+cf_name: cf_by passcat Filexp nametype cat test
?MAKE: -pick add $@ %<
?S:cf_name:
?S: Full name of the person who ran the Configure script and
 answered the
?S: questions. This can be used by units that require the user's full name.
?S: This variable is for internal use only.
?S:.
?T:xxx fn NAME
: figure out their full name
case "$NAME" in
") case "$nametype" in
 other)
  fn=`./filexp ~/.fullname`
  xxx=usg
  $test -f $fn && xxx=other
  ;;
 *)
  xxx="$nametype"
  ;;
 esac

 case "$xxx" in
 bsd)
  cf_name=`$passcat | grep "^$cf_by:" | \
   sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
   -e 's/,.*//'`
  ;;
   usg)
  cf_name=`$passcat | grep "^$cf_by:" | \
```

```
  sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
  -e 's/[^-]*-\(.*\)(.*)/\1/'`
 ;;
*)
 cf_name=`$cat $fn`
 ;;
esac
;;
*)
 cf_name="$NAME"
 ;;
esac
?X:
?X: In the original unit, Graham asked for the user name, in case the above
?X: code was unable to figure it out correctly. Since now cf_name has been
?X: made an internal variable only (i.e. it is not saved in config.sh), letting
?X: the user override the computed default each time would be a pain.
?X:
 Therefore, I have decided to trust the above code to get it right, and for
?X: those rare cases where it will fail, too bad :-) --RAM.
?X:
echo " "
echo "Pleased to meet you, $cf_name."
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_name.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lns.U,v 3.0.1.1 1994/06/20 07:05:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
```

```
?X:
?MAKE:lns: ln rm touch
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic
 links (if they are supported).  It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 ; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/lns.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: getopt.C,v 3.0.1.1 1994/01/24 13:58:40 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: unknown, got this off net.sources
*
* $Log: getopt.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:40  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/getopt.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: lex.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:22:50  ram
?RCS: patch36: spurious single quote could cause Configure to crash
?RCS: patch36: (reported by Xavier Le Vourch <xavierl@eiffel.com>.)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:27:09  ram
?RCS: patch32: added lexflags variable for lex flags setting
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:06:01  ram
?RCS: patch23: added
 trailing blank line for metalint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lex lexflags: Guess Myread Oldconfig flex test
?MAKE: -pick add $@ %<
?S:lex:
?S: This variable holds the name of the lexical analyser generator we
?S: want to use in the Makefile. It can be lex or flex.
?S:.
?S:lexflags:
?S: This variable holds any flags that should be passed to the lexical
?S: analyzer.  It is up to the Makefile to use it.
?S:.
: determine lexical analyser generator
case "$lex" in
")
 dflt=lex;;
*)
 dflt="$lex";;
esac
echo " "
if $test -f "$flex"; then
 rp='Which lexical analyser generator (lex or flex) shall I use?'
else
```

```
 rp='Which lexical analyser generator shall I use?'
fi
. ./myread
lex="$ans"

@if lexflags
: if using lex this will normally be useless, but flex frequently takes args
echo " "
case "$lexflags" in
'') dflt='none';;
*) dflt="$lexflags";;
esac
rp="What flags should be given to $lex?"
. ./myread
case "$ans"
 in
none) lexflags='';;
*) lexflags="$ans";;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lex.U
No license file was found, but licenses were detected in source scan.

```
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
./warn "no $xxx -- ignoring your setting for $file."
xxx=`./loc $file $file $pth`
fi
;;
'') xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
```

```
echo "I don't know where '$file' is, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
done
echo " "
echo "Don't worry if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
eval xxx=\$$file
case "$xxx" in
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
./warn "no $xxx -- ignoring your setting for $file."
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx
 $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't see $file out there, $say."
say=either
;;
esac
done
case "$egrep" in
egrep)
echo "Substituting grep for egrep."
egrep=$grep
_egrep=$_grep
;;
esac
```

```
@if ln
case "$ln" in
ln)
echo "Substituting cp for ln."
ln=$cp
_ln=$_cp
;;
esac
@end
@if make || gmake
case "$make" in
make)
case "$gmake" in
gmake)
echo "I can't find make or gmake, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
;;
esac
case "$gmake" in
gmake) ;;
*) # We can't have osname yet.
if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
# Assume that gmake, if found, is definitely GNU make
# and prefer it over the system make.
echo "Substituting gmake for make."
make=$gmake
_make=$_gmake
fi
;;
esac
@end
case "$test" in
test)
echo "Hopefully test is built into
 your sh."
;;
*)
if `sh -c "PATH= test true" >/dev/null 2>&1`; then
echo "Using the test built into your sh."
?X:
?X: We need to set both test and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
?X: we choose to load an old config.sh generated on another platform.
?X:
test=test
```

```
_test=test
fi
;;
esac
?LINT:change n c
case "$echo" in
echo)
echo "Hopefully echo is built into your sh."
;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
echo " "
echo "Checking compatibility between $echo and builtin echo (if any)..." >&4
$echo $n "hi there$c" >foo1
echo $n "hi there$c" >foo2
if cmp foo1 foo2 >/dev/null 2>&1; then
echo "They are compatible.  In fact, they may be identical."
else
case "$n" in
'-n') n='' c='\c';;
*) n='-n' c='';;
esac
cat <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built
 in and we may have to run some Bourne shell scripts.  That
means I'll have to use '$n$c' to suppress newlines now.  Life is ridiculous.

FOO
$echo $n "The star should be here-->$c"
$echo "*"
fi
$rm -f foo1 foo2
;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Loc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Null.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
```

?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Null.U,v $
?RCS: Revision 3.0 1993/08/18 12:05:10 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit ends up producing shell code to set all variables to ". This
?X: probably isn't necessary, but I'm paranoid. About certain things.
?X:
?MAKE:Null: Head
?MAKE: -pick add.Null $@ %<

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Null.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorhtml1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml1dir.U,v $
?RCS: Revision 1.1 1999/07/08 18:32:57 doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml1dir vendorhtml1direxp installvendorhtml1dir: html1dir Getfile \
 Setprefixvar Oldconfig Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml1dir:
?S: This variable contains the name of the directory for html
?S: pages. It may have a ~ on the front.
?S: The standard distribution will put nothing in this
 directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages in this directory with
?S: MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent. See INSTALL for details.
?S:.
?S:vendorhtml1direxp:

```
?S: This variable is the ~name expanded version of vendorhtml1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml1dir="
?S:installvendorhtml1dir:
?S: This variable is really the same as vendorhtml1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml1dir
: Set the vendorhtml1dir variables
case "$vendorprefix" in
") vendorhtml1dir="
 vendorhtml1direxp="
 ;;
*) : determine where vendor-supplied html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default suggestions would be welcome.
 case "$vendorhtml1dir"
 in
 ") dflt=`echo "$html1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml1dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml1dir="$ans"
 vendorhtml1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml1dir" = "X" && vendorhtml1dir=' '
prefixvar=vendorhtml1dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorhtml1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
```

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml1dir sitehtml1direxp installsitehtml1dir: Getfile \
 Setprefixvar prefix siteprefix html1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml1dir="
?S:sitehtml1dir:
?S: This variable contains the name of the directory in which site-specific
?S: html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml1direxp="
?S:sitehtml1direxp:
?S: This variable is the same as the sitehtml1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml1dir="
?S:installsitehtml1dir:
?S: This variable is really the same as sitehtml1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml1dir
?LINT:set sitehtml1dir
?LINT:set sitehtml1direxp
: determine where add-on html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case "$sitehtml1dir" in
")
   dflt=`echo "$html1dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml1dir ;;
esac
case "$dflt" in
```

"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific html pages should be installed?'
. ./getfile
prefixvar=sitehtml1dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitehtml1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: spitshell.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: spitshell.U,v $
?RCS: Revision 3.0.1.4 1997/02/28 16:22:12 ram
?RCS: patch61: removed useless chatter as this is now done very early
?RCS:
?RCS: Revision 3.0.1.3 1995/01/11 15:37:01 ram
?RCS: patch45: use 'test -f' instead of 'test -r' for exec-only cat progs (WED)
?RCS: patch45: protected "sh -c" within backquotes for Linux and SGI
?RCS:
?RCS: Revision 3.0.1.2 1994/08/29 16:33:00 ram
?RCS: patch32: don't create spitshell under the UU directory
?RCS:
 patch32: allow for cat in /bin or /usr/bin
?RCS:
?RCS: Revision 3.0.1.1 1993/09/13 16:12:58 ram
?RCS: patch10: made #!-failure message more friendly (WAD)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:49 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:spitshell shsharp sharpbang: eunicefix sh Head
?MAKE: -pick add $@ %<
?S:spitshell:
?S: This variable contains the command necessary to spit out a runnable
?S: shell on this system. It is either cat or a grep -v for # comments.
?S:.
?S:shsharp:

```
?S: This variable tells further Configure units whether your sh can
?S: handle # comments.
?S:.
?S:sharpbang:
?S: This variable contains the string #! if this system supports that
?S: construct.
?S:.
?F:!sharp
?T:xcat p
?X: "paths" comes from Head
?LINT:extern paths _exe
: see if sh knows # comments
?X: This is loaded up early, so avoid being chatty.
?X: echo " "
?X: echo "Checking your $sh to see if it knows about # comments..." >&2
if `$sh -c '#' >/dev/null 2>&1`; then
?X: echo
 "Your $sh handles # comments correctly."
 shsharp=true
 spitshell=cat
?X: echo " "
?X: echo "Okay, let's see if #! works on this system..."
 xcat=/bin/cat
 test -f $xcat$_exe || xcat=/usr/bin/cat
 if test ! -f $xcat$_exe; then
  for p in `echo $PATH | sed -e "s/$p_/ /g"` $paths; do
   if test -f $p/cat$_exe; then
    xcat=$p/cat
    break
   fi
  done
  if test ! -f $xcat$_exe; then
   echo "Can't find cat anywhere!"
   exit 1
  fi
 fi
 echo "#!$xcat" >sharp
 $eunicefix sharp
 chmod +x sharp
 ./sharp > today 2>/dev/null
 if test -s today; then
?X:  echo "It does."
  sharpbang='#!'
 else
  echo "#! $xcat" > sharp
  $eunicefix sharp
  chmod +x sharp
  ./sharp > today 2>/dev/null
```

```
  if test -s today; then
?X:   echo "It does."
    sharpbang='#! '
  else
?X:   echo "Okay, let's see if #! works on this system..."
?X:   echo "It's just a comment."
    sharpbang=': use '
  fi
 fi
else
 echo " "
 echo "Your $sh doesn't grok # comments--I will strip them later on."
 shsharp=false
?X: The
 spitshell script will be perused, so leave it out the UU directory
 cd ..
 echo "exec grep -v '^[  ]*#'" >spitshell
 chmod +x spitshell
 $eunicefix spitshell
 spitshell=`pwd`/spitshell
 cd UU
 echo "I presume that if # doesn't work, #! won't work either!"
 sharpbang=': use '
fi
rm -f sharp today
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/spitshell.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
```

```
?X: to be used in all the other metaconfig units.
?X:
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs
?MAKE: -pick add $@ %<
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally
 by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
?S: OS/2 users will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile,
 except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs;'
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Compile.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Init.U,v 3.0.1.1 1994/10/31 09:45:59 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Init.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:45:59  ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file
 initializes certain default variables used by Configure.  They
?X: may be overridden or added to by definitions in Myinit.U.
?X:
?MAKE:Init eunicefix: Null
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell.  On other systems it is a no-op.
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in
?X: the dependency line since this unit makes them visible via ?V:, and
?X: everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
?LINT:extern DJGPP
?LINT:extern _exe
?LINT:change _exe
?LINT:extern is_os2
```

```
: Detect odd OSs
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
rmlist="

: We must find out about
 Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
: Amiga OS
   _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
: Stratus VOS
   _exe=".pm"
elif test -n "$DJGPP"; then
: DOS DJGPP
   _exe=".exe"
elif test -f /kern/cookiejar; then
: MiNT
   _exe=""
elif test -d c:/. -o -n "$is_os2" ; then
: OS/2 or cygwin
   _exe=".exe"
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X:
 This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Begin Myread Configdir contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
 dflt=n
 . ./myread
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
fi
if $needman; then
 cat <<EOH

This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a command.  Many of the questions will have
```

default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that. Questions where this is
allowed will be marked "(~name ok)".

EOH
rp=''
dflt='Type carriage return to continue'
. ./myread
cat <<'EOH'

The prompter used in this script allows you to use shell variables and
backticks in your answers. You may use $1, $2, etc... to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell. This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Everytime there is a substitution, you will have to confirm. If there is an
error (e.g. an unmatched backtick), the default answer will remain unchanged
and you will be prompted
again.

If you are in a hurry, you may run 'Configure -d'. This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
. ./myread
cat <<EOH

Much effort has been expended to ensure that this shell script will run on any
Unix system. If despite that it blows up on yours, your best bet is to edit
Configure and run it again. If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand. Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
in this kit.
2) it builds a config.h file for inclusion in C programs. You may edit
any of these

```
 files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently.  The easiest thing to do is to edit config.sh and rerun all the SH
files.  Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
 dflt='Type carriage return to continue'
 . ./myread
 case "$firsttime" in
 true) echo $user >>../.config/instruct;;
 esac
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Instruct.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: longsize.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: longsize.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  16:09:35  ram
?RCS: patch61: code moved to intsize.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:24:31  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: 'longsize' is now defined within intsize.U
?X:
?LINT: empty

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/longsize.U
No license file was found, but licenses were detected in source scan.
```

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:full_ar: ar
?MAKE: -pick add $@ %<
?S:full_ar:
?S: This variable contains the full pathname to 'ar', whether or
?S: not the user has specified 'portability'.  This is only used
?S: in the Makefile.SH.
?S:.
: Store the full pathname to the ar program for use in the C program
: Respect a hint or command line value for full_ar.
case "$full_ar" in
'') full_ar=$ar ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Loc_ar.U
No license file was found, but licenses were detected in source scan.

```
/*
* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises.  Note, however,
* that running config_h.SH again will wipe out any changes you've made.
* For a more permanent change edit $CONFIG_SH and rerun config_h.SH.
*
* \$Id: Config_h.U 1 2006-08-24 12:32:52Z rmanfredi $
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Config_h.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: contains.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: contains.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:contains: Nothing
?MAKE: -pick add $@ %<
?S:contains:
?S: This variable holds the command to do a grep with a proper return
?S: status.  On most sane systems it is simply "grep".  On insane systems
?S: it is a grep followed by a cat followed by a test.  This variable
?S: is primarily for the use of other Configure units.
?S:.
: Some
 greps do not return status, grrr.
echo "grimblepritz" >grimble
if grep blurfldyick grimble >/dev/null 2>&1 ; then
 contains=contains
elif grep grimblepritz grimble >/dev/null 2>&1 ; then
 contains=grep
else
 contains=contains
fi
rm -f grimble
: the following should work in any shell
case "$contains" in
contains*)
 echo " "
 echo "AGH!  Grep doesn't return a status.  Attempting remedial action."
 cat >contains <<'EOSS'
grep "$1" "$2" >.greptmp && cat .greptmp && test -s .greptmp
EOSS
chmod +x contains
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/contains.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libs.U,v 3.0.1.6 1997/02/28 16:09:11 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
```

?RCS: as specified in the README file that comes with the distribution.
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6 1997/02/28 16:09:11 ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5 1995/07/25 14:12:05 ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4 1994/10/29 16:24:22 ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
?RCS:
?RCS: Revision 3.0.1.3 1994/06/20 07:05:44 ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
?RCS: patch30:
 undone patch23 for libswanted default setting
?RCS:
?RCS: Revision 3.0.1.2 1994/05/06 15:08:45 ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1 1993/08/25 14:02:31 ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:03 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libs ignore_versioned_solibs libsfound libsfiles libsdirs libspath: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 usesocks sed uselongdouble usequadmath
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it. The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
?S:.
?S:libsdirs:
?S: This

```
 variable holds the directory names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:ignore_versioned_solibs:
?S: This variable should be non-empty if non-versioned shared
?S: libraries (libfoo.so.x.y) are to be ignored (because they
?S: cannot be linked against).
?S:.
?T:xxx yyy thislib thisdir libswanted libstyle
?D:libs="
?X:
?X: This order is chosen so that libraries  -lndir, -ldir, -lucb, -lbsd,
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatibility
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
?X: -lc_s proceeds -lc so we pick up the shared library version,
 if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: default library list
?INIT:libswanted="
?INIT:: some systems want to use only the non-versioned libso:s
?INIT:ignore_versioned_solibs="
?LINT:extern usecbacktrace
?LINT:extern libscheck
?LINT:extern p
?LINT:use uselongdouble
: Looking for optional libraries
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
```

```
' '|") dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
"$define") libswanted="$libswanted
 socks5 socks5_sh" ;;
esac
case "$usecbacktrace" in
"$define") libswanted="$libswanted bfd" ;;
esac
case "$usequadmath" in
"$define") libswanted="$libswanted quadmath" ;;
esac
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted; do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" -a "X$ignore_versioned_solibs" = "X"; then
  xxx=`ls $thisdir/lib$thislib.$so.[0-9] 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
  xxx=`ls $thisdir/lib$thislib.[0-9].$so 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib.$so
        $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib$_a
        $test -f "$xxx"
 && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
```

```
 xxx=$thisdir/$thislib$_a
       $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib${thislib}_s$_a
       $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
 $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/Slib$thislib$_a
       $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if $test -f "$xxx"; then
 case "$libstyle" in
 shared) echo "Found -l$thislib (shared)." ;;
 static) echo "Found -l$thislib." ;;
 *)      echo "Found -l$thislib ($libstyle)." ;;
 esac
 case " $dflt " in
 *"-l$thislib "*);;
 *) dflt="$dflt -l$thislib"
               libsfound="$libsfound $xxx"
               yyy=`basename $xxx`
               libsfiles="$libsfiles $yyy"
               yyy=`echo $xxx|$sed -e
"s%/$yyy\\$%%"`
               case " $libsdirs " in
               *" $yyy "*) ;;
               *) libsdirs="$libsdirs $yyy" ;;
               esac
    ;;
 esac
 break
    fi
 done
 if $test ! -f "$xxx"; then
    echo "No -l$thislib."
 fi
done
set X $dflt
shift
dflt="$*"
case "$libs" in
") dflt="$dflt";;
*) dflt="$libs";;
```

```
esac
case "$dflt" in
' '|'') dflt='none';;
esac

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed.  Include any other special libraries here as well.
Say "none" for none.  The default list is almost always right.
EOM

echo " "
rp="What libraries to use?"
. ./myread
case "$ans" in
none) libs=' ';;
*) libs="$ans";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/libs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: make.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: make.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:09:40  ram
?RCS: patch61: created
?RCS:
?MAKE:make_set_make : Loc rm sed make
?MAKE: -pick add $@ %<
?S:make_set_make:
?S: Some versions of 'make' set the variable MAKE.  Others do not.
?S: This variable contains the string to be included in Makefile.SH
?S: so that MAKE is set if needed, and not if not needed.
?S: Possible values are:
?S:
?S: make_set_make='#'  #
```

```
 If your make program handles this for you,
?S:
?S: make_set_make="MAKE=$make" # if it doesn't.
?S:
?S: This uses a comment character so that we can distinguish a
?S: 'set' value (from a previous config.sh or Configure -D option)
?S: from an uncomputed value.
?S:.
?LINT: extern MAKE
?LINT: change MAKE
?X: This test is based on one from an autoconf-generated configure
?X: script. Autoconf stole a lot from Configure, but now it's our
?X: turn to do so... ;-) -- RAM, 21/02/97
: check whether make sets MAKE
echo " "
echo "Checking if your $make program sets \$(MAKE)..." >&4
case "$make_set_make" in
")
?X: Use sed so we don't have a line begining with @echo.  Metaconfig
?X: will think that's a command like @if or @end.
 $sed 's/^X //' > testmake.mak << 'EOF'
Xall:
X  @echo 'maketemp="$(MAKE)"'
EOF
?X: GNU make sometimes prints "make[1]: Entering...", which would confuse us
 case "`$make -f testmake.mak 2>/dev/null`" in
 *maketemp=*) make_set_make='#' ;;
 *) make_set_make="MAKE=$make" ;;
 esac
 $rm
 -f testmake.mak
 ;;
esac
case "$make_set_make" in
'#') echo "Yup, it does.";;
*) echo "Nope, it doesn't.";;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/make.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: Original author Jarkko Hietaniemi <jhi@iki.fi>
?RCS: Merged into dist by Andy Dougherty  July 13, 1998
?RCS:
?MAKE:trnl: Nothing
?MAKE: -pick add $@ %<
?S:trnl:
?S: This variable contains the value to be passed to the tr(1)
?S: command to transliterate a newline.  Typical values are
?S: '\012' and '\n'.  This is needed for EBCDIC systems where
?S: newline is not necessarily '\012'.
?S:.
?T: DJGPP
: Find the appropriate value for a newline for tr
?X: We can't
 use $tr since that would cause a circular dependency via Myread
?X: dos djgpp uses '\015\012', but reportedly is happy with '\012' in the
?X: tr command.  I don't know why it passes the '\n' test but later
?X: refuses to work correctly with it.  --AD  6/14/98
if test -n "$DJGPP"; then
    trnl='\012'
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\n' x 2>/dev/null`" in
 foox) trnl='\n' ;;
 esac
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\012' x 2>/dev/null`" in
 foox) trnl='\012' ;;
 esac
fi
if test X"$trnl" = X; then
    case "`echo foo | tr '\r\n' xy 2>/dev/null`" in
    fooxy) trnl='\n\r' ;;
    esac
fi
if test X"$trnl" = X; then
 cat <<EOM >&2

$me: Fatal Error: cannot figure out how to translate newlines with 'tr'.

EOM
```

```
 exit 1
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/trnl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:versiononly: cat Myread Setvar Devel
?MAKE: -pick add $@ %<
?LINT:set versiononly
?Y:TOP
?S:versiononly:
?S: If set, this symbol indicates that only the version-specific
?S: components of a perl installation should be installed.
?S: This may be useful for making a test installation of a new
?S: version without disturbing the existing installation.
?S: Setting versiononly is equivalent to setting installperl's -v option.
?S: In particular, the non-versioned scripts and programs such as
?S: a2p, c2ph, h2xs, pod2*, and perldoc
 are not installed
?S: (see INSTALL for a more complete list).  Nor are the man
?S: pages installed.
?S: Usually, this is undef.
?S:.
?LINT:extern inc_version_list
?LINT:change inc_version_list
?LINT:extern inc_version_list_init
?LINT:change inc_version_list_init
?LINT:extern version
: determine whether to use a version number suffix for installed binaries
echo " "
$cat <<EOM
Do you want to use a version number suffix for installed binaries? This
will install 'perl$version' instead of 'perl', and likewise for other
binaries like 'perldoc' and 'cpan'. This allows many versions of perl
to be installed side-by-side. Unless you are a developer, you probably
do *not* want to do this.
EOM
```

```
case "$versiononly" in
"$define"|[Yy]*|true) dflt='y' ;;
*) dflt='n';
esac
rp="Do you want to use a version number suffix for installed binaries?"
. ./myread
case "$ans" in
[yY]*) val="$define";;
*) val="$undef" ;;
esac
set versiononly
eval $setvar

case "$versiononly" in
"$define") inc_version_list="
        inc_version_list_init=0
       ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/versiononly.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: packadmin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:packadmin: cf_email Oldconfig Myread cat spackage package
?MAKE: -pick add $@ %<
?Y:TOP
?S:packadmin:
?S: Electronic mail address of the package administrator.
?S:.
: check wehther they will act as local admin for the package
$cat <<EOM

If you or somebody else will be maintaining $package at your site, please
fill in the correct e-mail address here so that they may be contacted
if necessary.  You may enter "none"
 for no administrator.
```

```
EOM
case "$packadmin" in
") dflt="$cf_email";;
*) dflt="$packadmin";;
esac
rp="$spackage administrator e-mail address"
. ./myread
packadmin="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/packadmin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:usevendorprefix vendorprefix vendorprefixexp +oldvendorprefix: \
 Getfile Loc Oldconfig cat prefix Myread
?MAKE: -pick add $@ %<
?S:usevendorprefix:
?S: This variable tells whether the vendorprefix
?S: and consequently other vendor* paths are in use.
?S:.
?S:vendorprefix:
?S: This variable holds the full absolute path of the directory below
?S: which
 the vendor will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
?S:vendorprefixexp:
?S: This variable holds the full absolute path of the directory below
?S: which the vendor will install add-on packages.  Derived from vendorprefix.
?S:.
?S:oldvendorprefix:
?S: This variable is set non-null if the vendorprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
```

```
: Set the vendorprefix variables
$cat <<EOM

The installation process will also create a directory for
vendor-supplied add-ons.  Vendors who supply perl with their system
may find it convenient to place all vendor-supplied files in this
directory rather than in the main distribution directory.  This will
ease upgrades between binary-compatible maintenance versions of perl.

Of course you may also use these directories in whatever way you see
fit.  For example, you might use them to access modules shared over a
company-wide network.

The default answer should be
 fine for most people.
This causes further questions about vendor add-ons to be skipped
and no vendor-specific directories will be configured for perl.

EOM
rp='Do you want to configure vendor-specific add-on directories?'
case "$usevendorprefix" in
define|true|[yY]*) dflt=y ;;
*) : User may have set vendorprefix directly on Configure command line.
 case "$vendorprefix" in
 ''|' ') dflt=n ;;
 *) dflt=y ;;
 esac
 ;;
esac
. ./myread
case "$ans" in
[yY]*) fn=d~+
 rp='Installation prefix to use for vendor-supplied add-ons?'
 case "$vendorprefix" in
 '') dflt="$prefix" ;;
 *)  dflt=$vendorprefix ;;
 esac
 . ./getfile
 : XXX Prefixit unit does not yet support siteprefix and vendorprefix
 oldvendorprefix=''
 case "$vendorprefix" in
 '') ;;
 *) case "$ans" in
  "$prefix") ;;
  *) oldvendorprefix="$prefix";;
  esac
  ;;
 esac
```

```
 usevendorprefix="$define"
 vendorprefix="$ans"
 vendorprefixexp="$ansexp"
 ;;
*) usevendorprefix="$undef"
 vendorprefix=''
 vendorprefixexp=''
 ;;
esac
```

Found in path(s):

```
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorprefix.U
```

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

```
?RCS: $Id: dlsrc.U,v$
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: dlext.U,v $
?RCS:
?X:  hpux support thanks to Jeff Okamoto <okamoto@hpcc101.corp.hp.com>
?X:
?X:  To create a shared library, you must compile ALL source files in the
?X:  library with +z (or possibly +Z if the library is whopping huge),
?X:  then link the library with -b.  Example:
?X:   cc -c +z module_a.c
?X:   cc -c +z module_b.c
?X:   ld -b module_a.o module_b.o -o module.sl
?X:
?MAKE:dlext: \
 Getfile Myread cat usedl so
?MAKE: -pick add $@ %<
?Y:BOTTOM
?S:dlext:
?S: This variable contains the extension that is to be used for the
?S: dynamically loaded modules that perl generates.
?S:.
: Check what extension to use for shared libs
case "$usedl" in
$define|y|true)
 $cat <<
 EOM

On a few systems, the dynamically loaded modules that perl generates and uses
```

```
will need a different extension than shared libs. The default will probably
be appropriate.

EOM
 case "$dlext" in
 ") dflt="$so" ;;
 *) dflt="$dlext" ;;
 esac
 rp='What is the extension of dynamically loaded modules'
 . ./myread
 dlext="$ans"
 ;;
*)
 dlext="none"
 ;;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/dlext.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun
 like everybody
?RCS: patch54: can now grok Linux nm output with lead __IO (ADO)
?RCS: patch54: added support for Linux ELF output, using 'W' for alias (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1994/10/29  16:23:40  ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
```

```
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1994/08/29  16:28:10  ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  07:03:24  ram
?RCS: patch30: checks are now presented by succession of if/elif
?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  15:06:33  ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:12:17  ram
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2  1993/09/13  16:09:03  ram
?RCS: patch10: added special handling for Apollo
 systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:40:03  ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libc +nm_extract: echo n c rm test grep Getfile Myread Oldconfig Loc \
 sed libs incpath libpth ar runnm nm nm_opt nm_so_opt contains xlibpth \
 so _a _o osname trnl tr sort uniq sysroot
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp
?LINT:extern PASE
?LINT:extern libnames
?LINT:change nm_opt
?INIT:libnames="
: Figure out where the libc is located
case "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
:
```

```
 get list of predefined functions in a handy place
echo " "
case "$libc" in
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
 -lc|-lc_s)
  : Handle C library specially below.
  ;;
 -l*)
  thislib=`echo $thislib | $sed -e 's/^-l//'`
  if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
   :
  else
   try="
  fi
  libnames="$libnames $try"
  ;;
 *) libnames="$libnames $thislib" ;;
 esac
 done
 ;;
esac
?X:
?X: Some systems (e.g. DG/UX) use
 "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
```

```
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
?X: part is removed after sorting. Nice efficient work from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing
 pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set $sysroot/usr/ccs/lib/libc.$so
 $test -r $1 || set $sysroot/lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
 libc="$1"
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
```

```
?X:
 echo "Your C library seems to be in both /lib/clib
 and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc
 Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
 cat <<EOM

If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.
```

```
EOM
else
 dflt="
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:

EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...

EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
set X `cat libnames`
shift
xxx=files
case $# in 1) xxx=file; esac
echo
 "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
done >libc.tmp

$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
```

```
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval "<libc.tmp $com >libc.list"; echo "done." >&4'
?X:
 BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
?X: HP-UX 10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
?X: GNU extension: i is "indirect function"
xxx='[ADTSIWi]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$'
 libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
```

```
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: OS/2
 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[       ]*D[    ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
  echo "$nm didn't seem to work right. Trying $ar instead..." >&4
  com="
  if $ar t $libc > libc.tmp && \
   $contains '^fprintf$' libc.tmp >/dev/null 2>&1
  then
   for thisname in $libnames $libc; do
```

```
    $ar t $thisname >>libc.tmp
   done
   $sed -e "s/\\$_o\$//" < libc.tmp > libc.list
   echo
  "Ok." >&4
  elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
   for thisname in $libnames $libc; do
    $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
    $rm -f tmp.imp
   done
   $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
   echo "Ok." >&4
  else
   echo "$ar didn't seem to work right." >&4
   echo "Maybe this is a Cray...trying bld instead..." >&4
   if  bld t $libc | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
    $test -s libc.list
   then
    for thisname in $libnames; do
     bld t $libnames | \
     $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
     $ar t $thisname >>libc.tmp
    done
    echo "Ok." >&4
   else
    echo
  "That didn't work either.  Giving up." >&4
    exit 1
   fi
  fi
 fi
fi
nm_extract="$com"
case "$PASE" in
define)
   echo " "
   echo "Since you are compiling for PASE, extracting more symbols from libc.a ...">&4
   dump -Tv /lib/libc.a | awk '$7 == "/unix" {print $5 " " $8}' | grep "^SV" | awk '{print $2}' >> libc.list
   ;;
*)  if $test -f /lib/syscalls.exp; then
```

```
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
   fi
   ;;
esac
;;
esac
$rm -f libnames libpath
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/libc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Hasproto.U $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasproto string that is used internally
?X: by Configure to check if this system has a prototype for a
?X: particular function
?X:
?X: To use it, say something like:
?X:  set d_getnetent_proto getnetent $i_netdb netdb.h
?X:  eval $hasproto
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/types.h
?X:  $i_systime sys/time.h
?X:  $i_sysselct sys/select.h
?X:  $i_netdb netdb.h"
?X: set d_getnetent_proto getnetent $hdrs
?X: eval $hasproto
?X:
?X: There is also an 'escape' hatch built in.  If you have a pair
?X: of args   'literal 'stuff' then 'stuff' gets included literally
?X: into the test program.  See Protochk.U for more details.
?X:
?MAKE:Hasproto:
 Setvar cppstdin cppflags cppminus contains rm_try test
?MAKE: -pick add $@ %<
?T:func varname
?F:!try.c
?V:hasproto
: Define hasproto macro for Configure internal use
```

```
hasproto='varname=$1; func=$2; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 literal) echo "$2" ;;
 esac ;
   shift 2;
done > try.c;
$cppstdin $cppflags $cppminus < try.c > tryout.c 2>/dev/null;
if $contains "$func.*(" tryout.c >/dev/null 2>&1; then
 echo "$func() prototype found.";
 val="$define";
else
 echo "$func() prototype NOT found.";
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try tryout.c'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Options.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS:
```

```
 patch49: this unit now exports file optdef.sh, not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options:
 startsh
?MAKE: -pick wipe $@ %<
?V:reuseval alldone error realsilent silent extractsh fastread \
 knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp ccflags
?F:!Configure
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like     ./Configure -Dcc="gcc -B/usr/ccs/bin/"
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X:
 to worry too much.
cat > cmdline.opt <<EOSH
: Configure command line arguments.
config_arg0='$0'
```

```
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp=''
args_sep=''
for arg in "$@"; do
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by '"'"'
 cat <<EOC | sed -e "s/'/'\"'\"'/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification

 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
   i++;
  }
  opt[c]
 = 1;
 }
}
{
 expect = 0;
 str = $0;
 if (substr(str, 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
```

```
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prepended to each
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
eval "set $*"
shift
rm -f options.awk

: set up default values
fastread="
reuseval=false
config_sh="
alldone="
error="
silent="
extractsh="
knowitall="
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
```

```
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:

: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
   echo "$me: cannot read config file $1."
>&2
   error=true
  fi
  cd UU
  shift;;
 --help|\
 -h) shift; error=true;;
 -r) shift; reuseval=true;;
 -s) shift; silent=true; realsilent=true;;
 -E) shift; alldone=exit;;
 -K) shift; knowitall=true;;
 -O) shift;;
 -S) shift; silent=true; extractsh=true;;
 -D)
  shift
  case "$1" in
  *=)
   echo "$me: use '-U symbol=', not '-D symbol='." >&2
   echo "$me: ignoring -D $1" >&2
   ;;
```

```
*=*) echo "$1" | \
  sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
*) echo "$1='define'" >> optdef.sh;;
esac
shift
;;
-U)
shift
case "$1" in
*=) echo "$1" >> optdef.sh;;
*=*)
 echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
 echo "$me: ignoring -U $1" >&2
 ;;
*) echo "$1='undef'" >> optdef.sh;;
esac
shift
;;
-A)
   shift
   xxx="
   yyy="$1"
   zzz="
   uuu=undef
   case "$yyy" in
        *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
            case "$zzz" in
            *:*) zzz=" ;;
            *)   xxx=append

            zzz=" "`echo "$yyy"|sed 's!^[^=]*=!!'`
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            esac
            ;;
        esac
        case "$xxx" in
        ")  case "$yyy" in
            *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
                zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
            esac
            ;;
        esac
   case "$xxx" in
   append)
```

```
 echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
   clear)
 echo "$yyy=""   >> posthint.sh ;;
   define)
      case "$zzz" in
 ") zzz=define ;;
 esac
 echo "$yyy='$zzz'"  >> posthint.sh ;;
   eval)
 echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
   prepend)
 echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
   undef)

     case "$zzz" in
 ") zzz="$uuu" ;;
 esac
 echo "$yyy=$zzz"  >> posthint.sh ;;
        *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
   esac
   shift
   ;;
-V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
   exit 0;;
--) break;;
-*) echo "$me: unknown option $1" >&2; shift; error=true;;
*) break;;
esac
done

case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
 -d : use defaults for all answers.
 -e : go on without questioning past the production of config.sh.
 -f : specify an alternate default configuration file.
 -h : print this help message and exit (with an error status).
 -r : reuse C symbols value if possible (skips costly nm extraction).
 -s : silent mode, only echoes questions and essential information.
 -D : define symbol to have some value:
      -D symbol              symbol gets the
 value 'define'
      -D symbol='some value'   symbol is set to 'some value'
    common used examples (see INSTALL for more info):
      -Duse64bitint          use 64bit integers
      -Duse64bitall          use 64bit integers and pointers
```

```
        -Dusethreads            use thread support
        -Dinc_version_list=none  do not include older perl trees in @INC
        -DEBUGGING=none         DEBUGGING options
        -Dcc=gcc                choose your compiler
        -Dprefix=/opt/perl5     choose your destination
 -E : stop at the end of questions, after having produced config.sh.
 -K : do not use unless you know what you are doing.
 -O : ignored for backward compatibility
 -S : perform variable substitutions on all .SH files (can mix with -f)
 -U : undefine symbol:
        -U symbol    symbol gets the value 'undef'
        -U symbol=   symbol gets completely empty
     e.g.:  -Uversiononly
 -A : manipulate symbol after the platform specific hints
 have been applied:
        -A append:symbol=value   append value to symbol
        -A symbol=value          like append:, but with a separating space
        -A define:symbol=value   define symbol to have value
        -A clear:symbol          define symbol to be ''
        -A define:symbol         define symbol to be 'define'
        -A eval:symbol=value     define symbol to be eval of value
        -A prepend:symbol=value  prepend value to symbol
        -A undef:symbol          define symbol to be 'undef'
        -A undef:symbol=         define symbol to be ''
     e.g.:  -A prepend:libswanted='cl pthread '
            -A ccflags=-DSOME_MACRO
 -V : print version number and exit (with a zero status).
EOM
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and
 cannot use $me, since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
case "$fastread$alldone" in
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
```

```
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true) exec 1>/dev/null;;
esac

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
?X: -q is POSIX
?X: It does not work in SysV (solaris) or old BSD greps.
grep '\\' optdef.sh >/dev/null 2>&1
if test $? = 0; then
   echo "Configure does not support \\
 in -D arguments"
   exit 1
fi
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Options.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libyacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: libyacc.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:09:19  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.3  1994/05/13  15:27:12  ram
?RCS: patch27: added byacc case (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:09:01  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:49  ram
?RCS: patch16: un-obsoleted this unit for smooth yacc compilations
?RCS:
?RCS:
 Revision 3.0  1993/08/18  12:09:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libyacc: Loc yacc libpth _a
?MAKE: -pick add $@ %<
?S:libyacc:
?S: This variable contains the argument to pass to the loader in order
?S: to get the yacc library routines.  If there is no yacc or yacc
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -ly
echo " "
case "$yacc" in
*byacc*)
 echo "You are using byacc, so I won't look for a yacc library." >&4
 libyacc="
 ;;
*yacc)
 xxx=`./loc liby$_a x $libpth`
 case "$xxx" in
 x)
  echo "No yacc library found." >&4
  libyacc="
  ;;
 *)
  echo "yacc library found in $xxx." >&4
  libyacc="$xxx"
  ;;
 esac
 ;;
*bison*)
 echo "You are using bison, so I won't look for a yacc library." >&4
 libyacc="
```

```
 ;;
*)
echo "You don't seem to have yacc, so I won't look for the yacc library." >&4
 libyacc="
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libyacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Inlibc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inlibc.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:55:08  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks for the definition of a given function.
?X:
?X: To use it, say:
?X: set function d_func
?X: eval $inlibc
?X:
?MAKE:Inlibc: Csym Whoa Oldconfig
?MAKE: -pick add $@ %<
?LINT:define inlibc
?V:inlibc
?S:inlibc:
?S: This
 shell variable is used internally by Configure to check
?S: wether a given function is defined or not. A typical use is:
?S:  set function d_func
?S:  eval $inlibc
?S: That will print a message, saying wether function was found or
?S: not and set d_func accordingly.
?S:.
```

```
?T:was tx sym tres td tu var
: define an is-in-libc? function
inlibc='echo " "; td=$define; tu=$undef;
sym=$1; var=$2; eval "was=\$$2";
tx=yes;
case "$reuseval$was" in
true) ;;
true*) tx=no;;
esac;
case "$tx" in
yes)
 set $sym tres -f;
 eval $csym;
 case "$tres" in
 true)
  echo "$sym() found." >&4;
  case "$was" in $undef) . ./whoa; esac; eval "$var=\$td";;
 *)
  echo "$sym() NOT found." >&4;
  case "$was" in $define) . ./whoa; esac; eval "$var=\$tu";;
 esac;;
*)
 case "$was" in
 $define) echo "$sym() found." >&4;;
 *) echo "$sym() NOT found." >&4;;
 esac;;
esac'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Inlibc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: AAAAA.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: AAAAA.U,v $
?RCS: Revision 3.0.1.4  1994/06/20  06:50:26  ram
?RCS: patch30: changes from Jarkko Hietaniemi are tagged with JHI
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:01:39  ram
?RCS: patch23: initials for Wayne Davison are now WED
```

?RCS: patch23: added initials for new unit contributor Andy Dougherty
?RCS:
?RCS: Revision 3.0.1.2 1994/01/24 14:01:09 ram
?RCS: patch16: make metalint shut up on special unit definition for All target
?RCS:
?RCS: Revision
 3.0.1.1 1993/09/13 15:43:57 ram
?RCS: patch10: documents initials used for Wayne Davison's contributions
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:44 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply the head of the Makefile created
?X: by metaconfig. For this reason it must be first in alphabetical order.
?X: The leading '+' in front of the unit name is a hint for metalint, since
?X: the use of that special unit name as a "made" unit is legitimate here.
?X:
?MAKE:+All: Finish
?X:
?X: Throughout the units, the following initials are used to identify comments:
?X:
?X: HMS: Harlan Stenn
?X: RAM: Raphael Manfredi
?X: WED: Wayne Davison (was WAD by mistake--RAM)
?X: ADO: Andy Dougherty
?X: JHI: Jarkko Hietaniemi
?X:
?X: Agreed, this is a weird place to document it, but I couldn't find a better
?X: place to do so. I've bet on the curiosity of users, who would probably
?X: want to know what's in this strangely-named file--RAM.

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/AAAAA.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Extras.U,v$
?RCS:
?RCS: Copyright (c) 2001, Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:extras: Myread Oldconfig Setvar rm
?MAKE: -pick add $@ %<
?Y:TOP
?S:extras:

```
?S: This variable holds a list of extra modules to install.
?S:.
: See if we want extra modules installed
echo " "
case "$extras" in
'') dflt='n';;
*) dflt='y';;
esac
cat <<EOM
Perl can be built with extra modules or bundles of modules which
will be fetched from the CPAN and installed alongside Perl.

Notice that you will need access to the CPAN; either via the Internet,
or a local copy, for example a CD-ROM or a local CPAN mirror.  (You will
be asked later to configure the CPAN.pm module which will in turn do
the installation of the rest of the extra modules or bundles.)

Notice also that if the modules require
 any external software such as
libraries and headers (the libz library and the zlib.h header for the
Compress::Zlib module, for example) you MUST have any such software
already installed, this configuration process will NOT install such
things for you.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Install any extra modules (y or n)?'
. ./myread
case "$ans" in
y|Y)
 cat <<EOM

Please list any extra modules or bundles to be installed from CPAN,
with spaces between the names.  The names can be in any format the
'install' command of CPAN.pm will understand.  (Answer 'none',
without the quotes, to install no extra modules or bundles.)
EOM
 rp='Extras?'
 dflt="$extras"
 . ./myread
 extras="$ans"
esac
case "$extras" in
''|'none')
 val=''
 $rm -f ../extras.lst
 ;;
*) echo "(Saving the list of extras for later...)"
```

```
 echo "$extras" > ../extras.lst
 val="'$extras'"
 ;;
esac
set extras
eval $setvar
echo " "
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Extras.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorhtml3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml3dir vendorhtml3direxp installvendorhtml3dir: html3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml3dir:
?S: This variable contains the name of the directory for html
?S: library pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing
 in this directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages for modules and extensions in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml3direxp:
?S: This variable is the ~name expanded version of vendorhtml3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml3dir="
?S:installvendorhtml3dir:
?S: This variable is really the same as vendorhtml3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
```

```
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml3dir
: Set the vendorhtml3dir variables
case "$vendorprefix" in
'') vendorhtml3dir=''
 vendorhtml3direxp=''
 ;;
*) : determine where vendor-supplied module html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default
 suggestions would be welcome.
 case "$vendorhtml3dir" in
 '') dflt=`echo "$html3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml3dir ;;
 esac
 case "$dflt" in
 ''|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml3dir="$ans"
 vendorhtml3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml3dir" = "X" && vendorhtml3dir=' '
prefixvar=vendorhtml3dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorhtml3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cf_who.U,v $
```

```
?RCS: Revision 3.0.1.2  1997/02/28  15:28:50  ram
?RCS: patch61: new computation method avoiding use of temporary file
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:42:34  ram
?RCS: patch23: login name now computed the hard way
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:32  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Oldconfig dependency is there to ensure computation occurs after old values
?X: from config.sh have been loaded, so that we can supersede them.
?X:
?MAKE:cf_time
 cf_by: date Oldconfig
?MAKE: -pick add $@ %<
?S:cf_time:
?S: Holds the output of the "date" command when the configuration file was
?S: produced. This is used to tag both config.sh and config_h.SH.
?S:.
?S:cf_by:
?S: Login name of the person who ran the Configure script and answered the
?S: questions. This is used to tag both config.sh and config_h.SH.
?S:.
?LINT:change LC_ALL LANGUAGE
: who configured the system
?X: Ensure English date -- Jarkko Hietaniemi
cf_time=`LC_ALL=C; LANGUAGE=C; export LC_ALL; export LANGUAGE; $date 2>&1`
?X:
?X: Leave a white space between first two '(' for ksh. The sub-shell is needed
?X: on some machines to avoid the error message when logname is not found; e.g.
?X: on SUN-OS 3.2, (logname || whoami) would not execute whoami if logname was
?X: not found. Sigh!
?X:
?X: Convex had a broken logname executable which returned a non-zero status,
?X: and that broke the previous:
?X:   cf_by=`( (logname) 2>/dev/null || whoami) 2>&1`
?X: Switch to emergency
 mode... -- RAM, 19/04/94
?X:
?X: Parentheses needed to avoid error message if the program does not exist.
?X: Uses case instead of $test so it can be put before $test is defined.
?X: Don't redirect to a file because on Ultrix (under script?) logname
?X: outputs a blank line first.  This method will apparently work.
case "$cf_by" in
"")
 cf_by=`(logname) 2>/dev/null`
 case "$cf_by" in
```

```
 "")
  cf_by=`(whoami) 2>/dev/null`
  case "$cf_by" in
  "") cf_by=unknown ;;
  esac ;;
 esac ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_who.U
No license file was found, but licenses were detected in source scan.

* Feel free to modify any of this as the need arises. Note, however,

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/metaconfig.html
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: End.U,v 3.0 1993/08/18 12:04:51 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End perllibs: $W cppstdin gzip zip
 libs usedl osname osvers
?MAKE: -pick add $@ %<
?S:perllibs:
?S: The list of libraries needed by Perl only (any libraries needed
?S: by extensions only will by dropped, if using dynamic loading).
?S:.
?INIT:perllibs="
?LINT:use $W
?LINT:use gzip zip
```

```
?LINT:change cppstdin
: Remove libraries needed only for extensions
: The appropriate ext/Foo/Makefile.PL will add them back in, if necessary.
: The exception is SunOS 4.x, which needs them.
case "${osname}X${osvers}" in
sunos*X4*)
   perllibs="$libs"
   ;;
*) case "$usedl" in
   $define|true|[yY]*)
     set X `echo " $libs " | sed -e 's@ -lndbm @ @' -e 's@ -lgdbm @ @' -e 's@ -lgdbm_compat @ @' -e 's@ -ldbm @
@' -e 's@ -ldb @ @'`
     shift
     perllibs="$*"
     ;;
   *) perllibs="$libs"
     ;;
   esac
   ;;
esac

?X: If the user has the cppstdin wrapper, perl.c will try to call
?X: CPPSTDIN, but that will point to a location in the build
?X: directory, not the installed version!.  Here, we'll just strip the
?X: name down to 'cppstdin',
 and rely on the fact that perl.c will
?X: then call SCRIPTDIR/cppstdin, but local things like 'make depend'
?X: will continue to work.
: Remove build directory name from cppstdin so it can be used from
: either the present location or the final installed location.
echo " "
: Get out of the UU directory to get correct path name.
cd ..
case "$cppstdin" in
`pwd`/cppstdin)
 echo "Stripping down cppstdin path name"
 cppstdin=cppstdin
 ;;
esac
cd UU

: end of configuration questions
echo " "
echo "End of configuration questions."
echo " "

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/End.U
```

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

Perl5 Metaconfig Units

Copyright (c) 1996-1998, Andy Dougherty
Copyright (c) 1999-2011, H.Merijn Brand
All rights reserved.

These units are the ones used to build Configure and config_h.SH
in the Perl5 distribution.

metaconfig will first look in its standard locations (specified when you
installed dist). It will then recurse through the 'U' subdirectory
and find any additional "private" units. Private units override
standard ones supplied with metaconfig.

Files in this directory:

README
This file.

Glossary.patch
The standard dist units contain some strings that make pod2man
complain. This patch silences those warnings. As new units are
added and Configure is regenerated, this patch may need more and more
'fuzz' to be applied. It should be freshly regenerated every once
in a while. See also mkgloss.pl

ln-all.pl
Re-generate the all/ folder

mkglossary
A script
to regenerate Porting/Glossary. You have to manually
edit the top of the script to point the location of your metaconfig
units. It is called automatically by 'mksample'. See also mkgloss.pl

mkgloss.pl
A perl script that calls U/mkglossary from the perl source tree, sorts
the list of symbols, and applies the patch mentioned in Glossary.patch.
When called on its own, redirect the output to a temporary file, and
compare that file to Porting/Glossary before applying.

mksample
A script to regenerate Porting/config.sh and Porting/config.H.
It also calls mkglossary, if necessary.

Subdirectories:

The units and other related files have been broken up into the following
directories.

a_dvisory/
  These are units that have to go first in the generated config_h.SH.
  A word of explanation: Configure and config_h.SH are generated from 'Units'
  (the *.U files). Files indicate dependencies (using make(1)), and
  Configure is built to follow those dependencies.
 However, config_h.SH
  is simply built by putting all the units in alphabetical order and
  extracting the relevant lines. (This could be fixed, I suppose, but
  it wasn't trivial the one time I looked.)
  The a_dvisory/ directory, then, is a place to put units that need
  to be early in config_h.SH. (Most units are self-contained
  and ought to be able to go anywhere. However, some things, like
  byteorder, need to have the #defines from multiarch available.)

acl/
  This is an old patch to begin to detect and use ACL (access
  control list) file protection schemes.

all/
  A folder that conveniently holds symbolic links to all the modules
  that are used to build the current Configure and config_h.SH.

compline/
  These are similar to the standard units, but I have modified them
  to have a more uniform compile command line, usually using the
  new Compile.U unit. (The ccflags.U unit is perl-specific since it
  mentions -DDEBUGGING and
 -DPOSIX_SOURCE, but that's the only place
  it is perl-specific.)

dist_patches/
  These are patches to dist that must be applied before it is built
  and installed. I have submitted these for inclusion in the
  regular dist distribution. They have already been applied
  to the ../dist-3.0at70b directory.

ebcdic/
  These are units that had to be specially modified to work under
  either EBCDIC or ASCII.

installdirs/
  These are units to handle perl's installation directories and
  related issues.

modified/
  These are modified versions of the standard units. Also included in
  this directory are new units that are clearly derived from existing
  units. I have submitted these for inclusion in the regular dist
  distribution.

nullified/
  These are null units that replace units in the standard
  distribution. Typically they are there because some part of the
  perl source accidentally uses a symbol that metaconfig thinks means we
  want the corresponding
 unit.

perl/
  These are specific to perl. Some are heavily derived from
  original dist units, and are marked as such. Others are original.

perl_patches/
  These are patches to the perl source. This directory
  should ordinarily be empty, but there may have been drift between
  the standard version of perl and the one associated with these
  units.

protos/
  These are units modified to use the new Hasproto.U or Protochk.U
  units to check for prototypes.

threads/
  These are specific to threading perl.

typedefs/
  These are standard units modified to use the modified Typedef.U
  unit to check for typedefs. (The modified Typdef.U includes a
  function to avoid unnecessary prompts if the typdef being searched
  for exists.)

Where appropriate, I submitted these units for inclusion into the
regular dist distribution. However, since dist is no longer actively
maintained, and the alternative is for *me* to actively maintain it,
the units just
 sit here.

Copyright Information:

Unless otherwise indicated, the files contained in this
distribution are:

Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in
this distribution:

You may distribute the files contained in this distribution
under the terms of either

a) the "Artistic License" which comes with Perl, or

b) the "Artistic License" which comes with dist, or

c) the GNU General Public License as published by the Free
Software Foundation; either version 1, or (at your option) any
later version (see the file "Copying" that comes with the
Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified
license as contained in dist-3.0-pl60 provides:

7. You may reuse parts of this Package in your own programs, provided
that you explicitly state where you got them from, in the source code
(and, left to your courtesy, in the documentation), duplicating
all the associated copyright notices and disclaimers. Besides
your changes, if any, must be clearly marked as such. Parts reused
that way will no longer fall under this license if, and only if,
the name of your program(s) have no immediate connection with the
name of the Package itself or its associated programs. You may then
apply whatever restrictions you wish on the reused parts or choose
to place them in the Public Domain--this will apply only within the
context of your package.

In accordance with this clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences
between these units and the standard versions, please
feel free to ask.

Andy Dougherty doughera@lafayette.edu

Dept. of Physics
Lafayette College
Easton, PA 18042-1782

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/README
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Chk_MANI.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_MANI.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:57:25  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/31  09:33:14  ram
?RCS: patch44: now lists Begin instead of Myinit in its dependencies
?RCS: patch44: leading comment now explains how this unit is included
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks the package by making sure
 every file listed in MANIFEST
?X: is present. It is systematically "included" via the Finish unit (which
?X: is always present in every Configure script), although it may result in
?X: an empty inclusion when no MANIFEST is present.
?X:
?MAKE:Chk_MANI: Begin c n rsrc
?MAKE: -pick wipe $@ %<
?T:filelist ans tmppwd
?X: This check happens at metaconfig-time, so it's ok to hard-code the path.
@if {test -f ../MANIFEST}
: Now test for existence of everything in MANIFEST
echo " "
if test -f "$rsrc/MANIFEST"; then
 echo "First let's make sure your kit is complete.  Checking..." >&4
?X:
?X: Files spelled uppercased and beginning with PACK are produced by the
?X: shell archive builder and may be removed by the user. Usually, they are
```

```
?X: not listed in the MANIFEST file, but you never know...
?X:
?X: "split -l" is the new way of running a split, but we also try the older way
?X:
 awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
  (split -l 50 2>/dev/null || split -50)
 rm -f missing
 tmppwd=`pwd`
 for
 filelist in x??; do
  (cd "$rsrc"; ls `cat "$tmppwd/$filelist"` \
   >/dev/null 2>>"$tmppwd/missing")
 done
 if test -s missing; then
  cat missing >&4
  cat >&4 <<'EOM'

THIS PACKAGE SEEMS TO BE INCOMPLETE.

You have the option of continuing the configuration process, despite the
distinct possibility that your kit is damaged, by typing 'y'es.  If you
do, don't blame me if something goes wrong.  I advise you to type 'n'o
and contact the author (<MAINTLOC>).

EOM
?X: Can't use $echo at this early stage
  echo $n "Continue? [n] $c" >&4
  read ans
  case "$ans" in
  y*)
   echo "Continuing..." >&4
   rm -f missing
   ;;
  *)
?X:
?X: Use kill and not exit, so that the trap gets executed to clean up
?X:
   echo "ABORTING..." >&4
   kill $$
   ;;
  esac
 else
  echo "Looks good..."
 fi
else
 echo "There is no MANIFEST file.  I hope your kit is complete !"
fi
rm -f missing x??
```

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Chk_MANI.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: install.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: install.U,v $
?RCS: Revision 3.0.1.2 1995/09/25 09:16:37 ram
?RCS: patch59: all possible install programs are now looked for
?RCS:
?RCS: Revision 3.0.1.1 1995/01/11 15:30:41 ram
?RCS: patch45: created
?RCS:
?MAKE:install installdir: Loc Oldconfig Getfile cat test startsh rm +cc \
 eunicefix package contains mkdir echo n c
?MAKE: -pick add $@ %<
?S:install:
?S: This variable contains the name of an install program that can accept
?S: BSD-style arguments.
 It must correctly support -c, -s, and -m at least.
?S: It is a fully qualified pathname when found. If you have a local
?S: install.SH file at the root directory of your package, it is assumed to
?S: be the default script emulating a BSD install and the variable will be
?S: set to ./install. Otherwise, it is set to plain 'install', relying on
?S: the user's PATH to perform miracles.
?S:.
?S:installdir:
?S: This variable contains the name of a program that can install nested
?S: directories. Often set to 'mkdir -p', it can also be 'install -d' if
?S: you have such a beast and lack the former. If you have an install.SH
?S: file at the root directory of your package, it will be used in last
?S: resort, setting the variable to './install -d'. Otherwise, it is set to
?S: plain 'mkdir', and cross your fingers!
?S:.
?T:dir file tryit prog creatdir either
?F:!tryinst
: locate a BSD compatible install program

```
echo " "
echo "Looking for a BSD-compatible install program..." >&4
@if installdir
creatdir="
@end
case
 "$install" in
")
 tryit="
 for dir in $pth; do
  for file in ginstall installbsd scoinst install; do
   if $test -f $dir/$file; then
    tryit="$tryit $dir/$file"
   fi
  done
 done
 $cat >try.c <<EOC
int main()
{
 printf("OK\n");
 exit(0);
}
EOC
 if $cc -o try try.c >/dev/null 2>&1; then
  cp try try.ns
  strip try >/dev/null 2>&1
 else
  echo "(I can't seem to compile a trivial C program -- bypassing.)"
  echo "try" >try
  cp try try.ns
 fi
 $cat >tryinst <<EOS
$startsh
$rm -rf foo d
@if installdir
\$1 -d foo/bar
@end
$mkdir d
\$1 -c -m 764 try.ns d
\$1 -c -s -m 642 try.ns d/try
EOS
 chmod +x tryinst
 $eunicefix tryinst
 dflt="
 either="
 for prog in $tryit; do
  $echo $n "Checking $prog... $c"
  ./tryinst $prog >/dev/null 2>&1
```

```
@if installdir
  if $test -d foo/bar; then
   creatdir="$prog -d"
  fi
@end
  (ls -l d/try >try.ls; ls -l d/try.ns >tryno.ls) 2>/dev/null
  if (cmp -s d/try try && cmp -s d/try.ns try.ns && \
   $contains 'rwxrw-r--' tryno.ls &&
 \
   $contains 'rw-r---w-' try.ls) >/dev/null 2>&1
  then
   dflt="$prog"
   echo "ok, that will do."
   break
  fi
  echo "not good$either."
  either=' either'
  $rm -f try*.ls
 done
 $rm -rf foo d tryinst try try*.ls try.*
 case "$dflt" in
 ")
@if {test -f ../install.SH}
  echo "Hopefully, $package comes with its own install script!"
  dflt='./install'
@else
  dflt='install'
@end
  ;;
 esac
 ;;
*) dflt="$install";;
esac
$cat <<EOM

I will be requiring a BSD-compatible install program (one that allows
options like -s to strip executables or -m to specify a file mode) to
install $package.

If the question below contains a fully qualified default path, then it
is probably ok. If it is an unqualified name such as 'install', then it
means I was unable to find out a good install program I could use. If
@if {test -f ../install.SH}
you know of one, please tell me about it. If the default is './install',
then I shall be using the install script supplied with $package.
@else
you know of one,
```

```
 please tell me about it.
@end

EOM
@if {test -f ../install.SH}
fn='/fe~(install,./install)'
@else
fn='/fe~(install)'
@end
rp='Which install program shall I use?'
. ./getfile
install="$ans"

@if installdir
: how can we create nested directories?
echo " "
echo "Ok, let's see how we can create nested directories..." >&4
case "$installdir" in
")
?X: First time, maybe we already found out a working one in $creatdir above...
?X: Prefer "mkdir -p" because of bugs in GNU install when not running as root
 $mkdir -p foo/bar >/dev/null 2>&1
 if $test -d foo/bar; then
  echo "Great, we can build them using 'mkdir -p'."
  creatdir='mkdir -p'
 else
  case "$creatdir" in
  ")
   if eval "$install -d foo/bar"; $test -d foo/bar; then
    creatdir="install -d"
    echo "It looks like '$creatdir' will do it for us."
   fi
   ;;
  *)
   eval "$creatdir foo/bar" >/dev/null 2>&1
   if $test -d foo/bar; then
    echo "Ah! We can use '$creatdir' to do just that."
   else
    creatdir="
   fi
   ;;
  esac
 fi
 $rm
 -rf foo
 case "$creatdir" in
 ")
  echo "Heck! Another ancient system lacking the comfort of modern ones!"
```

```
@if {test -f ../install.SH}
  echo "You can thank $package for bringing you its own install script!"
  installdir='./install -d'
@else
  echo "We have no choice but to use plain old 'mkdir' -- wish me luck!"
  installdir=mkdir
@end
  ;;
 *) installdir="$creatdir";;
 esac
 ;;
*) echo "As you already told me, '$installdir' should work.";;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/install.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: etc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: etc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:etc etcexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:etc:
?S: This variable holds the name of the directory in which the user wants
?S: to put "administrative" executable images for the package in question.
?S: It is most often a local directory such as /usr/local/etc. Programs
?S: relying on this variable must be prepared to deal with
 ~name
?S: substitutions.
?S:.
?S:etcexp:
?S: This is the same as the etc variable, but is filename expanded at
?S: configuration time, for convenient use in makefiles.
?S:.
```

```
: determine where administrative executables go
case "$etc" in
")
 dflt=`./loc . /local/etc /usr/local/etc /local/etc /usr/etc /etc`
 ;;
*)
 dflt="$etc"
 ;;
esac
fn=d~
rp='Where should the administrative executables go?'
. ./getfile
etc="$ans"
etcexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/etc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: h_fcntl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_fcntl.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_fcntl: Nothing
?MAKE: -pick add $@ %<
?S:h_fcntl:
?S: This is variable gets set in various places to tell i_fcntl that
?S: <fcntl.h> should be included.
?S:.
: Initialize h_fcntl
h_fcntl=false
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/h_fcntl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extract.U,v 3.0.1.2 1997/02/28 14:58:52 ram Exp $
?RCS:
```

```
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running
 Configure from a remote directory ($src is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: src
?MAKE: -pick add $@ %<
?F:./extract
?T:PERL_CONFIG_SH dir file name create mkdir_p
: script used to extract .SH files with variable substitutions
cat >extract <<'EOS'
PERL_CONFIG_SH=true
echo "Doing variable substitutions on .SH files..."
if test -f MANIFEST; then
 set x `awk '{print $1}' < MANIFEST | grep '\.SH$'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$src"; find . -name "*.SH" -print)`
fi
shift
case $# in
0) set x `(cd "$src"; echo *.SH)`; shift;;
esac
if test ! -f "$src/$1"; then
 shift
fi
?X: script to emulate mkdir -p
```

```
mkdir_p='
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create";
  name=`echo $name | sed -e "s|^[^/]*$||"`;
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`;
 else
  name="";
 fi;
done;
for file in $create; do
 mkdir $file;
done
'
for file in $*;
 do
 case "$src" in
 ".")
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (cd "$dir" && . ./$file)
   ;;
  *)
   . ./$file
   ;;
  esac
  ;;
 *)
?X:
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to
 be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
```

```
?X:  -- RAM, 18/03/96
?X:
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (set x $dir; shift; eval $mkdir_p)
   sh <"$src/$dir/$file"
   ;;
  *)
   sh <"$src/$file"
   ;;
  esac
  ;;
 esac
done
if test -f "$src/config_h.SH"; then
 if test ! -f config.h; then
 : oops, they left it out of MANIFEST, probably, so do it anyway.
 . "$src/config_h.SH"
 fi
fi
EOS
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Extract.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: rename.C,v 3.0.1.1 1994/01/24 13:58:42 ram Exp ram $
*
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*
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*  as specified in the README file that comes with the distribution.
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*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: rename.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:42  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/rename.C

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

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Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/makegloss
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/fixcpp
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/bindex
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.mk
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure proper semantics. -- RAM, 15/03/96
?X:
?MAKE:Extractall:
 Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
```

```
 esac
 echo " "
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
 test "$override" && . ./optdef.sh
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
 rm -rf UU
 echo "Extraction done."
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Extractall.U
No license file was found, but licenses were detected in source scan.

```
# $Id: makedepend.sh,v 3.0.1.1 1994/01/24 14:00:05 ram Exp ram $
#
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#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedepend.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:05  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:37  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/makedepend.SH
No license file was found, but licenses were detected in source scan.

```
# $Id: errnolist.a,v 3.0 1993/08/18 12:04:35 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
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```

```
#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.a,v $
# Revision 3.0  1993/08/18 12:04:35  ram
# Baseline for dist 3.0 netwide release.
#
#
# This is a simple-minded awk script to generate an initialization for
# sys_errnolist on systems that don't have it.
# This file now depends only on sys/errno.h error numbers under maxerr being
# in order.  It will complain and die if not.  NOTE: It will still produce
# a compilable output file, even with errors, so you must
 check the output.
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.a
No license file was found, but licenses were detected in source scan.

```
# $Id: makedir.sh,v 3.0.1.1 1994/01/24 14:00:08 ram Exp ram $
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
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#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedir.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:08  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:38  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/makedir.SH
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasfield string that is used internally
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat st_blocks i_sysstat sys/stat.h
?X:  eval $hasfield
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat st_blocks $hdrs
?X: eval $hasfield
?X:
?MAKE:Hasfield: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct field
?V:hasfield
: Define hasfield macro for Configure internal use
hasfield='varname=$1;
 struct=$2; field=$3; shift; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
echo "int main () { struct $struct foo; char* bar; bar = (char*)foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasfield.U

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

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so: test libpth Loc Myread Oldconfig cat
?MAKE: -pick add $@ %<
?S:so:
?S: This variable holds the extension used to identify
 shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?T: xxx
: compute shared library extension
case "$so" in
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
  dflt='sl'
 else
  dflt='so'
 fi
 ;;
*) dflt="$so";;
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
of this configuration.
```

```
EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/so.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4  1995/07/25  13:36:29  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3  1995/05/12  12:00:33  ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/31  09:34:13  ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:00:05  ram
?RCS:
 patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym: Options contains libc libs runnm +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?LINT:define csym
?LINT:use libc
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: wether a given C symbol is defined or not. A typical use is:
?S:  set symbol result [-fva] [previous]
?S:  eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
```

```
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?V:csym
?T:tval tx tlook tf tdc tc
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tc=""; tdc="";;
-a) tf=libc.tmp; tc="[0]"; tdc="[]";;
*) tlook="^$1\$";
 tf=libc.list; tc=""; tdc="()";;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
case "$tx" in
yes)
 case "$runnm" in
 true)
  if $contains $tlook $tf >/dev/null 2>&1;
  then tval=true;
  else tval=false;
  fi;;
 *)
?X:
?X: We use 'char' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'char' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lifes so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the
 compile test, in case the 'char'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
?X: Lastly, gcc 3.4 otimizes &missing == 0 away, so we use + 2 instead now.
?X: The GNU folks like to do weird things, don't they? -- RAM, 2004-06-05
?X:
  echo "extern char $1$tdc; int main() { return &$1$tc + 2; }" > t.c;
  if $cc $ccflags $ldflags -o t t.c $libs >/dev/null 2>&1;
```

```
 then tval=true;
 else tval=false;
 fi;
 $rm -f t t.c;;
esac;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;;
esac;
eval "$2=$tval"'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Csym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: MailAuthor.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailAuthor.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  15:04:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:05:09  ram
?RCS: patch32: avoid message sending if they said no previously
?RCS:
?RCS: Revision 3.0.1.3  1993/10/16  13:47:30  ram
?RCS: patch12: now makes sure user-specified address is in Internet format
?RCS:
?RCS: Revision
 3.0.1.2  1993/09/13  15:48:49  ram
?RCS: patch10: reverted to original intent by the Author himself
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:38:38  ram
?RCS: patch7: now prompts user for its e-mail address
?RCS: patch7: no longer silent when mail has been sent
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:06  ram
```

```
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?RCS:
?X:
?X: This unit asks the user to please send a message to the author.
?X: To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: This allows a smart mailagent program to automatically let users know
?X: when their package is out of date, and to allow users to be notified of
?X: any future patches.
?X:
?MAKE:MailAuthor mailpatches notifypatches usermail: test cat mailer \
 package Myread patchlevel baserev rm rsrc Oldconfig Configdir
?MAKE: -pick wipe $@ %<
?S:mailpatches:
?S: Indicates whether the user would like future patches to be mailed
?S: directly
 to them.
?S:.
?S:notifypatches:
?S: Indicates whether the user would like notification of future patches
?S: mailed to them.
?S:.
?S:usermail:
?S: This variable is used internally by Configure to keep track of the
?S: user e-mail address, where notifications or patches should be sent.
?S: A '-' value means the return address will be extracted by parsing
?S: the mail headers.
?S:.
?T:opt mailpatches notifypatches atsh status
: notify author that his package is used
if $test -f ../.config/mailauthor &&
 cmp $rsrc/patchlevel.h ../.config/mailauthor >/dev/null 2>&1
then
 status="say that you're using $package";
 case "$mailpatches" in
 true) status='have patches mailed to you as they are issued';;
 esac
 case "$notifypatches" in
 true) status='be notified when new patches are issued';;
 esac
 $cat <<EOM

You have already sent the author of $package (<MAINTLOC>) mail to
$status. If you wish, you may modify
your previous request by sending a new mail with different options.

EOM
```

```
 rp='Should
 I send a status update to <MAINTLOC>?'
 dflt=n
else
 $cat <<EOM

If you are able to send mail to the Internet, the author of $package would
really appreciate you letting me send off a quick note, just to say that you've
tried it. The author is more likely to spend time maintaining $package if it's
known that many people are using it, and you can even ask to get sent new
patches automagically this way if you wish. To protect your privacy, all I'll
say in the mail is the version of $package that you're using.

EOM
 rp='Should I send mail to <MAINTLOC>?'
 dflt=y
?X: Ensure default is 'n' if question has been asked already, in case they
?X: run Configure -d next time and answered 'n' the first time. Therefore,
?X: an empty nomail will be created later on even if no mail is sent.
 $test -f ../.config/nomail && dflt=n
fi
. ./myread
case "$ans" in
[yY]*)
 echo " "
 echo "Great! Your cooperation is really appreciated."
 $cat <<EOM

Some braindead sites do not set a proper return
 address in the From: header of
their outgoing mail, making it impossible to reply to mail they generate.
If your site is broken in this way, write to your system administrator and get
it fixed!!! In the mean time, you can manually specify the Internet e-mail
address by which the author can get back to you, should there be a need to do
so. If manually specified, it should be something like "user@domain.top".
If your mail system generates addresses correctly, specify "none".

EOM
 case "$usermail" in
 '-'|'') dflt=none;;
 *) dflt="$usermail";;
 esac
 rp='Manually specify a return address to use:'
 . ./myread
 case "$ans" in
 none|*@*.*)
  case "$ans" in
  none) usermail='-';;
```

```
 *) usermail="$ans";;
 esac
 ;;
*)
 echo "(Address does not look like an Internet one -- ignoring it.)"
?X:
?X: If we can't trust their mailer or their return address, it's highly
?X: suggested that they only register and don't ask to get anything from
?X: the author, since it's likely to bounce in null-land --
 RAM.
?X:
 usermail='-'
 mailpatches=false
 notifypatches=false
 ;;
esac
echo " "
opt=''
rp='Would you like to have new patches automatically mailed to you?'
case "$mailpatches" in
true) dflt=y;;
*) dflt=n;;
esac
. ./myread
case "$ans" in
[yY]*) opt=' mailpatches'; mailpatches=true;;
*)
 mailpatches=false
 echo " "
 rp='Ok, would you like to simply be notified of new patches?'
 case "$notifypatches" in
 false) dflt=n;;
 *) dflt=y;;
 esac
 . ./myread
 echo " "
 case "$ans" in
 [yY]*) opt=' notifypatches'; notifypatches=true;;
 *)
  echo "Fine, I'll simply say that you've tried it then."
  notifypatches=false
  ;;
 esac
 ;;
esac
echo "Sending mail to <MAINTLOC>..." >&4
?X: Bizarre hack here. We can't just put @SH in the hereis lines below, because
?X: metaconfig will interpret it as a command, and there's no quoting mechanism.
```

```
?X: Do it via a variable instead.
 atsh='@SH'
 $mailer <MAINTLOC> <<EOM >/dev/null 2>&1
Subject: Command
Precedence: junk
To: <MAINTLOC>

$atsh
 package $usermail $package $baserev $patchlevel$opt
EOM
 $rm -f ../.config/mailauthor ../.config/nomail
 cp $rsrc/patchlevel.h ../.config/mailauthor
 ;;
*)
 case "$dflt" in
 "y")
  echo "Oh well, maybe next time."
  cp /dev/null ../.config/nomail
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/MailAuthor.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: yacc.U,v 3.0.1.1 1994/05/13 15:28:48 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1  1994/05/13  15:28:48  ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:10:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Oldconfig byacc bison cat test _exe
?MAKE: -pick add $@ %<
?S:yacc:
?S: This variable holds the name of the compiler compiler we
```

```
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.
?S:.
?S:yaccflags:
?S: This
 variable contains any additional yacc flags desired by the
?S: user.  It is up to the Makefile to use this.
?S:.
?T:comp
: determine compiler compiler
case "$yacc" in
")
 dflt=yacc;;
*)
 dflt="$yacc";;
esac
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 dflt="$byacc"
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"
fi
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behavior.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH

Your yacc program may need extra flags to normally process the parser sources.
```

```
Do NOT specify any -d or -v flags here, since those are explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the
 maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
. ./myread
case "$ans" in
none) yaccflags="";;
*) yaccflags="$ans";;
esac

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/yacc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: usenm.U,v 3.0.1.1 1997/02/28 16:26:40 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:26:40  ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig myuname grep \
 nm d_gnulibc osname egrep rsrc
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending
 whether the
?S: nm extraction is wanted or not.
?S:.
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
```

```
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
?S: to work on a shared library but that can not be used on an
?S: archive library.  Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
?X: Don't bother if we're
 using GNU libc -- skimo
?LINT:extern PASE
case "$usenm" in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "nm probably won't work on the GNU C Library." >&4
  dflt=n
  ;;
 esac
 case "$dflt" in
 ")
  if $test "$osname" = aix -a "X$PASE" != "Xdefine" -a ! -f /lib/syscalls.exp; then
   echo " "
   echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
   echo "'nm' won't be sufficient on this system." >&4
   dflt=n
  fi
  ;;
 esac
 case "$dflt" in
 ") dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
  if $test $dflt -gt 20; then
   dflt=y
  else
   dflt=n
  fi
```

```
 ;;
 esac
 ;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
 *) dflt=n;;
 esac
 ;;
esac
$cat <<EOM

I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the 'nm' extraction part and to compile a small
test
 program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

You probably shouldn't let me use 'nm' if you are using the GNU C Library.

EOM
rp="Shall I use $nm to extract C symbols from the libraries?"
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt='' # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p' # Solaris (and SunOS?)
 elif $test -f /dgux; then
  nm_opt='-p' # DG-UX
 elif $test -f /lib64/rld; then
```

```
  nm_opt='-p' # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

: nm options which may be necessary for shared libraries but illegal
: for archive
 libraries.  Thank you, Linux.
case "$nm_so_opt" in
'') case "$myuname" in
 *linux*|gnu*)
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
  fi
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/usenm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun like everybody
?RCS: patch54: can now grok
 linux nm output with lead __IO (ADO)
?RCS: patch54: added support for linux ELF output, using 'W' for alias (ADO)
```

```
?RCS:
?RCS: Revision 3.0.1.7  1994/10/29  16:23:40  ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1994/08/29  16:28:10  ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  07:03:24  ram
?RCS: patch30: checks are now presented by succession of if/elif
?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  15:06:33  ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:12:17  ram
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2  1993/09/13  16:09:03  ram
?RCS: patch10: added special handling for Apollo systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1
  1993/08/27  14:40:03  ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libc libnames +nm_extract: echo n c rm test grep Getfile Myread \
 Oldconfig Loc sed libs incpath libpth ar runnm nm nm_opt nm_so_opt \
 contains xlibpth so osname trnl tr sort uniq _o _a
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:libnames:
?S: The constructed list of library names.  Normally empty, but hint files
?S: may set this for later perusal by Configure.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp
?LINT:change nm_opt runnm
?INIT:libnames="
```

```
: Figure out where the libc is located
case
 "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
: get list of predefined functions in a handy place
echo " "
case "$libc" in
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
 -lc|-lc_s)
  : Handle C library specially below.
  ;;
 -l*)
  thislib=`echo $thislib | $sed -e 's/^-l//'`
  if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
   :
  else
   try="
  fi
  libnames="$libnames $try"
  ;;
 *) libnames="$libnames $thislib"
 ;;
 esac
 done
 ;;
esac
```

```
?X:
?X: Some systems (e.g. DG/UX) use "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
?X: part is removed after sorting. Nice efficient work
 from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set /usr/ccs/lib/libc.$so
 $test -r $1 || set /lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
```

```
 libc="$1"
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
?X:
 echo
 "Your C library seems to be in both /lib/clib and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick
 $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
```

```
 cat <<EOM

If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.

EOM
else
 dflt="
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:

EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...

EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
set X `cat libnames`
shift
xxx=files
case
 $# in 1) xxx=file; esac
echo "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
```

```
done >libc.tmp

$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval
 "<libc.tmp $com >libc.list"; echo "done." >&4'
?X: BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
?X: HPUX10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
xxx='[ADTSIW]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *_[_.]*//p' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval
 $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
```

```
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null
 2>&1; then
  eval $xrun
?X: OS/2 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[       ]*D[    ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
  echo "$nm didn't seem to work right. Trying $ar instead..." >&4
  com="
```

```
 if $ar t $libc > libc.tmp && \
  $contains '^fprintf$' libc.tmp >/dev/null 2>&1
 then
  for thisname in $libnames $libc; do
   $ar t $thisname >>libc.tmp
  done
  $sed
-e "s/\\$_o\$//" < libc.tmp > libc.list
  echo "Ok." >&4
 elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
  for thisname in $libnames $libc; do
   $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
   $rm -f tmp.imp
  done
  $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
  echo "Ok." >&4
 else
  echo "$ar didn't seem to work right." >&4
  echo "Maybe this is a Cray...trying bld instead..." >&4
  if
   bld t $libc | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
   $test -s libc.list
  then
   for thisname in $libnames; do
    bld t $libnames | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
    $ar t $thisname >>libc.tmp
   done
   echo
"Ok." >&4
  else
   echo "That didn't work either." >&4
   echo "No problem, I'll be compiling test programs then..." >&4
   runnm=false
  fi
 fi
fi
nm_extract="$com"
if $test -f /lib/syscalls.exp; then
```

```
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
fi
?X: remember, indentation is wrong on purpose--RAM
;;
esac
$rm -f libnames libpath
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:10:34  ram
?RCS: patch61: created
?RCS:
?X:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man3 used instead of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir
 man3direxp man3ext installman3dir: afs cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile prefix Prefixit Prefixup \
 d_flexfnam privlib Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
```

```
?S:.
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual
 page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
?S:.
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

echo "If you don't want the manual sources installed, answer 'none'."
?X: We dont use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
```

```
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with TCL man pages.
?X: However, something like /opt/perl/man/man3
 is fine.
case "$man3dir" in
") case "$prefix" in
 *$package*) dflt=`echo $man1dir |
   $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'` ;;
 *) dflt="$privlib/man/man3" ;;
 esac
 ;;
' ') dflt=none;;
*) dflt="$man3dir" ;;
esac
echo " "

fn=dn+~
rp="Where do the $package library man pages (source) go?"
. ./getfile
if test "X$man3direxp" != "X$ansexp"; then
 installman3dir="
fi

man3dir="$ans"
man3direxp="$ansexp"
case "$man3dir" in
") man3dir=' '
 installman3dir="";;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installman3dir" in
 ") dflt=`echo $man3direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman3dir";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman3dir="$ans"
else
 installman3dir="$man3direxp"
fi
```

```
: What suffix
 to use on installed man pages

case "$man3dir" in
' ')
 man3ext='0'
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 '') case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/man3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
```

```
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
?X: special symbols: defines from patchlevel.h file if any and CONFIG,
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint file or a previous config.sh file.
?X:
?MAKE:Oldsym:
 Config_sh Options test hint src sed sort uniq
?MAKE: -pick add $@ %<
?T:CONFIG sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "CONFIG=true" >>config.sh

: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh |\
  $sort | $uniq -u >UU/oldsyms
 set X `cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  cat <<EOM
Hmm...You had some extra variables I don't know about...I'll
 try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
  for sym in `cat UU/oldsyms`; do
   echo "    Propagating $hint variable '"$"$sym..."
```

```
  eval 'tmp="$'"${sym}"'"'
  echo "$tmp" | \
   sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
 done
 ;;
esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Oldsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Chk_whoami.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_whoami.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit makes sure we don't try to include whoami.h if uname() exists.
?X:
?MAKE:Chk_whoami: d_uname i_whoami
?MAKE: -pick add $@ %<
?LINT:change i_whoami
: weed out incompatibilities
case "$d_uname" in
 "$define") i_whoami="$undef" ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Chk_whoami.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: installprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: installprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:installprefix installprefixexp: Getfile Loc \
 Oldconfig afs cat package prefix
?MAKE: -pick add $@ %<
?S:installprefix:
?S: This variable holds the name of the directory below which
?S: "make install" will install the package.  For most users, this
?S: is the same
 as prefix.  However, it is useful for
?S: installing the software into a different (usually temporary)
?S: location after which it can be bundled up and moved somehow
?S: to the final location specified by prefix.
?S:.
?S:installprefixexp:
?S: This variable holds the full absolute path of installprefix
?S: with all ~-expansion done.
?S:.
: determine installation prefix for where package is to be installed.
if $afs; then
$cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
files will reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installprefix" in
 '') dflt=`echo $prefix | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installprefix";;
 esac
else
$cat <<EOM

In some special cases, particularly when building $package for distribution,
it is convenient to distinguish the directory in which files should be
installed from the directory ($prefix) in which they will
eventually
 reside.  For most users, these two directories are the same.
```

```
EOM
 case "$installprefix" in
 '') dflt=$prefix ;;
 *) dflt=$installprefix;;
 esac
fi
fn=d~
rp='What installation prefix should I use for installing files?'
. ./getfile
installprefix="$ans"
installprefixexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/installprefix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?X:
?X: Useless unit dropped.  Use randfunc instead.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/randbits.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cc.U,v $
?RCS: Revision 3.0.1.4  1995/05/12  12:06:47  ram
?RCS: patch54: may now abort Configure when cc does not work
?RCS:
```

```
?RCS: Revision 3.0.1.3  1995/01/11  15:20:11  ram
?RCS: patch45: changed gcc checking message to a more explicit one (WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:04:29  ram
?RCS: patch36: detect gcc even when not called as 'gcc' (ADO)
?RCS: patch36: simplified gcc version checking (ADO)
?RCS: patch36: added ?F: line for metalint
 file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:26:06  ram
?RCS: patch23: added support for gcc version (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:30  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cc: Myread Oldconfig Checkcc test
?MAKE: -pick add $@ %<
?S:cc:
?S: This variable holds the name of a command to execute a C compiler which
?S: can resolve multiple global references that happen to have the same
?S: name.  Usual values are 'cc' and 'gcc'.
?S: Fervent ANSI compilers may be called 'c89'.  AIX has xlc.
?S:.
?F:!cc.cbu
?D:cc='cc'
: Determine the C compiler to be used
echo " "
case "$cc" in
") dflt=cc;;
*) dflt="$cc";;
esac
rp="Use which C compiler?"
. ./myread
cc="$ans"

: See whether they have no cc but they do have gcc
. ./trygcc
?X: Look for a hint-file generated 'call-back-unit'.  Now that the
?X: user has specified the compiler, we may need to set or change some
?X: other defaults.
if $test -f cc.cbu; then
   . ./cc.cbu
fi
. ./checkcc

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cc.U
```

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

```
?RCS: $Id: Instruct.U,v 3.0.1.3 1997/02/28 15:02:55 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for
 dist 3.0 netwide release.
?RCS:
?X:
?X: This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Myread Configdir Devel contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
 dflt=n
 . ./myread
```

```
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
fi
if $needman; then
 cat <<EOH

This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a
 command.  Many of the questions will have default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that.  Questions where this is
allowed will be marked "(~name ok)".

EOH
 rp="
 dflt='Type carriage return to continue'
 . ./myread
 cat <<'EOH'

The prompter used in this script allows you to use shell variables and
backticks in your answers.  You may use $1, $2, etc...  to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell.  This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Every time there is a substitution, you will have to confirm.  If there is an
error (e.g. an unmatched backtick), the default answer
 will remain unchanged
and you will be prompted again.

If you are in a hurry, you may run 'Configure -d'.  This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
 . ./myread
 cat <<EOH

Much effort has been expended to ensure that this shell script will run on any
```

Unix system. If despite that it blows up on yours, your best bet is to edit
Configure and run it again. If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand. Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
  in this kit.
2) it builds a config.h file for inclusion in
 C programs. You may edit
  any of these files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently. The easiest thing to do is to edit config.sh and rerun all the SH
files. Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
 dflt='Type carriage return to continue'
 . ./myread
 case "$firsttime" in
 true) echo $user >>../.config/instruct;;
 esac
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Instruct.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Typedef.U,v 3.0.1.3 1995/07/25 13:42:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3 1995/07/25 13:42:07 ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2 1994/10/29 16:01:16 ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead
?RCS:
?RCS: Revision 3.0.1.1 1994/08/29 16:05:14 ram

```
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef
 val_t default [includes]
?X: eval $typedef
?X:
?MAKE:Typedef: cppstdin cppminus cppflags rm sed contains Oldconfig Myread
?MAKE: -pick add $@ %<
?LINT:define typedef
?LINT:define typedef_ask
?V:typedef typedef_ask
?S:typedef:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?S:typedef_ask:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not.  If it is not defined,
?S: this will call the ./myread script to prompt for an answer.
?S: It is intended to be used to avoid unnecessary prompts.
?S: A typical use is
?S:  rp="What is the type for file position used by fsetpos()?"
?S:  set fpos_t fpostype long stdio.h sys/types.h
?S:  eval $typedef_ask
?S: This
 will set fpostype=fpos_t, if fpos_t is available.  Otherwise
?S: it will call myread with a default of 'long', and a prompt of $rp.
?S:.
?T:type var def inclist varval inc
?F:!temp.c
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
```

```
 echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'

?X: Originally, I eval'd $typedef and then checked the results against
?X: $type.  Unfortunately, it then became complicated to check
?X: whether you are re-using
 an old config.sh value, and the logic got
?X: so convoluted it became easier to just copy the function above
?X: and alter it slightly.  A.D.  3/1998
: define an is-a-typedef? function that prompts if the type is not available.
typedef_ask='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 echo " " ;
 echo "$rp" | $sed -e "s/What is/Looking for/" -e "s/?/./";
 if $contains $type temp.E >/dev/null 2>&1; then
  echo "$type found." >&4;
  eval "$var=\$type";
 else
  echo "$type NOT found." >&4;
  dflt="$def";
  . ./myread ;
```

```
  eval "$var=\$ans";
 fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'
```

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/Typedef.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  13:42:07  ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:01:16  ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:05:14  ram
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef val_t default [includes]
?X: eval $typedef
?X:
?MAKE:Typedef:
 cppstdin cppminus cppflags rm contains Oldconfig
?MAKE: -pick add $@ %<
?F:!temp.c
?LINT:define typedef
?V:typedef
?S:typedef:
?S: This shell variable is used internally by Configure to check
?S: wether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
```

```
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?T:type var def inclist varval inc
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval
 "$var=\$varval";;
esac'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Typedef.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_passwd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_passwd.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:37:21  ram
?RCS: patch61: useless unit dropped.
?RCS:
```

?RCS: Revision 3.0.1.1 1994/08/29 16:09:51 ram
?RCS: patch32: created by ADO
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_passwd.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: afs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: afs.U,v $
?RCS: Revision 3.0.1.2 1997/02/28 15:23:06 ram
?RCS: patch61: can now explicitly tell Configure whether AFS is running
?RCS:
?RCS: Revision 3.0.1.1 1993/08/24 12:24:43 ram
?RCS: patch3: created
?RCS:
?MAKE:afs afsroot: test
?MAKE: -pick add $@ %<
?S:afs:
?S: This variable is set to 'true' if AFS (Andrew File System) is used
?S: on the system, 'false' otherwise. It is possible to override this
?S: with a hint value or command line option,
 but you'd better know
?S: what you are doing.
?S:.
?S:afsroot:
?S: This variable is by default set to '/afs'. In the unlikely case
?S: this is not the correct root, it is possible to override this with
?S: a hint value or command line option. This will be used in subsequent
?S: tests for AFSness in the configure and test process.
?S:.
: allow them to override the AFS root
case "$afsroot" in
") afsroot=/afs ;;
*) afsroot=$afsroot ;;

```
esac

: is AFS running?
echo " "
case "$afs" in
$define|true) afs=true ;;
$undef|false) afs=false ;;
*) if $test -d $afsroot; then
  afs=true
 else
  afs=false
 fi
 ;;
esac
if $afs; then
 echo "AFS may be running... I'll be extra cautious then..." >&4
else
 echo "AFS does not seem to be running..." >&4
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/afs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libdbm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libdbm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:56:57  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libdbm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libdbm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the dbm library routines.  If there is no dbm or ndbm
?S: library, it is null.
?S:.
```

```
?T:xxx
:
 see if we should include -ldbm
echo " "
if $test -r /usr/lib/libndbm$_a || $test -r /usr/local/lib/libndbm$_a ; then
 echo "-lndbm found." >&4
 libdbm='-lndbm'
elif $test -r /usr/lib/libdbm$_a || $test -r /usr/local/lib/libdbm$_a ; then
 echo "-ldbm found." >&4
 libdbm='-ldbm'
else
 xxx=`./loc libdbm$_a x $libpth`
 case "$xxx" in
 x)
  echo "No dbm library found." >&4
  libdbm=''
  ;;
 *)
  echo "DBM library found in $xxx." >&4
  libdbm="$xxx"
  ;;
 esac
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libdbm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libflex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libflex.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:57:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:07:02  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:25  ram
?RCS: patch16: un-obsoleted this unit to allow smooth lex/flex compilations
?RCS:
```

```
?RCS: Revision 3.0  1993/08/18  12:08:59  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:libflex: Loc lex libpth _a
?MAKE: -pick add $@ %<
?S:libflex:
?S: This variable contains the argument to pass to the loader in order
?S: to get the flex/lex library routines.  If there is no flex or flex
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -lfl
echo " "
case "$lex" in
*flex)
 xxx=`./loc libfl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No flex library found." >&4
  libflex="
  ;;
 *)
  echo "flex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*lex)
 xxx=`./loc libl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No lex library found." >&4
  libflex="
  ;;
 *)
  echo "lex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*)
echo "You don't seem to have lex or flex, so I won't look for libraries." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libflex.U

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

?RCS: Id
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1 1997/02/28 15:20:06 ram
?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _a _o firstmakefile archobjs: Oldconfig
?MAKE: -pick add $@ %<
?S:_a (lib_ext):
?S: This variable defines the extension
 used for ordinary libraries.
?S: For unix, it is '.a'. The '.' is included. Other possible
?S: values include '.lib'.
?S:.
?S:_o (obj_ext):
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'. The '.' is included. Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make. On unix,
?S: it is makefile (then Makefile). On case-insensitive systems,
?S: it might be something else. This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture. On unix, it is usually
?S: empty. It is typically used to include emulations of unix calls
?S: or other facilities. For perl on OS/2, for example, this would
?S: include os2/os2.obj.

```
?S:.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files
 or command line option can be used to override them.
case "$_a" in
") _a='.a';;
esac
case "$_o" in
") _o='.o';;
esac

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
") firstmakefile='makefile';;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: You may distribute under the terms of either the GNU General Public
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sigsetjmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sigsetjmp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libpth.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:08:49  ram
?RCS: patch61: new loclibpth variable
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:31:30  ram
```

```
?RCS: patch45: call ./mips instead of just mips (WED)
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:29:15  ram
?RCS: patch32: added /lib/pa1.1 for HP-UX specially tuned PA-RISC libs (ADO)
?RCS: patch32: fixed information message, making it clearer (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:03:54  ram
?RCS: patch30: added /usr/shlib to
 glibpth for shared-only libraries
?RCS:
?RCS: Revision 3.0.1.2  1994/05/13  15:26:57  ram
?RCS: patch27: fixed a typo (libpth -> glibpth)
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:07:53  ram
?RCS: patch23: now asks for library directories to be searched (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit initializes the path for C library lookup.
?X:
?MAKE:libpth glibpth xlibpth plibpth loclibpth: \
 usrinc incpath test cat Myread Oldconfig
?MAKE: -pick add $@ %<
?S:libpth:
?S: This variable holds the general path (space-separated) used to find
?S: libraries. It is intended to be used by other units.
?S:.
?S:glibpth:
?S: This variable holds the general path (space-separated) used to
?S: find libraries.  It may contain directories that do not exist on
?S: this platform, libpth is the cleaned-up version.
?S:.
?S:xlibpth:
?S: This variable holds extra path (space-separated) used to find
?S: libraries on this platform,
 for example CPU-specific libraries
?S: (on multi-CPU platforms) may be listed here.
?S:.
?S:loclibpth:
?S: This variable holds the paths (space-separated) used to find local
?S: libraries.  It is prepended to libpth, and is intended to be easily
?S: set from the command line.
?S:.
?S:plibpth:
?S: Holds the private path used by Configure to find out the libraries.
?S: Its value is prepend to libpth. This variable takes care of special
```

```
?S: machines, like the mips.  Usually, it should be empty.
?S:.
?T: xxx dlist
?LINT:use usrinc
?INIT:: change the next line if compiling for Xenix/286 on Xenix/386
?INIT:xlibpth='/usr/lib/386 /lib/386'
?INIT:: Possible local library directories to search.
?INIT:loclibpth="/usr/local/lib /opt/local/lib /usr/gnu/lib"
?INIT:loclibpth="$loclibpth /opt/gnu/lib /usr/GNU/lib /opt/GNU/lib"
?INIT:
?INIT:: general looking path for locating libraries
?INIT:glibpth="/lib /usr/lib $xlibpth"
?INIT:glibpth="$glibpth /usr/ccs/lib /usr/ucblib /usr/local/lib"
?X: /shlib
 is for Digital Unix 4.0
?X: /usr/shlib is for OSF/1 systems.
?INIT:test -f /usr/shlib/libc.so && glibpth="/usr/shlib $glibpth"
?INIT:test -f /shlib/libc.so     && glibpth="/shlib $glibpth"
?INIT:
?INIT:: Private path used by Configure to find libraries.  Its value
?INIT:: is prepended to libpth. This variable takes care of special
?INIT:: machines, like the mips.  Usually, it should be empty.
?INIT:plibpth="
?INIT:
: Set private lib path
case "$plibpth" in
") if ./mips; then
?X: on mips, we DO NOT want /lib, and we want $incpath/usr/lib
  plibpth="$incpath/usr/lib /usr/local/lib /usr/ccs/lib"
 fi;;
esac
case "$libpth" in
' ') dlist='';;
") dlist="$loclibpth $plibpth $glibpth";;
*) dlist="$libpth";;
esac

: Now check and see which directories actually exist, avoiding duplicates
libpth="
for xxx in $dlist
do
   if $test -d $xxx; then
  case " $libpth " in
  *" $xxx "*) ;;
  *) libpth="$libpth $xxx";;
  esac
   fi
done
```

```
$cat <<'EOM'

Some systems have incompatible or broken versions
 of libraries.  Among
the directories listed in the question below, please remove any you
know not to be holding relevant libraries, and add any that are needed.
Say "none" for none.

EOM
case "$libpth" in
'') dflt='none';;
*)
?X: strip leading space
 set X $libpth
 shift
 dflt=${1+"$@"}
 ;;
esac
rp="Directories to use for library searches?"
. ./myread
case "$ans" in
none) libpth=' ';;
*) libpth="$ans";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libpth.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Warn_v7EXT.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7EXT.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:42  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit issues warnings to V7 sites that they are living dangerously.
```

```
?X: This unit needs to get mentioned in End.U to get included.
?X:
?MAKE:Warn_v7EXT: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7;
 then
 cat <<EOM

NOTE: the V7 compiler may ignore some #undefs that $package uses.  If so,
you may get messages about redefining EXT.  Some V7 compilers also have
difficulties with #defines near buffer boundaries, so beware.  You may have
to play with the spacing in some .h files, believe it or not.
EOM
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn_v7EXT.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Warn.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?X:
?X: This unit produces a shell script which can be run in order to emit
?X: an important warning to the user, which will be remembered and shown
?X: at the end of the Configure run as well.
?X:
?X: A typical use would be:
?X:
?X:  ./warn <<EOM
?X:  Problem with your C compiler: can't turn debugging on.
?X:  EOM
?X:
?X: or:
?X:
?X:  ./warn "Problem with your C compiler: can't turn debugging on."
?X:
?X: Which will both display to the user:
?X:
```

```
?X:  ***
 WARNING:
?X:  *** Problem with your C compiler: can't turn debugging on.
?X:  ***
?X:
?MAKE:Warn: startsh eunicefix
?MAKE: -pick add $@ %<
?F:./warn
: script used to emit important warnings
cat >warn <<EOS
$startsh
?X: Read the whole warning message from stdin into a temporary file
?X: when no argument was supplied.
if test \$# -gt 0; then
 echo "\$@" >msg
else
 cat >msg
fi
?X: Emit the warning, prefixing all lines with '*** '
echo "*** WARNING:" >&4
sed -e 's/^/*** /' <msg >&4
echo "*** " >&4
?X: Save the warning in the logs, which will be shown again at the end
cat msg >>config.msg
echo " " >>config.msg
rm -f msg
EOS
chmod +x warn
$eunicefix warn
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: baserev.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: baserev.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

?MAKE:baserev: Null
?MAKE: -pick wipe $@ %<
?S:baserev:
?S: The base revision level of this package, from the .package file.
?S:.
: set the base revision
baserev=<BASEREV>

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/baserev.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Myread.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myread.U,v $
?RCS: Revision 3.0.1.6 1997/02/28 15:05:39 ram
?RCS: patch61: myread script now starts with a "startsh"
?RCS: patch61: miscellaneous fixes
?RCS:
?RCS: Revision 3.0.1.5 1995/01/11 15:14:22 ram
?RCS: patch45: added & escape allowing user to turn on -d from the prompt
?RCS:
?RCS: Revision 3.0.1.4 1994/10/31 09:48:04 ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.3 1994/10/29
 15:56:20 ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.2 1993/08/30 08:57:59 ram
?RCS: patch8: added new visible 'nostick' symbol, mainly for Finish.U
?RCS:
?RCS: Revision 3.0.1.1 1993/08/27 14:39:20 ram
?RCS: patch7: now sticks to the question when no default and empty answer
?RCS:
?RCS: Revision 3.0 1993/08/18 12:05:08 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order

```
?X: to do a read.  It allows for shell escapes, default assignment and
?X: parameter evaluation.
?X:
?X: To use this unit, $rp and $dflt must hold the question and the
?X: default answer. The question will be printed by the script itself.
?X: Neither $rp nor $dflt is altered by the script.
?X:
?X: The myread script will stick to the question if no default is proposed
?X: and the user answer is empty, which prevents mistakes. However, at the
?X: end of Configure, there is an exception
 to this rule (Finish.U) where we
?X: set nostick to a non-empty value to allow the Return key to play its role!
?X:
?MAKE:Myread: Options startsh n c trnl
?MAKE: -pick add $@ %<
?V:ans:dflt rp nostick
?F:./myread
?T:COLUMNS xxxm rp dflt answ aok myecho
?LINT:change fastread
?X: Some shells (Ultrix) do not understand ${COLUMNS:-80}, sigh!
: compute the number of columns on the terminal for proper question formatting
case "$COLUMNS" in
") COLUMNS='80';;
esac

: set up the echo used in my read
?X:
?X: This variable is intended to be eval'ed. It will echo the two
?X: variables $rp and $dflt (provided this latter has a non null value).
?X: It is mainly used by the myread script to echo the questions.
?X:
?X: The $n and $c below are substituted before Loc does its silly echo check
?X: so don't put a $ on the echo below so we get builtin, even if $echo is
?X: pointing to /bin/echo.
?X:
myecho="case \"\$xxxm\" in
") echo $n \"\$rp $c\" >&4;;
*) case \"\$rp\" in
 ") echo $n \"[\$xxxm] $c\";;
 *)
  if
 test \`echo \"\$rp [\$xxxm]  \" | wc -c\` -ge $COLUMNS; then
   echo \"\$rp\" >&4
   echo $n \"[\$xxxm] $c\" >&4
  else
   echo $n \"\$rp [\$xxxm] $c\" >&4
  fi
  ;;
```

```
 esac;;
esac"

: now set up to do reads with possible shell escape and default assignment
cat <<EOSC >myread
$startsh
?X:
?X: Save value of default -- do not alter original in case of eval
?X:
xxxm=\$dflt
$myecho
?X:
?X: If there is no default, then stop, regardless of the value in fastread.
?X: In silent mode, no new-line is to be echoed if the question is empty,
?X: since this is used to wait for the "return" key.
?X:
ans='!'
case "\$fastread" in
yes) case "\$dflt" in
 ") ;;
 *) ans='';
  case "\$silent-\$rp" in
  true-) ;;
  *) echo " " >&4;;
  esac;;
 esac;;
*) case "\$silent" in
 true) case "\$rp" in
  ") ans='';;
  esac;;
 esac;;
esac
while expr "X\$ans" : "X!" >/dev/null; do
 read answ
?X:
?X: Run 'eval' on the answer, in order to do variable substitution, in case
?X: the user types $HOME or $WHATEVER.
 Variables must be evaluated now.
?X: Typing '\$HOME' won't currently prevent from substitution -- use '\\$HOME'
?X: The $1 .. $9 and $*, as well as $@, are available to refer to the
?X: default value.
?X:
 set x \$xxxm
 shift
 aok=''; eval "ans=\\"\$answ\\"" && aok=y
 case  "\$answ" in
?X:
?X: Use "!" and not a plain ! because of a bug in BSD 4.4 shell
```

```
?X: (reported by Wayne Davison)
?X: We must handle the shell escapes before dealing with possible variable
?X: substitution, since the shell we're launching in that case will be able
?X: to do it as well as we can -- RAM, 15/03/96
?X
 "!")
  sh 1>&4
  echo " "
  $myecho
  ;;
 !*)
  set x \`expr "X\$ans" : "X!\(.*\)\$"\`
  shift
  sh 1>&4 -c "\$*"
  echo " "
  $myecho
  ;;
 "\$ans")
  case "\$ans" in
?X:
?X: Answers starting with & are hooks allowing to dynamically turn on/off
?X: some Configure options. That's for the future. -- RAM, 09/01/95
?X: Today, we only recognize '& -d' to mean 'go on as if Configure -d, which
?X: is a hardwired
 behaviour compatible with our general scheme.
?X:
  \\&*)
   set x \`expr "X\$ans" : "X&\(.*\)\$"\`
   shift
   case "\$1" in
   -d)
    fastread=yes
    echo "(OK, I'll run with -d after this question.)" >&4
    ;;
   -*)
    echo "*** Sorry, \$1 not supported yet." >&4
    ;;
   esac
   $myecho
   ans=!
   ;;
  esac;;
 *)
  case "\$aok" in
  y)
   echo "*** Substitution done -- please confirm."
   xxxm="\$ans"
   ans=\`echo $n "\$ans$c" | tr '$trnl' ' '\`
```

```
  xxxm="\$ans"
  ans=!
  ;;
 *)
  echo "*** Error -- try again."
  ans=!
  ;;
 esac
 $myecho
 ;;
esac
?X: Stick in myread if no default answer and nothing was answered
 case "\$ans\$xxxm\$nostick" in
 '')
  ans=!
  $myecho
  ;;
 esac
done
case "\$ans" in
'') ans="\$xxxm";;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Myread.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lib.U,v 3.0.1.3 1995/09/25 09:16:47 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
?RCS: patch32: now uses installation prefix to set the default
?RCS:
```

?RCS: Revision 3.0 1993/08/18 12:08:56 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?LINT:
 empty
?X:?MAKE:lib libexp: Getfile Loc Oldconfig Prefixit Prefixup prefixexp
?X:?MAKE: -pick add $@ %<
?X:?Y:TOP
?X:?S:lib:
?X:?S: This variable holds the name of the directory in which the user wants
?X:?S: to put public library files for the package in question. It is most
?X:?S: often a local directory such as /usr/local/lib. Programs using this
?X:?S: variable must be prepared to deal with filename expansion.
?X:?S:.
?X:?S:libexp:
?X:?S: This variable is the same as the lib variable, but is filename expanded
?X:?S: at configuration time, for convenient use in your makefiles.
?X:?S:.
?X:: determine where public libraries go
?X:set lib lib
?X:eval $prefixit
?X:case "$lib" in
?X:")
?X: dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
?X: set dflt
?X: eval $prefixup
?X: ;;
?X:*) dflt="$lib";;
?X:esac
?X:echo " "
?X:fn=d~
?X:rp='Where do you want to put the public libraries?'
?X:. ./getfile
?X:lib="$ans"
?X:libexp="$ansexp"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/nullified/lib.U
No license file was found, but licenses were detected in source scan.

$Id: errnolist.sh,v 3.0.1.1 1994/01/24 14:00:00 ram Exp ram $
#
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#
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```
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:00  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:36  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.SH
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: setsid.C,v 3.0.1.1 1994/01/24 13:58:47 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: setsid.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:47  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/setsid.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: patchlevel.U,v $
```

```
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:patchlevel: package baserev test rsrc
?MAKE: -pick add $@ %<
?T:Revision
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S:.
: get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r
 $rsrc/patchlevel.h;then
 patchlevel=`awk \
  '/^#[  ]*define[  ][  ]*PATCHLEVEL/ {print $3}' \
  < $rsrc/patchlevel.h`
else
 patchlevel=0
fi
echo "(You have $package $baserev PL$patchlevel.)"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/patchlevel.U
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```
?RCS: $Id: d_group.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_group.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:34:52  ram
?RCS: patch61: useless unit dropped.
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:07:48  ram
?RCS: patch32: created by ADO
```

```
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_group.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: rcs_branch.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: rcs_branch.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:40  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:rcs_branch: Myread contains Loc
?MAKE: -pick add $@ %<
?S:rcs_branch:
?S: This variable will hold "true" if rcs can take the -b<revision>
?S: option, which can make Life Easier on those folks who like to run
?S: rcsdiff manually.
?S:.
?T:xxx
: Tra la la la la
echo " "
echo "Checking to see if RCS understands the -b switch..." >&4
xxx=`./loc
 rcs " $pth`
case "$xxx" in
")
 rcs_branch=false
 echo "Oh.  You don't seem to have RCS here."
 ;;
*)
 rcs > rcsbranch.out 2>&1
 if $contains 'b\[rev\]' rcsbranch.out  >/dev/null 2>&1 ; then
  rcs_branch=true
  echo "Nice!  Your RCS is spiffy!"
 else
```

```
 rcs_branch=false
 echo "Well, at least you have RCS.  You know, a newer version is available."
 fi
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/rcs_branch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman3dir siteman3direxp installsiteman3dir: Getfile \
 Setprefixvar prefix siteprefix man3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman3dir="
?S:siteman3dir:
?S: This variable contains the name of the directory in which site-specific
?S: library man source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
 perl has been installed, users may install their own local
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman3direxp="
?S:siteman3direxp:
?S: This variable is the same as the siteman3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsiteman3dir="
?S:installsiteman3dir:
?S: This variable is really the same as siteman3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
```

```
?S:.
?LINT:change prefixvar
?LINT:set installsiteman3dir
?LINT:set siteman3dir
?LINT:set siteman3direxp
: determine where add-on library man pages go
case "$siteman3dir" in
") dflt=`echo $man3dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman3dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific library manual pages should be installed?'
. ./getfile
prefixvar=siteman3dir
. ./setprefixvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteman3dir.U
No license file was found, but licenses were detected in source scan.

```
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?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml3dir sitehtml3direxp installsitehtml3dir: Getfile \
 Setprefixvar prefix siteprefix html3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml3dir="
?S:sitehtml3dir:
?S: This variable contains the name of the directory in which site-specific
?S: library html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
 perl has been installed, users may install their own local
?S: library html pages in this directory with
```

```
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml3direxp="
?S:sitehtml3direxp:
?S: This variable is the same as the sitehtml3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml3dir="
?S:installsitehtml3dir:
?S: This variable is really the same as sitehtml3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml3dir
?LINT:set sitehtml3dir
?LINT:set sitehtml3direxp
: determine where add-on library html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case
 "$sitehtml3dir" in
")    dflt=`echo "$html3dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml3dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific library html pages should be installed?'
. ./getfile
prefixvar=sitehtml3dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitehtml3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
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```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End: $W
?MAKE: -pick add $@ %<
?LINT:use $W
: end of configuration
 questions
echo " "
echo "End of configuration questions."
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/End.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: dup2.C,v 3.0.1.1 1994/01/24 13:58:37 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: Larry Wall <lwall@netlabs.com>
*
* $Log: dup2.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:37  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/dup2.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Finish.U,v $
?RCS: Revision 3.0.1.6  1995/02/15  14:09:30  ram
?RCS: patch51: now clearer about how to edit config.sh at the prompt (WED)
?RCS:
?RCS: Revision 3.0.1.5  1994/10/29  15:53:14  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  14:19:37  ram
?RCS: patch23: added blank lines around 'End of Configure'
?RCS:
?RCS: Revision 3.0.1.3  1993/10/16  13:46:09  ram
?RCS: patch12: replaced Config_h by Magic_h in the dependency line
?RCS:
?RCS:
 Revision 3.0.1.2  1993/09/13  15:45:26  ram
?RCS: patch10: fixed shell evaluation w/o shell escape while in silent mode
?RCS:
?RCS: Revision 3.0.1.1  1993/08/30  08:55:59  ram
?RCS: patch8: prevents myread from blocking on empty answers, exceptionally
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit is the very last one in the Configure script.  It runs all the
?X: SH files, which among other things produce config.h and (usually) Makefile.
?X: It offers to do a make depend if the Makefile contains that target.
?X:
?MAKE:Finish: Chk_MANI Extract Myread Oldsym Magic_h cat rm contains \
 test package make
?MAKE: -pick add $@ %<
?F:!config.sh
?T:pwd
: Finish up by extracting the .SH files
case "$alldone" in
exit)
?X: They supplied the -E switch
 echo "Stopping at your request, leaving temporary files around."
 exit 0
```

```
 ;;
cont)
 ;;
")
 dflt="
 nostick=true
 $cat <<EOM

If you'd like to make any changes to the config.sh
 file before I begin
to configure things, do it as a shell escape now (e.g. !vi config.sh).

EOM
 rp="Press return or use a shell escape to edit config.sh:"
 . UU/myread
 nostick="
 case "$ans" in
 ") ;;
 *) : in case they cannot read
  sh 1>&4 -c "$ans";;
 esac
 ;;
esac

: if this fails, just run all the .SH files by hand
. ./config.sh

?X:
?X: Turn silent mode off from now on (we want a verbose file extraction).
?X: This means we have to explicitly test for '$silent' from now on to
?X: strip off any verbose messages.
?X:
echo " "
exec 1>&4
pwd=`pwd`
. ./UU/extract
cd "$pwd"

if $contains '^depend:' [Mm]akefile >/dev/null 2>&1; then
 dflt=y
 case "$silent" in
 true) ;;
 *)
  $cat <<EOM

Now you need to generate make dependencies by running "$make depend".
You might prefer to run it in background: "$make depend > makedepend.out &"
It can take a while, so you might not want to run it right now.
```

```
EOM
  ;;
 esac
 rp="Run $make depend now?"
 . UU/myread
 case "$ans" in
 y*)
  $make depend
 && echo "Now you must run '$make'."
  ;;
 *)
  echo "You must run '$make depend' then '$make'."
  ;;
 esac
elif test -f [Mm]akefile; then
 echo " "
 echo "Now you must run a $make."
else
 echo "Configure done."
fi

if $test -f Policy.sh; then
   $cat <<EOM

If you compile $package on a different machine or from a different object
directory, copy the Policy.sh file from this object directory to the
new one before you run Configure -- this will help you with most of
the policy defaults.

EOM
fi
if $test -f UU/config.msg; then
   echo "Hmm.  I also noted the following information while running:"
   echo " "
   $cat UU/config.msg >&4
fi
?X:
?X: kit*isdone files are left over by shell archives built using the makedist
?X: script which comes from dist, while ark*isdone files are left over by
?X: the cshar archive maker.
?X:
$rm -f kit*isdone ark*isdone
$rm -rf UU

: End of Configure
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Finish.U
No license file was found, but licenses were detected in source scan.

Perl5 Metaconfig Units

Copyright (c) 1996-1998, Andy Dougherty
Copyright (c) 1999-2011, H.Merijn Brand
All rights reserved.

These units are the ones I used to build Configure and config_h.SH
in the Perl5 distribution.

The Configure script and config_h.SH file in the Perl distribution are
generated by a program called metaconfig. To run metaconfig, you will
need the full dist 3.0 distribution, maintained by Raphael Manfredi.
As of this writing, the current version is dist3.0, patchlevel 70.
Dist version dist-3.0@70.tar.gz is available on CPAN (the Comprehensive
Perl Archive Network) as
<http://www.perl.com/perl/CPAN/authors/id/RAM/dist-3.0@70.tar.gz>.

Instructions:

1. Unpack the full perl5 sources. Execute the following command

 chmod +w Configure config_h.SH Porting/Glossary Porting/config*

2. Unpack the archive containing this file in the perl5 source
   directory. This will create a directory
 'U' under the perl5
   sources. That directory will contain the metaconfig units for perl5.
   This will also create two files in the perl5 source tree:
   MANIFEST.new and .package.

3. Apply any patches to perl in the perl_patches/ directory.
   (This may well be empty.)

4. Obtain and install dist-3.0pl70.

4. Apply any patches to dist under the dist_patches subdirectory.

5. From your main perl5 source directory, run packinit to
   regenerate the .package file. IMPORTANT: Change the name and
   address of the maintainer to your own name and address. I don't
   want bug reports intended for you coming to me.

6. From your main perl5 source directory, run

 metalint (or mlint)

and repair every failure it reports.

7. From your main perl5 source directory, run

metaconfig -m (or mconfig -m)

8. Edit U/mkglossary and/or U/mkgloss.pl to point to your dist-3.0pl70
location. (See comments at the top.)

9. Run the Porting/mksample script to update the contents
of the Porting/
subdirectory, or run all parts by hand. (see README)

NB: this script used to be U/mksample replaced by Porting/mksample;
see Porting/pumpkin.pod instead for current documentation on its
use.

10. Let me know about any changes, corrections, or enhancements.

Things to watch out for:

1. Future support of better random number generators should probably
start with the randfunc.U unit included here. It's currently
broken, but well commented and probably a good place to start.

Descriptions:

The units and other related files have been broken up into the following
directories:

acl/
This is an old patch to begin to detect and use ACL (access
control list) file protection schemes.

compline/
These are similar to the standard units, but I have modified them
to have a more uniform compile command line, usually using the new
Compile.U unit. I have submitted these for inclusion into the
regular dist distribution. (The ccflags.U
unit is actually
perl-specific since it mentions -DDEBUGGING and -DPOSIX_SOURCE,
but that's the only place it is perl-specific.)

dist_patches/
These are patches to dist that must be applied before it is built
and installed. I have submitted these for inclusion in the
regular dist distribution.

modified/
  These are modified versions of the standard units. Also included in
  this directory are new units that are clearly derived from existing
  units. I have submitted these for inclusion in the regular dist
  distribution.

perl/
  These are specific to perl. Some are heavily derived from
  original dist units, and are marked as such. Others are original.

perl_patches/
  These are patches to the perl source. This directory
  should ordinarily be empty, but there may have been drift between
  the standard version of perl and the one associated with these
  units.

protos/
  These are units modified to use the new Hasproto.U or Protochk.U
   units to check for prototypes. I have submitted these for inclusion
  into the regular dist distribution.

target/
  This is the very, very beginning of cross-compiler support.
  It doesn't work yet, and many standard units will need
  modification.

typedefs/
  These are standard units modified to use the modified Typedef.U
  unit to check for typedefs. (The modified Typdef.U includes a
  function to avoid unnecessary prompts if the typdef being searched
  for exists.) I have submitted these for inclusion into the
  regular dist distribution.

threads/
  These are specific to threading perl.

Copyright Information:

Unless otherwise indicated, the files contained in this
distribution are:

  Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in
this distribution:

You may distribute the files contained in this distribution

under the terms of either

  a) the "Artistic License" which comes with Perl,
or

  b) the "Artistic License" which comes with dist, or

  c) the GNU General Public License as published by the Free
  Software Foundation; either version 1, or (at your option) any
  later version (see the file "Copying" that comes with the
  Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified license as contained in dist-3.0-pl60 provides:

  7. You may reuse parts of this Package in your own programs, provided
  that you explicitly state where you got them from, in the source code
  (and, left to your courtesy, in the documentation), duplicating
  all the associated copyright notices and disclaimers. Besides
  your changes, if any, must be clearly marked
as such. Parts reused
  that way will no longer fall under this license if, and only if,
  the name of your program(s) have no immediate connection with the
  name of the Package itself or its associated programs. You may then
  apply whatever restrictions you wish on the reused parts or choose
  to place them in the Public Domain--this will apply only within the
  context of your package.

In accordance with this clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences between these units and the standard versions, please
feel free to ask.

  Andy Dougherty   doughera@lafayette.edu
  Dept. of Physics
  Lafayette College
  Easton, PA 18042-1782

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/README.dist

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

```
?RCS: $Id: n.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: n.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:n c: contains
?MAKE: -pick add $@ %<
?S:n:
?S: This variable contains the -n flag if that is what causes the echo
?S: command to suppress newline.  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
?S:c:
?S: This variable contains the \c string if that is what causes the echo
?S: command to suppress newline.
  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
: first determine how to suppress newline on echo command
echo " "
echo "Checking echo to see how to suppress newlines..."
(echo "hi there\c" ; echo " ") >.echotmp
if $contains c .echotmp >/dev/null 2>&1 ; then
 echo "...using -n."
 n='-n'
 c=''
else
 cat <<'EOM'
...using \c
EOM
 n=''
 c='\c'
fi
echo $n "The star should be here-->$c"
echo '*'
rm -f .echotmp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/n.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sitebin.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitebin.U,v $
?RCS:
?MAKE:sitebin sitebinexp installsitebin : Getfile Oldconfig \
 Setprefixvar siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitebin="
?S:sitebin:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question. It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard distribution will put nothing
 in this directory.
?S: After perl has been installed, users may install their own local
?S: executables in this directory with
?S: MakeMaker Makefile.PL
?S: or equivalent. See INSTALL for details.
?S:.
?D:sitebinexp="
?S:sitebinexp:
?S: This is the same as the sitebin variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitebin="
?S:installsitebin:
?S: This variable is usually the same as sitebinexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitebin
?LINT:set sitebin
?LINT:set sitebinexp

```
: determine where add-on public executables go
case "$sitebin" in
") dflt=$siteprefix/bin ;;
*) dflt=$sitebin ;;
esac
fn=d~
rp='Pathname where the add-on public executables should be installed?'
. ./getfile
prefixvar=sitebin
. ./setprefixvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitebin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:perladmin: cf_email Oldconfig Myread cat
?MAKE: -pick add $@ %<
?Y:TOP
?S:perladmin:
?S: Electronic mail address of the perl5 administrator.
?S:.
: Ask e-mail of administrator
$cat <<EOM

If you or somebody else will be maintaining perl at your site, please
fill in the correct e-mail address here so that they may be contacted
if necessary. You may enter "none" for no administrator.

EOM
case "$perladmin" in
") dflt="$cf_email";;
*) dflt="$perladmin";;
esac
rp='Perl administrator e-mail address'
. ./myread
perladmin="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perladmin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Warn_v7ND.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7ND.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:46  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit warns V7 sites that they may not have a non-blocking read.
?X: This unit needs to be mentioned in End.U to get included.
?X:
?MAKE:Warn_v7ND: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7; then
 cat
 <<EOM

NOTE: many V7 systems do not have a way to do a non-blocking read.  If you
don't have any of FIONREAD, O_NDELAY, or rdchk(), the $package package
may not work as well as it might.  It might not work at all.
EOM
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn_v7ND.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: prototype.U,v 3.0.1.3 1994/05/06 15:11:49 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: prototype.U,v $
?RCS: Revision 3.0.1.3  1994/05/06  15:11:49  ram
```

?RCS: patch23: ensure cc flags used when looking for prototype support
?RCS:
?RCS: Revision 3.0.1.2 1994/01/24 14:15:36 ram
?RCS: patch16: prototype handling macros now appear only when needed
?RCS:
?RCS: Revision 3.0.1.1 1993/08/25 14:03:12 ram
?RCS: patch6: defines were referring to non-existent VOID symbol
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:36 ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:prototype: Nothing
?S:prototype:
?S: This variable holds the eventual value of CAN_PROTOTYPE, which
?S: indicates the C compiler can handle function prototypes.
?S:.
: stub, never used
prototype=nothing

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/prototype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sitescript.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitescript.U,v $
?RCS:
?MAKE:sitescript sitescriptexp installsitescript : Getfile Oldconfig test \
 Setprefixvar sitebin siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitescript=''
?S:sitescript:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question. It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard

```
 distribution will put nothing in this directory.
?S: After perl has been installed, users may install their own local
?S: scripts in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitescriptexp="
?S:sitescriptexp:
?S: This is the same as the sitescript variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitescript="
?S:installsitescript:
?S: This variable is usually the same as sitescriptexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitescript
?LINT:set sitescript
?LINT:set sitescriptexp
: determine where add-on public executable scripts go
case "$sitescript" in
") dflt=$siteprefix/script
 $test -d $dflt || dflt=$sitebin ;;
*)  dflt="$sitescript" ;;
esac
fn=d~+
rp='Pathname where add-on public executable scripts
 should be installed?'
. ./getfile
prefixvar=sitescript
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitescript.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
?RCS: patch32: now uses installation prefix to set the default
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lib libexp: Getfile
 Loc Oldconfig Prefixit Prefixup prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?S:lib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public library files for the package in question.  It is most
?S: often a local directory such as /usr/local/lib. Programs using this
?S: variable must be prepared to deal with filename expansion.
?S:.
?S:libexp:
?S: This variable is the same as the lib variable, but is filename expanded
?S: at configuration time, for convenient use in your makefiles.
?S:.
: determine where public libraries go
set lib lib
eval $prefixit
case "$lib" in
")
 dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$lib";;
esac
echo " "
fn=d~
rp='Where do you want to put the public libraries?'
. ./getfile
lib="$ans"
libexp="$ansexp"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lib.U
```

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

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:26:40  ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig grep \
 d_gnulibc nm egrep rsrc osname Guess
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction is wanted
 or not.
?S:.
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
?S: to work on a shared library but that can not be used on an
?S: archive library.  Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
```

```
?X: Don't bother if we're using GNU libc -- skimo
case "$usenm"
 in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "$nm probably won't work on the GNU C Library." >&4
  dflt=n
  ;;
 esac
 case "$dflt" in
 ")
  if $test "$osname" = aix -a ! -f /lib/syscalls.exp; then
   echo " "
   echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
   echo "'nm' won't be sufficient on this system." >&4
   dflt=n
  fi
  ;;
 esac
 case "$dflt" in
 ")
  if ./gnu; then
   echo " "
   echo "Hmm...  A GNU system without a GNU C Library?  Weird..." >&4
   dflt=n
  else
   dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
   if $test $dflt -gt 20; then
    dflt=y
   else
    dflt=n
   fi
  fi
  ;;
 esac
 ;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
 *) dflt=n;;
 esac
 ;;
esac
$cat <<EOM
```

```
I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the
 'nm' extraction part and to compile a small
test program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

EOM
rp='Shall I use nm to extract C symbols from the libraries?'
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt=''  # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p'  # Solaris (and SunOS?)
 elif $test -f /dgux; then
  nm_opt='-p'  # DG-UX
 elif $test -f /lib64/rld; then
  nm_opt='-p'  # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

?X: nm options which may be necessary for shared libraries but illegal
?X: for archive libraries.  Thank you,
 Linux.
case "$nm_so_opt" in
'') case "$osname" in
 *linux*)
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
```

```
  fi
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/usenm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: man3dir.U,v 3.1 1999/07/08 20:52:19 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996-1999, Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:34  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man3 used instead
 of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir man3direxp man3ext installman3dir: cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile Setprefixvar Prefixit Prefixup \
 d_flexfnam privlib Myread test
?MAKE: -pick add $@ %<
?Y:TOP
?D:man3dir="
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
```

```
?D:man3direxp="
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman3dir="
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only
 points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
?S:.
?T:prog tdflt
?LINT:change prefixvar
?LINT:set man3direxp
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac
```

```
echo "If you don't want the manual sources installed, answer 'none'."
?X: In 5.005_57 and earlier, I had the following notes:
?X:
 We do not use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with Tcl man pages.
?X: However, something like /opt/perl/man/man3 is fine.
?X:
?X: However, opinion seems to be shifting such that 'man POSIX' ought
?X: to just work.  -- Andy Dougherty  July 8, 1999
?X:
?X: remove any trailing -3.0 or other version indication from $package
prog=`echo $package | $sed 's/-*[0-9.]*$//'`
case "$man3dir" in
'') dflt=`echo "$man1dir" | $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'`
 if $test -d "$privlib/man/man3"; then
  cat <<EOM >&4

WARNING:  Previous versions of perl installed man3 pages into
$privlib/man/man3.  This version will suggest a
new default of $dflt.
EOM
  tdflt=$dflt
  dflt='n'
  rp='Do you wish to preserve the old behavior?(y/n)'
  . ./myread
  case "$ans" in
  y*) dflt="$privlib/man/man3"
 ;;
  *)  dflt=$tdflt ;;
  esac
   fi
 ;;
*) dflt="$man3dir" ;;
esac
case "$dflt" in
' ') dflt=none ;;
esac
echo " "
fn=dn+~
rp="Where do the $package library man pages (source) go?"
. ./getfile
prefixvar=man3dir
. ./setprefixvar

case "$man3dir" in
```

```
") man3dir=' '
 installman3dir='';;
esac

: What suffix to use on installed man pages
case "$man3dir" in
' ')
 man3ext='0'
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 '') case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/man3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lintlib.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: lintlib.U,v $
```

```
?RCS: Revision 3.0  1993/08/18  12:09:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lintlib lintlibexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:lintlib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public lint-library files for the package in question.  It is
?S: most often a local directory such as /usr/local/lib/lint. Programs using
?S: this variable must be prepared to
 deal with ~name expansion.
?S:.
?S:lintlibexp:
?S: This variable is the same as the lintlib variable, but is filename
?S: expanded at configuration time, for convenient use in your makefiles.
?S:.
: determine where public lint libraries go
case "$lintlib" in
") dflt=`./loc . "." /usr/local/lib/lint /usr/lib/lint /usr/lib`;;
*) dflt="$lintlib" ;;
esac
echo " "
fn=d~
rp='Where do you want to put the public lint libraries?'
. ./getfile
lintlib="$ans"
lintlibexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lintlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:10:29  ram
?RCS: patch61: created
?RCS:
?X:
```

```
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: afs cat nroff Loc Oldconfig \
 spackage test Getfile Prefixit prefixexp
 Prefixup sysman Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
: determine
 where manual pages go
set man1dir man1dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 '') man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
```

```
case "$man1dir" in
' ') dflt=none
 ;;
")
 lookpath="$prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
*)
  dflt="$man1dir"
 ;;
esac
echo " "
fn=dn+~
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir="
fi
man1dir="$ans"
man1direxp="$ansexp"
case "$man1dir" in
") man1dir=' '
 installman1dir="";;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installman1dir" in
 ") dflt=`echo $man1direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman1dir";;
 esac
```

```
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman1dir="$ans"
else
 installman1dir="$man1direxp"
fi

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 '') case "$man1dir" in
  *1)  dflt=1 ;;
  *1p)
 dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L1) dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/man1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
```

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: orderlib.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:18:18  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS: patch61: now uses the ar located by Loc.U
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:33:04  ram
?RCS: patch45: allows hint files to specify their own value for 'ranlib'
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:26:48  ram
?RCS: patch36: now performs a real small compile for accurate checks (ADO)
?RCS:
?RCS: Revision 3.0.1.1
  1994/08/29  16:31:17  ram
?RCS: patch32: use cc variable instead of hardwired 'cc' in 1st compile
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:orderlib ranlib: Loc ar cat test rm +cc +ccflags +ldflags +libs _a _o
?MAKE: -pick add $@ %<
?S:orderlib:
?S: This variable is "true" if the components of libraries must be ordered
?S: (with `lorder $* | tsort`) before placing them in an archive.  Set to
?S: "false" if ranlib or ar can generate random libraries.
?S:.
?S:ranlib:
?S: This variable is set to the pathname of the ranlib program, if it is
?S: needed to generate random libraries.  Set to ":" if ar can generate
?S: random libraries or if random libraries are not supported
?S:.
?F:!foobar
: see if ar generates random libraries by itself
echo " "
echo "Checking how to generate random libraries on your machine..." >&4
?X: Some systems (like MIPS) complain when running ar... Others like Ultrix
?X: need an explicit 'ar ts'
 to add the table of contents.
?X: Still others like Linux run ar ts successfully, but still need ranlib.
?X: This set of tests seems the minimum necessary to check out Linux.
?X: We need to explicitly put the entries in out-of-order so that Sun's ld
?X: will fail.  (Otherwise it complains, but gives an exit status of 0.)
echo 'int bar1() { return bar2(); }' > bar1.c
```

```
echo 'int bar2() { return 2; }' > bar2.c
$cat > foo.c <<'EOP'
int main() { printf("%d\n", bar1()); exit(0); }
EOP
$cc $ccflags -c bar1.c >/dev/null 2>&1
$cc $ccflags -c bar2.c >/dev/null 2>&1
$cc $ccflags -c foo.c >/dev/null 2>&1
$ar rc bar$_a bar2$_o bar1$_o >/dev/null 2>&1
if $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
 echo "ar appears to generate random libraries itself."
 orderlib=false
 ranlib=":"
elif $ar ts bar$_a >/dev/null 2>&1 &&
 $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
  echo "a table of contents
 needs to be added with 'ar ts'."
  orderlib=false
  ranlib="$ar ts"
else
?X: Allow hints to specify their own ranlib "script". For instance, on
?X: some NeXT machines, the timestamp put by ranlib is not correct, and this
?X: may raise tedious recompiles for nothing. Therefore, NeXT may add the
?X: ranlib='sleep 5; /bin/ranlib' line in their hints to "fix" that.
?X: (reported by Andreas Koenig <k@franz.ww.tu-berlin.de>)
 case "$ranlib" in
 :) ranlib='';;
 '')
  ranlib=`./loc ranlib X /usr/bin /bin /usr/local/bin`
  $test -f $ranlib || ranlib=''
  ;;
 esac
 if $test -n "$ranlib"; then
  echo "your system has '$ranlib'; we'll use that."
  orderlib=false
 else
  echo "your system doesn't seem to support random libraries"
  echo "so we'll use lorder and tsort to order the libraries."
  orderlib=true
  ranlib=":"
 fi
fi
$rm -f foo* bar*
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/orderlib.U

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

```
?RCS: $Id: so.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so d_libname_unique: test libpth Loc Myread Oldconfig cat Setvar
?MAKE: -pick add $@ %<
?S:so:
?S: This
 variable holds the extension used to identify shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?S:d_libname_unique:
?S: This variable is defined if the target system insists on unique
?S: basenames for shared library files. This is currently true on Android,
?S: false everywhere else we know of.
?S: Defaults to 'undef'.
?S:.
?LINT:set d_libname_unique
?T: xxx
: compute shared library extension
case "$so" in
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
  dflt='sl'
 else
  dflt='so'
 fi
 ;;
*) dflt="$so";;
```

```
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
of this configuration.

EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"

: Does target system insist that shared library basenames are unique
$cat << EOM

Some dynamic loaders assume that the *basename* of shared library
 filenames
are globally unique.  We'll default this to undef as we assume your system
is not this weird. Set to defined if you're on one of them.

EOM

dflt='n'
rp='Make shared library basenames unique?'
. ./myread
case "$ans" in
y|Y) val="$define" ;;
*)   val="$undef"  ;;
esac
set d_libname_unique
eval $setvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/so.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Compile.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
?X: to be used in all the other metaconfig units.
?X:
```

```
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs test
?MAKE: -pick wipe $@ %<
?LINT:extern usedevel maintloc
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
?S: OS/2
 users will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile, except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
case "$usedevel" in $define|true|[yY]*) if $test ! -f "${mc_file}.c"; then
echo "Internal Configure script bug - compiler test file ${mc_file}.c is missing. Please report this to <$maintloc>"
>&4;
exit 1;
fi;
esac;
$cc
 -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
```

```
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/Compile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Oldsym.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
?X: special symbols: defines from patchlevel.h file if any and PERL_CONFIG_SH,
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint
 file or a previous config.sh file.
?X:
?MAKE:Oldsym: Config_sh cat test hint src sed sort uniq perl_patchlevel
?MAKE: -pick add $@ %<
?T:PERL_CONFIG_SH PERL_PATCHLEVEL sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define[  ]+PERL_/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "PERL_PATCHLEVEL='$perl_patchlevel'" >>config.sh
echo "PERL_CONFIG_SH=true" >>config.sh

: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
```

```
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh
 |\
  $sort | $uniq -u >UU/oldsyms
 set X `$cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  $cat <<EOM
Hmm...You had some extra variables I don't know about...I'll try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
  for sym in `$cat UU/oldsyms`; do
   echo "    Propagating $hint variable '"'$sym...'"
   eval 'tmp="'"${sym}"'"'
   echo "$tmp" | \
    sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
  done
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Oldsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Mkdirp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
```

```
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can launched to create a
?X: directory path like "mkdir -p" would do.
?X:
?MAKE:Mkdirp:
 eunicefix startsh
?MAKE: -pick add $@ %<
?F:./mkdirp
?T:name create file
: script used to emulate mkdir -p
cat >mkdirp <<EOS
$startsh
EOS
cat >>mkdirp <<'EOS'
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create"
  name=`echo $name | sed -e "s|^[^/]*$||"`
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`
 else
  name=""
 fi
done
for file in $create; do
 mkdir $file
done
EOS
chmod +x mkdirp
$eunicefix mkdirp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Mkdirp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in order
?X: to make quick check on whether the current C compiler is working.
?X:
?MAKE:Checkcc ccname ccversion: Myread Warn startsh cat contains test
?MAKE: -pick add $@ %<
?S:ccname:
?S: This can set either by hints files or by Configure.  If using
?S: gcc, this is gcc, and if not, usually equal to cc, unimpressive, no?
?S: Some platforms, however, make good use of this by storing the
?S: flavor
 of the C compiler being used here.  For example if using
?S: the Sun WorkShop suite, ccname will be 'workshop'.
?S:.
?S:ccversion:
?S: This can set either by hints files or by Configure.  If using
?S: a (non-gcc) vendor cc, this variable may contain a version for
?S: the compiler.
?S:.
?F:./checkcc ./trygcc !checktmp
?V:despair
?T:trygcc
?LINT:extern cc rm ccflags ldflags
?LINT:change cc ccflags
?LINT:usefile checktmp
?INIT:ccname=''
?INIT:ccversion=''
: generate the trygcc script for later perusal
cat <<EOS >trygcc
$startsh
EOS
cat <<'EOSC' >>trygcc
case "$cc" in
'') ;;
*)  $rm -f try try.*
   $cat >try.c <<EOM
int main(int argc, char *argv[]) {
 (void) argc;
 (void) argv;
 return 0;
}
EOM
   if $cc -o try $ccflags $ldflags try.c; then
```

```
    :
  else
    echo "Uh-oh, the C compiler '$cc' doesn't seem to be working." >&4
    despair=yes
    trygcc=yes
    case "$cc" in
    *gcc*) trygcc=no ;;
    esac
    case "`$cc -v -c try.c 2>&1`" in

    *gcc*) trygcc=no ;;
    esac
    if $test X"$trygcc" = Xyes; then
       if gcc -o try -c try.c; then
          echo " "
          echo "You seem to have a working gcc, though." >&4
          rp="Would you like to use it?"
          dflt=y
          if $test -f myread; then
             . ./myread
          else
             if $test -f UU/myread; then
                . ./UU/myread
             else
                echo "Cannot find myread, sorry.  Aborting." >&2
                exit 1
             fi
          fi
          case "$ans" in
          [yY]*) cc=gcc; ccname=gcc; ccflags=''; despair=no;
?X: Look whether we have 'call-back units' generated by hints that would
?X: seemingly affect the compiling environment.
                 $cat *.cbu >checktmp 2>/dev/null
                 if $contains ccflags checktmp >/dev/null; then

     ./warn <<EOM
Any previous setting of the C compiler flags has been lost.
It may be necessary to pass -Dcc=gcc to Configure right away.
EOM
                 fi;;
          esac
       fi
    fi
  fi
  $rm -f try try.*
  ;;
esac
EOSC
```

```
: generate the checkcc script for later perusal
cat <<EOS >checkcc
$startsh
EOS
cat <<'EOSC' >>checkcc
case "$cc" in
") ;;
*)  $rm -f try try.*
  $cat >try.c <<EOM
int main(int argc, char *argv[]) {
 (void) argc;
 (void) argv;
 return 0;
}
EOM
  if $cc -o try $ccflags $ldflags try.c; then
    :
  else
    if $test X"$despair" = Xyes; then
      echo "Uh-oh, the C compiler '$cc' doesn't seem to be working." >&4
    fi
    $cat >&4 <<EOM
You need to find a working C compiler.
Either (purchase and) install the C compiler supplied by your OS vendor,
or for a free C compiler try http://gcc.gnu.org/
I cannot continue any further, aborting.
EOM
    exit 1
  fi

 $rm -f try try.*
  ;;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Checkcc.U
No license file was found, but licenses were detected in source scan.

```
/* $Id: Jmake.rules 18 2006-12-27 10:35:09Z rmanfredi $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
```

```
*  of the source tree for dist 4.0.
*
* $Log: Jmake.rules,v $
* Revision 3.0.1.7  2004/08/22 08:28:58  ram
* patch71: random cleanup
*
* Revision 3.0.1.6  1997/02/28  14:56:01  ram
* patch61: now handles USRINC for dependencies
* patch61: smarter about dependencies computation
*
* Revision 3.0.1.5  1995/09/25  09:07:19  ram
* patch59: smarter sed command to strip /usr/include dependencies
*
* Revision 3.0.1.4  1995/07/25  13:33:59  ram
* patch56: install of script man pages can now cope with missing files
* patch56: the clobber
 target now removes the .config directory as well
*
* Revision 3.0.1.3  1995/03/21  08:35:28  ram
* patch52: suppressed extra argument to NormalProgramTarget call
*
* Revision 3.0.1.2  1995/01/11  14:49:55  ram
* patch45: new macros ShellScriptTargetExt and SimpleShellScriptTargetExt
* patch45: directory installation is now made via INSTALLDIR (Configure)
*
* Revision 3.0.1.1  1994/10/29  15:46:30  ram
* patch36: added RemoteDependency rule
*
* Revision 3.0  1993/08/18  12:04:14  ram
* Baseline for dist 3.0 netwide release.
*
*/

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/Jmake.rules
No license file was found, but licenses were detected in source scan.

?RCS: $Id: h_sysfile.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_sysfile.U,v $
```

?RCS: Revision 3.0 1993/08/18 12:08:13 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_sysfile: Nothing
?MAKE: -pick add $@ %<
?S:h_sysfile:
?S: This is variable gets set in various places to tell i_sys_file that
?S: <sys/file.h> should be included.
?S:.
: Initialize h_sysfile
h_sysfile=false

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/h_sysfile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Rcs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Rcs.U,v $
?RCS: Revision 3.0 1993/08/18 12:05:15 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This is a unit that helps people who write SH scripts and keep them under
?X: RCS, but don't think to protect the $Log and other $Id keywords from
?X: variable substitution (or people like me who do not like to).
?X:
?MAKE:Author Date Header Id Locker Log RCSfile Revision Source State: Oldconfig
?MAKE: -pick weed $@ %<
?LINT:describe Author
 Date Header Id Locker Log RCSfile Revision Source State
: preserve RCS keywords in files with variable substitution, grrr
?Author:Author='$Author'
?Date:Date='$Date'
?Header:Header='$Header'
?Id:Id='$Id'
?$Locker'
?Log:Log='$Log'
?RCSfile:RCSfile='$RCSfile'
?Revision:Revision='$Revision'

```
?Source:Source='$Source'
?State:State='$State'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Rcs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Begin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Begin.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  14:56:35  ram
?RCS: patch61: added Extractall dependency
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:25:08  ram
?RCS: patch49: avoid an empty rmlist: systems might choke on it (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/31  09:32:20  ram
?RCS: patch44: created
?RCS:
?X:
?X: This file comes after option processing had been done and after all
?X: the default values have been set up. It marks the beginning
 of questions.
?X: It is important that Options be listed *after* Myinit to ensure that the
?X: default initializations performed by Init and Myinit will not clobber
?X: any setting done on the command line via -D or -U.
?X:
?MAKE:Begin: Myinit Options package Extractall
?MAKE: -pick add $@ %<
: Eunice requires " " instead of "", can you believe it
echo " "
: Here we go...
echo "Beginning of configuration questions for $package."

?X: Make sure the rm below is given a non-empty list for some systems.
?X: This is run only when within the UU directory, hence we can safely
?X: attempt to rm a non-existent 'X' file...
trap 'echo " "; test -d ../UU && rm -rf X $rmlist; exit 1' 1 2 3 15

Found in path(s):
```

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Begin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: html1dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html1dir.U,v $
?RCS:
?MAKE:html1dir html1direxp installhtml1dir: cat Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?D:html1dir="
?S:html1dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe whole programs, not libraries or modules.  It
?S: is intended to correspond roughly to section 1 of the Unix
?S: manuals.
?S:.
?D:html1direxp="
?S:html1direxp:
?S: This
 variable is the same as the html1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml1dir="
?S:installhtml1dir:
?S: This variable is really the same as html1direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html1direxp
?LINT:set installhtml1dir
: determine where html pages for programs go
set html1dir html1dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for programs in $spackage, indicate
```

```
the appropriate directory here.  To skip installing html files,
answer "none".
EOM
case "$html1dir" in
"|none|$undef|' ') dflt=none ;;
*) dflt=$html1dir ;;
esac
fn=dn+~
rp="Directory for the main $spackage html pages?"
. ./getfile
prefixvar=html1dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html1dir" = "X" && html1dir=' '

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/html1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: contains.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: contains.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:contains: Nothing
?MAKE: -pick add $@ %<
?S:contains:
?S: This variable holds the command to do a grep with a proper return
?S: status.  On most sane systems it is simply "grep".  On insane systems
?S: it is a grep followed by a cat followed by a test.  This variable
?S: is primarily for the use of other Configure units.
?S:.
: Some
 greps do not return status, grrr.
echo "grimblepritz" >grimble
if grep blurfldyick grimble >/dev/null 2>&1 ; then
 contains=contains
elif grep grimblepritz grimble >/dev/null 2>&1 ; then
```

```
 contains=grep
else
 contains=contains
fi
rm -f grimble
: the following should work in any shell
case "$contains" in
contains*)
 echo " " >&4
 echo "AGH!  Grep doesn't return a status.  Attempting remedial action." >&4
 cat >contains <<'EOSS'
grep "$1" "$2" >.greptmp && cat .greptmp && test -s .greptmp
EOSS
contains=./contains
chmod +x $contains
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/contains.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: perl5.U,v $
?RCS:
?RCS: Copyright (c) 2000 Andrew Dougherty
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: perl5.U,v $
?RCS:
?X:
?X: The purpose of this unit is to locate a previously installed
?X: version of perl5 suitable for running inc_version_list.U.
?X: We check for 5.005 and later because inc_version_list is
?X: irrelevant for earlier versions.
?X:
?MAKE:perl5: path_sep binexp test sed exe_ext
?MAKE: -pick add $@ %<
?Y:TOP
?S:perl5:
?S: This variable contains the full path (if any) to a previously
?S: installed perl5.005 or later suitable for running the script
?S: to determine inc_version_list.
?S:.
?T: tdir
: Find perl5.005 or later.
echo "Looking for a previously installed perl5.005 or later... "
case "$perl5" in
```

```
") for tdir in `echo "$binexp$path_sep$PATH" | $sed "s/$path_sep/
 /g"`; do
  : Check if this perl is recent and can load a simple module
  if $test -x $tdir/perl$exe_ext && $tdir/perl -Mless -e 'use 5.005;' >/dev/null 2>&1; then
   perl5=$tdir/perl
   break;
  elif $test -x $tdir/perl5$exe_ext && $tdir/perl5 -Mless -e 'use 5.005;' >/dev/null 2>&1; then
   perl5=$tdir/perl5
   break;
  fi
 done
 ;;
*) perl5="$perl5"
 ;;
esac
case "$perl5" in
") echo "None found.  That's ok.";;
*) echo "Using $perl5." ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/perl5.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Nothing.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Nothing.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply an empty target for the private
?X: Makefile built by metaconfig to order the units.
?X:
?MAKE:Nothing: Head
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Nothing.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: package.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: package.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:27:21  ram
?RCS: patch36: beware of non-ascii character sets when translating case
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:37:02  ram
?RCS: patch14: skip definition of spackage if not otherwise used
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:11:10  ram
?RCS: patch10: added spackage, suitable for starting sentences
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:28  ram
?RCS: Baseline for dist 3.0
 netwide release.
?RCS:
?MAKE:package spackage: Nothing
?MAKE: -pick wipe $@ %<
?S:package:
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
?S: This variable contains the name of the package being constructed,
?S: with the first letter uppercased, i.e. suitable for starting
?S: sentences.
?S:.
?X: dist-4 has defined PACKAGE: here, which clashes with perly.h
?X:  as package is a reserved keyword in perl
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
```

```
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`"-"`echo AbyZ | tr '[:upper:]' '[:lower:]'
 2>/dev/null`" in
ABYZ-abyz) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/package.U
No license file was found, but licenses were detected in source scan.

?RCS: You may redistribute only under the terms of the Artistic License,

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_htonl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/privlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/sbrksmart.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sresgproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/inc_version_list.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_dbminitproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getspnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getpgrp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_time.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_dosuid.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/nblock_io.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getpent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_termio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/charsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_dirent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_dir_dd_fd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitearch.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_getpagsz.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_mallocmalloc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sresuproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_stdstdio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sgndchr.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_grp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/orderlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sbrksmart.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_drand48proto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/doublesize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_poll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/fpu.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_closedir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sgndchr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ptrsize.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sigaction.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/lseektype.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endsent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_mbrlen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/sockopt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_wcscmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lc_monetary_2008.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_vprintf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endnent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_inttypes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/charorder.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sysmman.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_portable.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/startperl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/byteorder.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_statblks.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_fd_set.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_getnetprotos.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setpgrp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_gethbynm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_ndbm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/prefix.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_static_inline.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/ptrsize.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_castneg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_getprotoprotos.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Cross.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/abortsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_malloc_size.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/a_dvisory/intsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/gccvers.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidtype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Signal.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/models.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_netinettcp.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/models.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitelib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_vfork.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_NOFILE.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_int64_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_times.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Signal.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gnulibc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_open3.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_shm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_wcrtomb.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strctcpy.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/intsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/bitpbyte.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_snprintf_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/bitpbyte.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_gai_strerror.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sbrkproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Devel.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_lchown.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/sizesize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/floatsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/voidflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_mprotect.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/pidtype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_stdstdio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/i_pthread.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_dirent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/gccvers.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_strerror.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_dirfd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_syscallproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_flexfnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_pwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/charorder.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getpagsz.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_mmap.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setsent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/fpossize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/fpostype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strtoul.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_gconvert.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Config_sh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_attribut.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sizetype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_madvise.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_neterrno.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ssizetype.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sem.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_sethent.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_shm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d__fwalk.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_scannl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sitelib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/randfunc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_access.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_wctype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_db.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/scriptdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getespwnam.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/selecttype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_socket.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/charsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/randbits.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/sizetype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_wchar.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_closedir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_const.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/mallocsrc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/pager.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sockatmarkproto.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_u32align.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gconvert.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Findhdr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_csh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sig_name.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sitearch.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_usleepproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_strtoul.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Config_sh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_grp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/usrinc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/bin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nanosleep.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_c99_variadic.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/ccflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_inttypes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Cppsym.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_voidsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_dlopen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sanemcmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/prototype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Tr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/src.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/i_machcthr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sanemcmp.U
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 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_vprintf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/nullified/fpu.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/stdchar.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidsign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Guess.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/uidsign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_flexfnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/myhostname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setnent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_voidsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/modetype.U
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 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Tr.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_shmat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/archlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_keepsig.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_wcsxfrm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_flockproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/cpp_stuff.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_backtrace.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_access.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sigaction.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isblank.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endpent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorbin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_gethent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ebcdic.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/need_va_copy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_isascii.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_scannl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/voidflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_safebcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ustat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_mbrtowc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_malloc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethbynm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getprpwnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/randfunc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_open3.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ccflags.U
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/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/d_times.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/byteorder.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_pwd.U
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/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/bin.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/fpostype.U
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/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endhent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_volatile.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/selecttype.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strftime.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/scriptdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_safebcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cppstdin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_telldirproto.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_bitfield.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/d_time.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/stdio_streams.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/st_dev_def.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_socklen_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/errnolist.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/perlpath.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getnent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getpgrp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_ndbm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_varhdr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/i_time.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/uidsize.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/usrinc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: shm_for.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: shm_for.U,v $
?RCS: Revision 3.0.1.1 1994/10/29 16:28:37 ram
?RCS: patch36: call ./Cppsym explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:46 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:shm_for shm_att shm_lim: Cppsym Myread ipc uname

```
?MAKE: -pick add $@ %<
?S:shm_for:
?S: This variable tells us the type of machine we're expecting the
?S: shared memory code to run on.  The value is available to C
 programs
?S: in the C_SHM_FOR manifest.
?S:.
?S:shm_att:
?S: This variable tells us where a shared memory segment should be
?S: attached.  Good values are HIGH, LOW, and ZERO.
?S:.
?S:shm_lim:
?S: This variable tells us if shared memory attached HIGH should
?S: have an upper limit.
?S:.
?X: ------------------------------------------------------------
?X: It's a potential lose to define anything beginning with SHM...
?X: At least we can think that S_ stands for "String version of ..." -- HMS
?X: ------------------------------------------------------------
?C:S_SHM_FOR ~ %<:
?C: This symbol identifies what we chose for the target system's
?C: default shared memory configuration parameters.
?C:.
?C:S_SHM_ATT ~ %<:
?C: This symbol holds the default "place" to attach shared memory.
?C: Values are "HIGH", "ZERO", and "LOW".
?C:.
?C:S_SHM_LIM ~ %<:
?C: This symbol holds the default upper bound address limit if shared
?C: memory is attached HIGH.  If zero, there is no upper limit.
?C:.
?H:?%<:#ifdef
 SERVE_SHM
?H:?%<:#define S_SHM_FOR "$shm_for"
?H:?%<:#define S_SHM_ATT "$shm_att"
?H:?%<:#define S_SHM_LIM "$shm_lim"
?H:?%<:#endif
?H:.
?W:%<:S_SHM_FOR S_SHM_ATT S_SHM_LIM
: see how to attach shared memory
echo " "
echo "Deciding how to attach shared memory..." >&4

case "$ipc" in
shm)
 shm_for='Default case'
 shm_att='HIGH'
 shm_lim='0x0'
```

```
if ./Cppsym tower32 tower32_600; then
 echo "NCR Towers are usually normal..."
 : echo "Oh, an NCR Tower."
 : This works for the 600
 shm_for='NCR Tower 32'
 shm_att='LOW'
else
 case "$uname" in
 */uname)
  case "`uname -m`" in
  ACS??68*)
   echo "Oh, an Altos 3068."
   shm_for='Altos 3068:'
   shm_lim='0x800000'
   ;;
   esac
   ;;
 *)
  echo "Looks normal to me..."
  ;;
 esac
fi

dflt="$shm_for"
rp='Description of shared memory configuration?'
. ./myread
shm_for="$ans"

dflt="$shm_att"
rp='Where should shared memory be attached?'
. ./myread
shm_att="$ans"

case "$shm_att" in
HIGH)
 dflt="$shm_lim"
 rp='What is
the upper address limit for shared memory?'
 . ./myread
 shm_lim="$ans"
 ;;
*)
 shm_lim="
 ;;
esac
;;

*)
```

```
 echo "but you aren't using shared memory so I won't bother." >&4
 shm_for='NOT CONFIGURED'
 shm_att='NONE'
 shm_lim='-1'
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/shm_for.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: warnflags.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: warnflags.U,v $
?RCS: Revision 3.0  1993/08/18  12:10:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:warnflags: cat cc contains Myread Guess Oldconfig Findhdr
?MAKE: -pick add $@ %<
?S:warnflags:
?S: This variable contains any additional C compiler flags to generate
?S: warnings from the compiler. It is up to the Makefile to use this.
?S:.
: offer additional
 warning flags for compilation
$cat <<EOH

You may wish to compile with extra compiler warnings enabled.
Note that doing so enhances your chance of receiving your free set of steak
knives, particularly if you find any bugs and report them.
If you don't want extra warnings, answer "none".

EOH
case "$warnflags" in
") case "$cc" in
 *gcc*)
  dflt="-Wall -Wno-comment"
  if $contains 'fprintf' `./findhdr stdio.h` >/dev/null 2>&1; then
```

```
  :
 else
  dflt="$dflt -Wno-implicit"
 fi
 ;;
*) dflt="none";;
esac
;;
' ') dflt="none";;
*) dflt="$warnflags";;
esac

rp="Any $cc flags to enable warnings?"
. ./myread
case "$ans" in
none) warnflags=' ';;
*) warnflags="$ans";;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/warnflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: html3dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html3dir.U,v $
?RCS:
?MAKE:html3dir html3direxp installhtml3dir: cat sed Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup html1dir
?MAKE: -pick add $@ %<
?Y:TOP
?D:html3dir="
?S:html3dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe libraries or modules.  It is intended to
?S: correspond roughly to section 3 of the Unix manuals.
?S:.
?D:html3direxp="
?S:html3direxp:
```

```
?S: This variable
 is the same as the html3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml3dir="
?S:installhtml3dir:
?S: This variable is really the same as html3direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html3direxp
?LINT:set installhtml3dir
: determine where html pages for libraries and modules go
set html3dir html3dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for modules associated with $spackage,
indicate the appropriate directory here.  To skip installing html files,
answer "none".
EOM
: There is no obvious default.  If they have specified html1dir, then
: try to key off that, possibly changing .../html1 into .../html3.
case "$html3dir" in
") html3dir=`echo "$html1dir" | $sed 's/1$/3$/'` ;;
*) dflt=$html3dir ;;
esac
fn=dn+~
rp="Directory for the $spackage module
 html pages?"
. ./getfile
prefixvar=html3dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html3dir" = "X" && html3dir=' '
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/html3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
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```

```
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running Configure from a remote directory ($src
 is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: Mkdirp src
?MAKE: -pick add $@ %<
?F:./extract
?T:CONFIG SRC dir file
: script used to extract .SH files with variable substitutions
cat >extract <<EOS
CONFIG=true
SRC="$src"
EOS
cat >>extract <<'EOS'
echo "Doing variable substitutions on .SH files..."
if test -f "$SRC/MANIFEST"; then
 set x `awk '{print $1}' <$SRC/MANIFEST | grep '\.SH'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$SRC"; find . -name "*.SH" -print)`
fi
shift
case $# in
0) set x `(cd "$SRC"; echo *.SH)`; shift;;
esac
if test ! -f "$SRC/$1"; then
 shift
fi
for file in $*; do
 case "$SRC" in
 ".")
```

```
 case "$file" in
 */*)
  dir=`expr X$file : 'X\(.*\)/'`
  file=`expr X$file : 'X.*/\(.*\)'`
  (cd $dir && . ./$file)
  ;;
 *)
  . ./$file
  ;;
 esac
 ;;
*)
?X:
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause
 the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
?X:  -- RAM, 18/03/96
?X:
 case "$file" in
 */*)
  dir=`expr X$file : 'X\(.*\)/'`
  file=`expr X$file : 'X.*/\(.*\)'`
  ./mkdirp $dir
  sh <"$SRC/$dir/$file"
  ;;
 *)
  sh <"$SRC/$file"
  ;;
 esac
 ;;
esac
done
if
 test -f "$SRC/config_h.SH"; then
 if test ! -f config.h; then
?X: oops, they left it out of MANIFEST, probably, so do it anyway.
```

```
  sh <"$SRC/config_h.SH"
 fi
fi
EOS
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Extract.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: manfmt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: manfmt.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  16:11:57  ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.4  1995/09/25  09:16:52  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3  1995/01/30  14:39:20  ram
?RCS: patch49: new installmanfmt and AFS-lookup for formatted man pages
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS:
 Revision 3.0.1.2  1994/08/29  16:30:31  ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:09:22  ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:manfmt manfmtexp installmanfmt: Getfile Loc Oldconfig cat manext \
 spackage Prefixit prefixexp Prefixup afs test
?MAKE: -pick add $@ %<
?Y:TOP
?S:manfmt:
?S: This variable contains the name of the directory in which formatted
?S: manual pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command. Note
```

```
?S: that you may have to do ~name substitution. Use manfmtexp otherwise.
?S:.
?S:manfmtexp:
?S: This is the same as the manfmt variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
?S:installmanfmt:
?S: This variable is really
 the same as manfmtexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change manext
?T:lookpath
: determine where manual pages go
set manfmt manfmt
eval $prefixit
$cat <<EOM

$spackage has pre-formatted manual pages.  If you don't want these installed,
answer 'none' to the next question.

EOM
case "$manfmt" in
")
 lookpath="$prefixexp/catman/man1 $prefixexp/man/cat1"
 lookpath="$lookpath $prefixexp/catman/u_man/man1"
 lookpath="$lookpath $prefixexp/catman/l_man/man1"
 lookpath="$lookpath $prefixexp/catman/cat1 /usr/catman/local/man1"
 lookpath="$lookpath /usr/catman/manl /usr/man/cat1"
 lookpath="$lookpath /usr/catman/mann /usr/catman/l_man/man1"
 lookpath="$lookpath /usr/catman/u_man/man1 /usr/catman/man1"
 dflt=`./loc . none $lookpath`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$manfmt"
 ;;
esac
fn=dn~
rp='Where
 do pre-formatted manual pages go?'
. ./getfile
if test "X$manfmtexp" != "X$ansexp"; then
 installmanfmt="
fi
```

```
manfmt="$ans"
manfmtexp="$ansexp"
if $afs && $test "$manfmt"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installmanfmt" in
 '') dflt=`echo $manfmtexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmanfmt";;
 esac
 fn=de~
 rp='Where will pre-formatted man pages be installed?'
 . ./getfile
 installmanfmt="$ans"
else
 installmanfmt="$manfmtexp"
fi

case "$manfmt" in
'') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/manfmt.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: cf_email.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:05:06  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:cf_email: cat cf_by test myhostname mydomain Oldconfig Myread
?MAKE: -pick add $@ %<
?S:cf_email:
?S: Electronic mail address of the person who ran Configure. This can be
?S: used by units that require the user's e-mail, like MailList.U.
?S:.
?T:cont maildomain
?LINT:extern MAILDOMAIN
: determine the e-mail address of the user who is running us
$cat <<EOM

I need to get your e-mail address
 in Internet format if possible, i.e.
something like user@host.domain. Please answer accurately since I have
no easy means to double check it. The default value provided below
is most probably close to reality but may not be valid from outside
your organization...

EOM
cont=x
while test "$cont"; do
 case "$MAILDOMAIN" in
 '')
  if $test -s /etc/mailname; then
   maildomain=`$cat /etc/mailname`
  else
   maildomain="$myhostname$mydomain"
  fi
  ;;
 *)  maildomain="$MAILDOMAIN";;
 esac
 case "$cf_email" in
 '') dflt="$cf_by@$maildomain";;
 *)  dflt="$cf_email";;
 esac
 rp='What is your e-mail address?'
 . ./myread
 cf_email="$ans"
 case "$cf_email" in
 *@*.*) cont='' ;;
 *)
  rp='Address does not look like an Internet one.  Use it anyway?'
  case "$fastread" in
```

```
  yes) dflt=y ;;
  *) dflt=n ;;
  esac
  . ./myread
  case "$ans" in
  y*) cont='' ;;
  *) echo " " ;;
  esac
  ;;
 esac
done
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_email.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman1dir siteman1direxp installsiteman1dir: Getfile \
 Setprefixvar prefix siteprefix man1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman1dir=''
?S:siteman1dir:
?S: This variable contains the name of the directory in which site-specific
?S: manual source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman1direxp=''
?S:siteman1direxp:
?S: This variable is the same as the siteman1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
```

```
?D:installsiteman1dir="
?S:installsiteman1dir:
?S: This variable is really the same as siteman1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman1dir
?LINT:set siteman1dir
?LINT:set siteman1direxp
: determine where add-on manual pages go
case "$siteman1dir" in
'') dflt=`echo $man1dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman1dir ;;
esac
case "$dflt" in
'|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific manual pages should be installed?'
. ./getfile
prefixvar=siteman1dir
. ./setprefixvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteman1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:     You may distribute under the terms of either the GNU General Public
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perlpath.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/a_dvisory/multiarch.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/startperl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/privlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_portable.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/archlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
```

```
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2  1994/06/20  07:08:43  ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:13:50  ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:55  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:sysman: test
 Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.
?T:syspath
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
 syspath="$syspath /usr/man/u_man/man1 /usr/share/man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form." >&4
fi

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sysman.U
```

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

```
?RCS: $Id: startsh.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: startsh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:25:31  ram
?RCS: patch61: avoid needless chatter since this is now done very early
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:startsh: sh sharpbang eunicefix
?MAKE: -pick add $@ %<
?S:startsh:
?S: This variable contains the string to put on the front of a shell
?S: script to make sure (hopefully) that it runs with sh and not some
?S: other
 shell.
?S:.
?F:!sharp
: figure out how to guarantee sh startup
?X: Avoid needless chatter since this is now done very early.
?X: echo " "
?X: echo "Checking out how to guarantee sh startup..." >&2
case "$startsh" in
") startsh=${sharpbang}${sh} ;;
*)
?X: echo "Let's see if '$startsh' works..." ;;
esac
cat >sharp <<EOSS
$startsh
set abc
test "$?abc" != 1
EOSS

chmod +x sharp
$eunicefix sharp
if ./sharp; then
 : echo "Yup, it does."
else
```

```
 echo "Hmm... '$startsh' does not guarantee sh startup..."
 echo "You may have to fix up the shell scripts to make sure $sh runs them."
fi
rm -f sharp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/startsh.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 2016 Dagfinn Ilmari Mannsker & H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
?X: To use it, say:
?X: set d_siginfo_si_errno siginfo_t int si_errno $d_sigaction signal.h
?X: eval $hasfield_t;
?X:
?MAKE:Hasfield_t: test Compile rm_try Setvar
?MAKE: -pick add $@ %<
?LINT:define hasfield_t
?S:hasfield_t:
?S: Internal macro for Configure
?S:.
?V:hasfield_t:
?T:varname struct type field
: Define hasfield_t macro for Configure internal use
hasfield_t='varname=$1; struct=$2; type=$3; field=$4; shift; shift; shift; shift;
while $test $# -ge 2; do
   case
 "$1" in
 $define) echo "#include <$2>";;
   esac ;
   shift 2;
done > try.c;
echo "int main () { $struct foo; $type bar = foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
```

```
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Hasfield_t.U
No license file was found, but licenses were detected in source scan.

```
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't know where '$file' is, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
done
echo " "
echo "Don't worry if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
eval xxx=\$$file
case "$xxx" in
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
```

```
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*)
 xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't see $file out there, $say."
say=either
;;
esac
done
case "$egrep" in
egrep)
echo "Substituting grep for egrep."
egrep=$grep
_egrep=$grep
;;
esac
@if less
case "$less" in
") ;;
*) if $less -R </dev/null >/dev/null 2>&1; then
echo "Substituting less -R for less."
less="$less -R"
_less=$less
fi
;;
esac
@end
@if ln
case "$ln" in
ln)
echo "Substituting cp for ln."
ln=$cp
_ln=$cp
;;
```

```
esac
@end
@if make || gmake
case "$make" in
make)
case "$gmake" in
gmake)
echo "I can't find make or gmake, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
;;
esac
case "$gmake" in
gmake) ;;
*) # We can't have osname yet.
if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
# Assume that gmake, if found, is definitely
 GNU make
# and prefer it over the system make.
echo "Substituting gmake for make."
make=$gmake
_make=$gmake
fi
;;
esac
@end
case "$test" in
test)
echo "Hopefully test is built into your sh."
;;
*)
if `sh -c "PATH= test true" >/dev/null 2>&1`; then
echo "Using the test built into your sh."
?X:
?X: We need to set both test and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
?X: we choose to load an old config.sh generated on another platform.
?X:
test=test
_test=test
fi
;;
esac
?LINT:change n c
case "$echo" in
echo)
```

```
echo "Hopefully echo is built into your sh."
;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
echo " "
echo "Checking compatibility between $echo and builtin echo (if any)..." >&4
$echo $n "hi there$c" >foo1
echo $n "hi there$c" >foo2
if cmp foo1 foo2 >/dev/null 2>&1; then
echo "They are compatible.  In fact, they may be identical."
else
case "$n" in
'-n') n='' c='\c';;
*) n='-n' c='';;
esac
cat
 <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built in and we may have to run some Bourne shell scripts.  That
means I'll have to use '$n$c' to suppress newlines now.  Life is ridiculous.

FOO
$echo $n "The star should be here-->$c"
$echo "*"
fi
$rm -f foo1 foo2
;;
esac

?X: The next part is irrelevant to the real process
# This question was auctioned at YAPC::Europe-2007 in Vienna
# I never promised you could answer it. I only auctioned the question.
cat <<FOO
The following message is sponsored by

Dresden.pm<--The stars should be here.

Dear Perl user, system administrator or package
maintainer, the Perl community sends greetings to
you. Do you (emblematical) greet back [Y/n]? n

FOO

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Loc.U
```

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```
?RCS: $Id: Configdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Configdir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  14:58:36  ram
?RCS: patch61: have README explicitly mention the package name
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Configdir: package
?MAKE: -pick add $@ %<
: create .config dir to save info across Configure sessions
test -d ../.config || mkdir ../.config
cat >../.config/README <<EOF
This directory created by Configure to save
 information that should
persist across sessions for $package.

You may safely delete it if you wish.
EOF
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Configdir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libnlist.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libnlist.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:02  ram
?RCS: patch61: added usrinc and mips on the dependency line
```

```
?RCS: patch61: make sure we call ./mips
?RCS: patch61: added a ?LINT: hint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:00  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnlist: Loc libpth Guess usrinc _a
?MAKE: -pick add $@ %<
?S:libnlist (libmld):
?S: This variable contains the name of the library required to
 get the
?S: definition of the nlist() function.  On a MIPS RISC/OS box, it is -lmld.
?S: Under Sys Vr4, it is -lelf.  Otherwise, its value is empty.
?S:.
?T:xxx
?LINT:use usrinc
: see if we need a special library for 'nlist()'
echo " "
: How about doing this if nlist is not in libc...
if ./mips ; then
 libnlist='-lmld'
else
 xxx=`./loc libelf$_a x $libpth`
 case "$xxx" in
 x)  ;;
 *)
  libnlist="$xxx"
  ;;
 esac
fi
case "$libnlist" in
") echo "No special library for nlist() seems necessary." >&4
 ;;
*)  echo "nlist() can be found in $libnlist." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libnlist.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorman1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
```

```
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman1dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman1dir vendorman1direxp installvendorman1dir: man1dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman1dir:
?S: This variable contains the name of the directory for man1
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman1direxp:
?S: This variable is the ~name expanded version of vendorman1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman1dir="
?S:installvendorman1dir:
?S: This variable is really the same as vendorman1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman1dir
: Set the vendorman1dir variables
case "$vendorprefix" in
") vendorman1dir="
 vendorman1direxp="
 ;;
*) : determine where vendor-supplied manual pages go.
 case "$vendorman1dir" in
 ") dflt=`echo "$man1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman1dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname for
```

```
 the vendor-supplied manual section 1 pages?'
 . ./getfile
 vendorman1dir="$ans"
 vendorman1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman1dir" = "X" && vendorman1dir=' '
prefixvar=vendorman1dir
. ./installprefix

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorman1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libnm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libnm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:26  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libnm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the new math library routines.  If there is no new math
?S: library, it is null.
?S:.
?T:ans
?O:
 use libswanted='-lnm' instead (see libs.U).
: see if we should include -lnm
echo " "
if $test -r /usr/lib/libnm$_a || $test -r /usr/local/lib/libnm$_a ; then
 echo "New math library found." >&4
 libnm='-lnm'
else
```

```
 ans=`./loc libnm$_a x $libpth`
 case "$ans" in
 x)
  echo "No nm library found--the normal math library will have to do." >&4
  libnm=''
  ;;
 *)
  echo "New math library found in $ans." >&4
  libnm="$ans"
  ;;
 esac
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libnm.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: maildir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: maildir.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:21:56  ram
?RCS: patch15: now also looks under /var/mail for BSD/386
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:maildir maildirexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:maildir:
?S: This variable contains the name of the directory in which mail is
?S: spooled. Programs using this variable must be prepared to deal with
?S: ~name
 substitutions.
?S:.
?S:maildirexp:
?S: This is the same as the maildir variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
: determine where mail is spooled
```

```
case "$maildir" in
") dflt=`./loc . /usr/spool/mail /usr/spool/mail /usr/mail /var/mail`;;
*) dflt="$maildir";;
esac
echo " "
fn=d~
rp='Where is yet-to-be-read mail spooled?'
. ./getfile
maildir="$ans"
maildirexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/maildir.U
No license file was found, but licenses were detected in source scan.

?RCS: You may redistribute only under the terms of the Artistic Licence,

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_pwrite.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_readlink.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_siglist.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_su_chown.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Assert.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_usendir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sfio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_pread.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/newslib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_rename.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_rdchk.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_charsprf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_fork.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setgrps.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msync.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setprior.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Getfile.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msgget.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sigvec.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_waitpid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_unistd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Obsol_sh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_mktime.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_table.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ipc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_ffs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_math.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/rootid.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sighold.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_fcntl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_xdrs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_semget.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_munmap.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strstr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_bcmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getlogin.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getprior.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_pidcheck.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_symlink.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_readdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setruid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_hidnet.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_gdbm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_syslog.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_float.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_shmdt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_flock.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_memalign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_syswait.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getopt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sigblock.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_nice.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msem_lck.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_stat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_regex.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getgrps.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_cbrt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_pipe2.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_drem.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_rusage.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setpgid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_dbl_dig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_umask.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sjis2jis.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_mkostemp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_truncate.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_stdlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/prefshell.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_mkdir.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_seteuid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/vaproto.U
No license file was found, but licenses were detected in source scan.

?RCS: Id

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Thomas Neumann <tom@smart.bo.open.de>
?RCS:
?RCS: $Log: Findhdr.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  15:53:08  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:03:56  ram
?RCS: patch23: cppminus must be after other cppflags, not before
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a findhdr script which is used to locate the header
?X: files
 in $usrinc or other stranger places using cpp capabilities. The
?X: script is given an include file base name, like 'stdio.h' or 'sys/file.h'
?X: and it returns the full path of the include file and a zero status or an
?X: empty string with an error status if the file could not be located.
?X:
?MAKE:Findhdr: grep test tr rm +usrinc awk cat startsh \
 cppstdin cppminus +cppflags eunicefix osname
?MAKE: -pick add $@ %<
?LINT:define fieldn
?S:fieldn:
?S: This variable is used internally by Configure. It contains the position
?S: of the included file name in cpp output. That is to say, when cpp
?S: pre-processes a #include <file> line, it replaces it by a # line which
?S: contains the original position in the input file and the full name of
?S: included file, between "quotes".
?S:.
?V:fieldn
?F:./findhdr !fieldn
?T:cline pos wanted name awkprg cppfilter testaccess status usrincdir
: determine filename position in cpp output
echo " "
echo "Computing filename position in cpp output for #include
 directives..." >&4
echo '#include <stdio.h>' > foo.c
```

```
case "$osname" in
vos)
 testaccess=-e
?X: VOS: path component separator is >
 cppfilter="tr '\\\\>' '/' |"
 ;;
*)
 testaccess=-r
 cppfilter="
 ;;
esac
$cat >fieldn <<EOF
$startsh
$cppstdin $cppflags $cppminus <foo.c 2>/dev/null | \
$grep '^[  ]*#.*stdio\.h' | \
while read cline; do
 pos=1
 set \$cline
 while $test \$# -gt 0; do
  if $test $testaccess \`echo \$1 | $tr -d ""\`; then
   echo "\$pos"
   exit 0
  fi
  shift
  pos=\`expr \$pos + 1\`
 done
done
EOF
chmod +x fieldn
fieldn=`./fieldn`
$rm -f foo.c fieldn
case $fieldn in
") pos='???';;
1) pos=first;;
2) pos=second;;
3) pos=third;;
*) pos="${fieldn}th";;
esac
echo "Your cpp writes the filename in the $pos field of the line."

?X: To locate a header file, we cannot simply check for $usrinc/file.h, since
?X: some machine have the headers in weird places and our only hope is that
?X: the C pre-processor will know how to find those headers. Thank you NexT!
: locate header file
$cat
 >findhdr <<EOF
$startsh
wanted=\$1
```

```
name="
for usrincdir in $usrinc; do
 if test -f \$usrincdir/\$wanted; then
  echo "\$usrincdir/\$wanted"
  exit 0
 fi
done
awkprg='{ print \$$fieldn }'
echo "#include <\$wanted>" > foo\$\$.c
$cppstdin $cppminus $cppflags < foo\$\$.c 2>/dev/null | \
$cppfilter $grep "^[  ]*#.*\$wanted" | \
while read cline; do
 name=\`echo \$cline | $awk "\$awkprg" | $tr -d ""\`
 case "\$name" in
 *[/\\\\]\$wanted) echo "\$name"; exit 1;;
 *[\\\\/]\$wanted) echo "\$name"; exit 1;;
 *) exit 2;;
 esac
done
?X: status = 0: grep returned 0 lines, case statement not executed
?X: status = 1: headerfile found
?X: status = 2: while loop executed, no headerfile found
status=\$?
$rm -f foo\$\$.c
if test \$status -eq 1; then
 exit 0
fi
exit 1
EOF
chmod +x findhdr
$eunicefix findhdr

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Findhdr.U
No license file was found, but licenses were detected in source scan.

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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:47:29  ram
```

?RCS: patch44: leading comment states this unit comes before option processing
?RCS:
?RCS: Revision 3.0 1993/08/18 12:05:07 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end. This file
?X: is included after variables are initialized but before any old
?X: config.sh file is read in and before
 any Configure switch processing.
?X:
?MAKE:Myinit: Init
?MAKE: -pick add $@ %<
?LINT: nocomment

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Myinit.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1 1994/05/13 15:28:48 ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:10:03 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Loc Oldconfig byacc bison cat test
?MAKE: -pick add $@ %<
?S:yacc:
?S: This variable holds the name of the compiler compiler we
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.
?S:.
?S:yaccflags:
?S: This variable contains any
 additional yacc flags desired by the
?S: user. It is up to the Makefile to use this.
?S:.

```
?T:comp
: determine compiler compiler
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"
fi
case "$yacc" in
")
 yacc=`./loc yacc yacc $pth`
 if $test -f "$yacc$_exe"; then
  dflt='yacc'
 elif $test -f "$byacc$_exe"; then
  dflt='byacc'
 elif $test -f "$bison$_exe"; then
  dflt='bison'
 else
  dflt="
 fi
 ;;
*) dflt="$yacc";;
esac
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behaviour.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH
```

```
Your yacc program may need extra flags to normally process the parser sources.
Do NOT specify any -d or -v flags here, since those are
 explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
. ./myread
case "$ans" in
none) yaccflags="";;
*) yaccflags="$ans";;
esac

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/yacc.U
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?RCS: $Id: inc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: inc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:inc incexp: Loc Oldconfig Getfile usrinc
?MAKE: -pick add $@ %<
?S:inc:
?S: This variable holds the name of the directory in which the user wants
?S: to put public header files for the package in question.  It is most
?S: often a local directory such as /usr/local/include.
?S:.
?S:incexp:
?S: This is the same as the inc variable, but is filename
 expaned
?S: at configuration time for convenient use in your makefiles.
?S:.
: determine where public header files go
```

```
case "$inc" in
")
 dflt=`./loc . "." /usr/local/include /usr/include/local $usrinc`
 ;;
*)  dflt="$inc"
 ;;
esac
fn=d~
rp='Where do you want to put the public header files?'
. ./getfile
inc="$ans"
incexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/inc.U
No license file was found, but licenses were detected in source scan.

```
*  You may redistribute only under the terms of the Artistic Licence,
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/Jmake.tmpl
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:09:11  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5  1995/07/25  14:12:05  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  16:24:22  ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:05:44  ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
?RCS: patch30: undone patch23 for libswanted default
 setting
?RCS:
```

?RCS: Revision 3.0.1.2 1994/05/06 15:08:45 ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1 1993/08/25 14:02:31 ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:03 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libs libsfound libsfiles libsdirs libspath libscheck: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 +usesocks sed +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it. The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
?S:.
?S:libsdirs:
?S: This variable holds the directory
 names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:libscheck:
?S: This variable is intended to be set by hint files, if needed.
?S: It should contain shell code that will be eval'ed with $xxx holding
?S: some library file. It may change $xxx if needed.
?S: For instance, on an Irix platform, you may make sure the right
?S: library file is used depending on the cc command line, so that the
?S: correct library is used depending on the selected ABI (for 32 and
?S: 64-bit compilations).
?S:
?S: Here is an example of code that could be found in a hint file on Irix
?S: when the selected compiler was for 32-bit -- that code is put in the
?S: cc.cbu call-back unit to be invoked AFTER the C compiler and its
?S: flags have been chosen:
?S:

```
?S:  libscheck='case "$xxx" in
?S:  *.a) /bin/ar p $xxx `/bin/ar t $xxx | sed q` >$$.o;
?S:   case "`/usr/bin/file $$.o`" in
?S:   *N32*)
 rm -f $$.o ;;
?S:   *) rm -f $$.o; xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  *) case "`/usr/bin/file $xxx`" in
?S:   *N32*) ;;
?S:   *) xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  esac'
?S:.
?D:libs="
?LINT:extern libswanted
?LINT:change libswanted
?INIT:: default library list
?INIT:libswanted="
?X: This order is chosen so that libraries  -lndir, -ldir, -lucb, -lbsd,
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatability
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
?X: -lc_s proceeds -lc so we pick up the shared library version, if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private
 Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: should be set by hint files if needed
?INIT:libscheck="
?T:xxx yyy thislib thisdir libstyle linkmsg
?F:lt.c lt
: Looking for optional libraries
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
```

```
' '|") dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
"$define") libswanted="$libswanted socks5 socks5_sh" ;;
esac
?X: Used later for link checks
echo "extern char printf(); int main() { printf(); return 0; }" > lt.c
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted;
 do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" ; then
  xxx=`ls $thisdir/lib$thislib.$so.[0-9]* 2>/dev/null | $sed -n '1p'`
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib.$so
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib${thislib}_s$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
```

```
  $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/Slib$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test
 -f "$xxx" && libstyle=static
    fi
    if $test -f "$xxx"; then
?X:
?X: It is not sufficient to find a .so on the disk.  We must make sure
?X: that we can indeed supply the -lfoo line on the cc line to link against
?X: that library.  On Linux for instance, a versionned .so will not be
?X: implicitly linked against, whereas it will work fine on Solaris 2.6.
?X:  --RAM, 10/10/2003
?X:
  if $cc -o lt $ccflags $ldflags lt.c -l$thislib >/dev/null 2>&1;
  then
   linkmsg=""
  else
   linkmsg=" but I can't link against it"
  fi
  case "$libstyle" in
  shared) echo "Found -l$thislib (shared)$linkmsg." ;;
  static) echo "Found -l$thislib$linkmsg." ;;
  *)      echo "Found -l$thislib ($libstyle)$linkmsg." ;;
  esac
  case " $dflt " in
  *"-l$thislib "*) ;;
  *)
   case "$linkmsg" in
   ")
    dflt="$dflt -l$thislib"
    libsfound="$libsfound $xxx"
    yyy=`basename $xxx`
    libsfiles="$libsfiles $yyy"
    yyy=`echo $xxx|$sed -e "s%/$yyy\\$%%"`
    case " $libsdirs
 " in
    *" $yyy "*) ;;
    *) libsdirs="$libsdirs $yyy" ;;
    esac
      ;;
   esac
   ;;
  esac
  break
    fi
```

```
 done
 if $test ! -f "$xxx"; then
    echo "No -l$thislib."
 fi
done
set X $dflt
shift
dflt="$*"
case "$libs" in
") dflt="$dflt";;
*) dflt="$libs";;
esac
case "$dflt" in
' '|") dflt='none';;
esac
$rm -f lt.c lt

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed.  Include any other special libraries here as well.
Say "none" for none.  The default list is almost always right.
EOM

echo " "
rp="Which libraries to use?"
. ./myread
case "$ans" in
none) libs=' ';;
*) libs="$ans";;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libs.U
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```
/* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises.  Note, however,
* that running config_h.SH again will wipe out any changes you've made.
* For a more permanent change edit $CONFIG_SH and rerun config_h.SH.
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Config_h.U

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

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasstruct string that is used internally
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat i_sysstat sys/stat.h
?X:  eval $hasstruct
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat $hdrs
?X: eval $hasstruct
?X:
?MAKE:Hasstruct: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct
?V:hasstruct
: Define hasstruct macro for Configure internal use
hasstruct='varname=$1; struct=$2; shift;
 shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
echo "int main () { struct $struct foo; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasstruct.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Init.U,v $
?RCS: Revision 3.0.1.1 1994/10/31 09:45:59 ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0 1993/08/18 12:05:02 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file initializes certain default variables
 used by Configure. They
?X: may be overridden or added to by definitions in Myinit.U.
?X:
?MAKE:Init eunicefix _exe: Null
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell. On other systems it is a no-op.
?S:.
?S:_exe (exe_ext):
?S: This variable defines the extension used for executable files.
?S: For unix it is empty. Other possible values include '.exe'.
?S: DJGPP, Cygwin and OS/2 use '.exe'. Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in

```
?X: the dependency line since this unit makes them visible via ?V:, and
?X:
 everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
?T: DJGPP
: Initialize wide constants
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
rmlist="

: We must find out about Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
 : Amiga OS
  _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
 : Stratus VOS
 _exe=".pm"
elif test -n "$DJGPP"; then
 : DOS DJGPP
  _exe=".exe"
elif test -d c:/. ; then
 : OS/2 or cygwin
 _exe=".exe"
else
 : All other UNIX systems
 _exe=""
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: man1dir.U,v 3.2 1999/07/08 20:57:21 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996, 1999 Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
```

```
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.2  1999/07/08 20:57:21  doughera
?RCS: Used installprefix.
?RCS:
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:29  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and
 man3dir.  This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: cat nroff Loc Oldconfig \
 spackage test Getfile Setprefixvar Prefixit Prefixup sysman Myread \
 prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?D:man1dir="
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?D:man1direxp="
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman1dir="
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location.
 For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:
```

```
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
?LINT:change prefixvar
?LINT:set man1direxp
: determine where manual pages go
set man1dir man1dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 '') man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$man1dir" in
' ') dflt=none
 ;;
'')
 lookpath="$prefixexp/share/man/man1"
 lookpath="$lookpath $prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people
 expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
*)  dflt="$man1dir"
 ;;
esac
echo " "
fn=dn+~
```

```
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir="
fi
prefixvar=man1dir
. ./setprefixvar

case "$man1dir" in
'') man1dir=' '
 installman1dir='';;
esac

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 '') case "$man1dir" in
  *1)  dflt=1 ;;
  *1p) dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L1)
 dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/man1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorman3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999-2000, Andy Dougherty
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman3dir vendorman3direxp installvendorman3dir: man3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman3dir:
?S: This variable contains the name of the directory for man3
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman3direxp:
?S: This variable is the ~name expanded version of vendorman3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman3dir="
?S:installvendorman3dir:
?S: This variable is really the same as vendorman3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman3dir
: Set the vendorman3dir variables
case "$vendorprefix" in
") vendorman3dir="
 vendorman3direxp="
 ;;
*) : determine where vendor-supplied module manual pages go.
 case "$vendorman3dir" in
 ") dflt=`echo "$man3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
```

```
 *) dflt=$vendorman3dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname
 for the vendor-supplied manual section 3 pages?'
 . ./getfile
 vendorman3dir="$ans"
 vendorman3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman3dir" = "X" && vendorman3dir=' '
prefixvar=vendorman3dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorman3dir.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: scandir.C,v 3.0.1.1 1994/01/24 13:58:45 ram Exp ram $
*
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*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: scandir.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:45  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/scandir.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: installstyle.U,v 1.2 1999/07/13 14:56:06 doughera Exp $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
```

?RCS: as specified in the README file that comes with the distribution.
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: installstyle.U,v $
?RCS: Revision 1.2 1999/07/13 14:56:06 doughera
?RCS: Fix dependencies. Add more comments.
?RCS:
?RCS: Revision 1.1 1999/07/12 17:30:41 doughera
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:installstyle: prefix Myread
?MAKE: -pick add $@ %<
?X: Myread dependence is for dflt.
?S:installstyle:
?S: This variable describes the "style" of the perl installation.
?S: This is intended to be useful for tools that need to
?S: manipulate entire perl
 distributions. Perl itself doesn't use
?S: this to find its libraries -- the library directories are
?S: stored directly in Config.pm. Currently, there are only two
?S: styles: "lib" and "lib/perl5". The default library locations
?S: (e.g. privlib, sitelib) are either $prefix/lib or
?S: $prefix/lib/perl5. The former is useful if $prefix is a
?S: directory dedicated to perl (e.g. /opt/perl), while the latter
?S: is useful if $prefix is shared by many packages, e.g. if
?S: $prefix=/usr/local.
?S:
?S: Unfortunately, while this "style" variable is used to set
?S: defaults for all three directory hierarchies (core, vendor, and
?S: site), there is no guarantee that the same style is actually
?S: appropriate for all those directories. For example, $prefix
?S: might be /opt/perl, but $siteprefix might be /usr/local.
?S: (Perhaps, in retrospect, the "lib" style should never have been
?S: supported, but it did seem like a nice idea at the time.)
?S:
?S: The situation is even less clear for
 tools such as MakeMaker
?S: that can be used to install additional modules into
?S: non-standard places. For example, if a user intends to install
?S: a module into a private directory (perhaps by setting PREFIX on
?S: the Makefile.PL command line), then there is no reason to
?S: assume that the Configure-time $installstyle setting will be
?S: relevant for that PREFIX.
?S:
?S: This may later be extended to include other information, so

```
?S: be careful with pattern-matching on the results.
?S:
?S: For compatibility with perl5.005 and earlier, the default
?S: setting is based on whether or not $prefix contains the string
?S: "perl".
?S:.
: determine installation style
: For now, try to deduce it from prefix unless it is already set.
: Reproduce behavior of 5.005 and earlier, maybe drop that in 5.7.
case "$installstyle" in
") case "$prefix" in
  *perl*) dflt='lib';;
  *) dflt='lib/perl5' ;;
 esac
 ;;
*) dflt="$installstyle" ;;
esac
: Probably not worth prompting for this since we prompt
 for all
: the directories individually, and the prompt would be too long and
: confusing anyway.
installstyle=$dflt
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/installstyle.U
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```
?RCS: $Id: Setprefixvar.U,v 3.0 2006/04/01 17:25:29 hmbrand $
?RCS:
?RCS: Copyright (c) 2006-2006, H.Merijn Brand & Nicholas Clark
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:   You may distribute under the terms of either the GNU General Public
?RCS:   License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit sets up the scripts installprefix and setprefixvar, so code
?X: in other parts can be more simple and maintainable
?X:
?MAKE:Setprefixvar: Myread Getfile startsh eunicefix test \
 prefix prefixexp installprefix installprefixexp
?MAKE: -pick add $@ %<
?LINT:extern prefixvar
?X: metalint still sees "`\$${prefixvar}exp`" as variable :(
?T:prefixvarexp
```

```
?F:./setprefixvar
?F:./installprefix
: Perform
 the prefixexp/installprefixexp correction if necessary
cat <<EOS >installprefix
$startsh
EOS
cat <<'EOSC' >>installprefix
: Change installation prefix, if necessary.
if $test X"$prefix" != X"$installprefix"; then
   eval "install${prefixvar}=\`echo \$${prefixvar}exp | sed \"s#^\$prefixexp#\$installprefixexp#\"\`"
else
   eval "install${prefixvar}=\"\$${prefixvar}exp\""
fi
EOSC
chmod +x installprefix
$eunicefix installprefix

: Set variables such as privlib and privlibexp from the output of ./getfile
: performing the prefixexp/installprefixexp correction if necessary.
cat <<EOS >setprefixvar
$startsh
EOS
cat <<'EOSC' >>setprefixvar
eval "${prefixvar}=\"\$ans\""
eval "${prefixvar}exp=\"\$ansexp\""
. ./installprefix
EOSC
chmod +x setprefixvar
$eunicefix setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/Setprefixvar.U
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
```

```
?RCS:
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:passcat groupcat hostcat:
 Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S:.
?S:groupcat:
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S:.
: see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
 if $test -f /usr/etc/nibindd; then
  echo
 " "
  echo "I'm fairly confident you're on a NeXT."
@if passcat || groupcat
  echo " "
  rp='Do you get the passwd file via NetInfo?'
  dflt=y
  case "$passcat" in
  nidump*) ;;
  ") ;;
  *) dflt=n;;
  esac
  . ./myread
  case "$ans" in
```

```
  y*) passcat='nidump passwd .'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='nidump group .'
@end
   ;;
  *) echo "You told me, so don't blame me."
   case "$passcat" in
   nidump*) passcat="
@if groupcat
     groupcat=";;
@end
   esac
@if groupcat
   echo "(Assuming /etc/group is handled the same way.)"
@end
   ;;
  esac
@end
@if hostcat
  echo " "
  rp='Do you get the hosts file via NetInfo?'
  dflt=y
  case "$hostcat" in
  nidump*) ;;
  ") ;;
  *) dflt=n;;
  esac
  . ./myread
  case "$ans" in
  y*) hostcat='nidump hosts .';;
  *) case "$hostcat" in
   nidump*) hostcat=";;
   esac
   ;;
  esac
@end
 fi
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
  case "$passcat" in
  *ypcat*) dflt=y;;
  ")
 if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
```

```
   dflt=n
  fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the passwd file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) passcat='ypcat passwd'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='ypcat group'
@end
   ;;
  *) passcat='cat /etc/passwd'
@if groupcat
   echo "(Assuming /etc/group is also local.)"
   groupcat='cat /etc/group'
@end
   ;;
  esac
  ;;
 esac
@end
@if hostcat
 case "$hostcat" in
 nidump*) ;;
 *)
  case "$hostcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the hosts file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) hostcat='ypcat hosts';;
  *) hostcat='cat /etc/hosts';;
  esac
  ;;
 esac
@end
fi
```

```
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
") hostcat=':'
 $test -f /etc/hosts && hostcat='cat
 /etc/hosts';;
esac
case "$groupcat" in
") groupcat=':'
 $test -f /etc/group && groupcat='cat /etc/group';;
esac
case "$passcat" in
") passcat=':'
 $test -f /etc/passwd && passcat='cat /etc/passwd';;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/nis.U
No license file was found, but licenses were detected in source scan.

```
?RCS:     c) the GNU General Public License as published by the Free
?RCS:     Software Foundation; either version 1, or (at your option) any
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_builtin_overflow.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Unix.U,v 3.0.1.1 1997/02/28 15:20:06 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:20:06  ram
?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _exe _a _o exe_ext lib_ext obj_ext path_sep \
 firstmakefile archobjs rm_try: Oldconfig rm
```

?MAKE: -pick add $@ %<
?S:_exe:
?S: This
 variable defines the extension used for executable files.
?S: DJGPP, Cygwin and OS/2 use '.exe'. Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
?S:.
?S:_a:
?S: This variable defines the extension used for ordinary library files.
?S: For unix, it is '.a'. The '.' is included. Other possible
?S: values include '.lib'.
?S:.
?S:_o:
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'. The '.' is included. Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make. On unix,
?S: it is makefile (then Makefile). On case-insensitive systems,
?S: it might be something else. This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture. On unix, it is usually
?S: empty.
  It is typically used to include emulations of unix calls
?S: or other facilities. For perl on OS/2, for example, this would
?S: include os2/os2.obj.
?S:.
?X: Metaconfig's Obsolete symbol stuff is too over-eager. In the
?X: perl sources, it picks up things like "P" and "FLOCK" that are
?X: not used in the way Metaconfig thinks they are. Thus I can't
?X: just declare these obsolete and then run metaconfig -o.
?X: Instead, I'll just handle them here.
?X: Sadly, history has conspired to give us a web of definitions;
?X: this could have been much simpler.
?S:lib_ext:
?S: This is an old synonym for _a.
?S:.
?S:exe_ext:
?S: This is an old synonym for _exe.
?S:.
?S:obj_ext:
?S: This is an old synonym for _o.
?S:.

```
?S:path_sep:
?S: This is an old synonym for p_ in Head.U, the character
?S: used to separate elements in the command shell search PATH.
?S:.
?S:rm_try:
?S: This is a cleanup variable for try test programs.
?S: Internal Configure use only.
?S:.
?LINT: change p_
?INIT::
 Trailing extension.  Override this in a hint file, if needed.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files or command line option can be used to override them.
: The convoluted testing is in case hints files set either the old
: or the new name.
case "$_exe" in
") case "$exe_ext" in
 ") ;;
 *) _exe="$exe_ext" ;;
 esac
 ;;
esac
case "$_a" in
") case "$lib_ext" in
   ") _a='.a';;
 *) _a="$lib_ext" ;;
 esac
 ;;
esac
case "$_o" in
") case "$obj_ext" in
 ") _o='.o';;
 *) _o="$obj_ext";;
 esac
 ;;
esac
case "$p_" in
") case "$path_sep" in
 ") p_=':';;
 *) p_="$path_sep";;
 esac
 ;;
esac
exe_ext=$_exe
lib_ext=$_a
obj_ext=$_o
```

```
path_sep=$p_

rm_try="$rm -f try try$_exe a.out .out try.[cho] try.$_o core core.try* try.core*"

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
") firstmakefile='makefile';;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
?X:
?MAKE:lns: ln rm touch test
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic links (if they are supported).
  It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$rm -f blurfl sym
```

```
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 && $test -f sym; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lns.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Myinit.U,v 3.0 1993/08/18 12:05:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:    You may distribute under the terms of either the GNU General Public
?RCS:    License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end.  This file
?X: is included after variables are initialized but before any old
?X: config.sh file is read in and before any Configure switch processing.
?X:
?MAKE:Myinit
 libswanted: Init
?MAKE: -pick add $@ %<
?S:libswanted:
?S: This variable holds a list of all the libraries we want to
?S: search.  The order is chosen to pick up the c library
?S: ahead of ucb or bsd libraries for SVR4.
?S:.
?LINT:extern usevfork glibpth
?LINT:change usevfork glibpth
: List of libraries we want.
?X: Put crypt here, even though I should really fix d_crypt.U to look
?X: for it correctly, including possible shared library versions.
```

```
: If anyone needs extra -lxxx, put those in a hint file.
libswanted="cl pthread socket bind inet nsl ndbm gdbm dbm db malloc dl ld"
libswanted="$libswanted sun m crypt sec util c cposix posix ucb bsd BSD"
: We probably want to search /usr/shlib before most other libraries.
: This is only used by the lib/ExtUtils/MakeMaker.pm routine extliblist.
glibpth=`echo " $glibpth " | sed -e 's! /usr/shlib ! !'`
glibpth="/usr/shlib $glibpth"
: Do not use vfork unless overridden by a hint file.
usevfork=false
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Myinit.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: mansrc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mansrc.U,v $
?RCS: Revision 3.0.1.9  1997/02/28  16:12:03  ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.8  1995/09/25  09:16:58  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.7  1995/02/15  14:15:31  ram
?RCS: patch51: was mistakenly duplicating /usr/local/man/man1 (ADO)
?RCS: patch51: added /opt/man/man1 to the lookpath (ADO)
?RCS:
?RCS: Revision
 3.0.1.6  1995/01/30  14:39:34  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.5  1995/01/11  15:32:25  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:30:38  ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  15:11:10  ram
?RCS: patch23: added lint hint, assuring that nroff is used
?RCS:
```

```
?RCS: Revision 3.0.1.2  1994/01/24  14:14:39  ram
?RCS: patch16: now uses _nroff in case user asked for portability
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:09:31  ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mansrc mansrcexp manext installmansrc: afs cat nroff Loc Oldconfig \
 sysman spackage test Getfile Prefixit prefixexp Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?S:mansrc:
?S: This variable
 contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:mansrcexp:
?S: This variable is the same as the mansrc variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installmansrc:
?S: This variable is really the same as mansrcexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:manext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See mansrc.
?S:.
?T:lookpath
: determine where manual pages go
set mansrc mansrc none
eval $prefixit
$cat <<EOM

$spackage has manual
 pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$mansrc" in
```

```
 ") mansrc="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$mansrc" in
")
 lookpath="$prefixexp/share/man/man1 $prefixexp/man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/man1 /opt/man/man1 /usr/man/manl"
 lookpath="$lookpath /usr/share/man/man1 /usr/local/share/man/man1"
 lookpath="$lookpath /usr/man/local/man1 /usr/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 lookpath="$lookpath /usr/man/man.L"
 mansrc=`./loc . $prefixexp/man/man1 $lookpath`
 if $test -d "$mansrc"; then
  dflt="$mansrc"
 else
  dflt="$sysman"
 fi
 set dflt
 eval $prefixup
 ;;
' ') dflt=none;;
*)  dflt="$mansrc"
 ;;
esac
echo " "
fn=dn~
rp='Where do the manual pages (source) go?'
. ./getfile
if test
 "X$mansrcexp" != "X$ansexp"; then
 installmansrc="
fi
mansrc="$ans"
mansrcexp="$ansexp"
case "$mansrc" in
") mansrc=' '
 installmansrc="";;
esac
if $afs && $test "$mansrc"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
```

```
 case "$installmansrc" in
 '') dflt=`echo $mansrcexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmansrc";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installmansrc="$ans"
else
 installmansrc="$mansrcexp"
fi

case "$mansrc" in
' ') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mansrc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?X:
?X: This unit allows the duplication of the source tree to the current
?X: directory via symbolic links.  This must be requested explicitly
?X: by them issuing a -Dmksymlinks on the command line.
?X:
?MAKE:Mksymlinks: Mkdirp lns issymlink src rsrc pkgsrc
?MAKE: -pick add $@ %<
?F:!UU
```

```
?T: dir filename tmppwd filelist
?LINT:extern mksymlinks
@if {test -f ../MANIFEST}
: Duplicate the tree with symbolic links if -Dmksymlinks was supplied
case "$mksymlinks"
 in
$define|true|[yY]*)
 echo " "
 case "$src" in
 "|'.') echo "Cannot create symlinks in the original directory." >&4
  exit 1
  ;;
 *) case "$lns:$issymlink" in
  *"ln"*" -s:"*"test -"?)
   echo "Creating the symbolic links..." >&4
   echo "(First creating the subdirectories...)" >&4
   cd ..
   awk '{print $1}' $src/MANIFEST | grep / | sed 's:/[^/]*$::' | \
    sort -u | while true
   do
    read dir
    test -z "$dir" && break
    ./UU/mkdirp $dir 2>/dev/null
    if test -d $dir; then
     : ok
    else
     echo "Failed to create '$dir'.  Aborting." >&4
     exit 1
    fi
   done
   echo "(Now creating the symlinks...)" >&4
   awk '{print $1}' $src/MANIFEST | while true; do
    read filename
    test -z "$filename" && break
    if test -f $filename; then
     if $issymlink $filename; then
      rm -f $filename
     fi
    fi
    if test -f $filename; then
     echo "$filename already exists, not symlinking."
    else
?X: Note that the following works because "$pkgsrc" is absolute
      ln
 -s $pkgsrc/$filename $filename
    fi
   done
?X: Check that everything was correctly copied
```

```
  echo "(Checking current directory...)" >&4
  cd UU
  awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
   (split -l 50 2>/dev/null || split -50)
  rm -f missing
  tmppwd=`pwd`
  for filelist in x??; do
   (cd ..; ls `cat "$tmppwd/$filelist"` \
    >/dev/null 2>>"$tmppwd/missing")
  done
  if test -s missing; then
   echo "Failed duplication of source tree.  Aborting." >&4
   exit 1
  fi
  ;;
 *) echo "(I cannot figure out how to do symbolic links, ignoring!)" >&4
  ;;
 esac
 ;;
esac
```

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Mksymlinks.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sysman.U,v 3.0.1.2 1994/06/20 07:08:43 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2  1994/06/20  07:08:43  ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:13:50  ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
```

```
?RCS: Revision 3.0  1993/08/18  12:09:55  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:sysman: test Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.
?T:syspath
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
 syspath="$syspath /usr/man/u_man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form."
 >&4
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/sysman.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Whoa.U,v 3.0.1.2 1997/02/28 15:21:21 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Whoa.U,v $
```

```
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable
 is noticed.
?X:
?X: To use this unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was td tu hintfile
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
case "$hint" in
   recommended)
 case "$hintfile" in
 ") echo "The $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 *) echo "Hmm.  Based on the hints in hints/$hintfile.sh, " >&4
  echo "the $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 esac
 ;;
   *) echo " "
 echo "*** WHOA THERE!!! ***" >&4
 echo "    The $hint value for \$$var on this machine was
 \"$was\"!" >&4
 ;;
esac
rp="    Keep the $hint value?"
. ./myread
```

```
case "$ans" in
y) td=$was; tu=$was;;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Whoa.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extractall.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure
 proper semantics. -- RAM, 15/03/96
?X:
?MAKE:Extractall: Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
 esac
 echo " "
```

```
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
?X: extract has to be run from the top directory, not within UU.
 . UU/optdef.sh
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
 rm -rf UU
 echo "Extraction done."
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Extractall.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS: patch49: this unit now exports file optdef.sh,
 not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
```

```
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options: startsh
?MAKE: -pick wipe $@ %<
?V:reuseval
 alldone error realsilent silent extractsh fastread \
 override knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp
?F:!Configure
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like     ./Configure -Dcc="gcc -B/usr/ccs/bin/"
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X: to worry too much.
cat > cmdline.opt
 <<EOSH
: Configure command line arguments.
config_arg0='$0'
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp="
args_sep="
for arg in "$@"; do
```

```
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by """"
 cat <<EOC | sed -e "s/'/""""""""""""""/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification

 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
   i++;
  }
  opt[c] = 1;
 }
}
{
 expect = 0;
 str = $0;
 if (substr(str,
 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
```

```
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prependend to each
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
eval "set $*"
shift
rm -f options.awk

: set up default values
fastread="
reuseval=false
config_sh="
alldone="
error="
silent="
extractsh="
override="
knowitall="
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
```

```
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:

: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
   echo "$me: cannot read config file $1." >&2
   error=true
  fi
  cd UU
  shift;;
 -h)
 shift; error=true;;
 -r) shift; reuseval=true;;
 -s) shift; silent=true; realsilent=true;;
 -E) shift; alldone=exit;;
 -K) shift; knowitall=true;;
 -O) shift; override=true;;
 -S) shift; silent=true; extractsh=true;;
 -D)
  shift
  case "$1" in
  *=)
   echo "$me: use '-U symbol=', not '-D symbol='." >&2
   echo "$me: ignoring -D $1" >&2
   ;;
  *=*) echo "$1" | \
    sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
  *) echo "$1='define'" >> optdef.sh;;
  esac
  shift
  ;;
 -U)
```

```
 shift
 case "$1" in
 *=) echo "$1" >> optdef.sh;;
 *=*)
  echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
  echo "$me: ignoring -U $1" >&2
  ;;
 *) echo "$1='undef'" >> optdef.sh;;
 esac
 shift
 ;;
-A)
   shift
   xxx="
   yyy="$1"
   zzz="
   uuu=undef
   case "$yyy" in
        *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
             case "$zzz" in
             *:*) zzz=" ;;
             *)   xxx=append
                  zzz=" "`echo
"$yyy"|sed 's!^[^=]*=!!'`
                  yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
             esac
             ;;
        esac
        case "$xxx" in
        ")  case "$yyy" in
             *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
                  yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
                  zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
                  yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
             *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
                  yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
             esac
             ;;
        esac
   case "$xxx" in
   append)
 echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
   clear)
 echo "$yyy=""   >> posthint.sh ;;
   define)
      case "$zzz" in
 ") zzz=define ;;
 esac
```

```
 echo "$yyy='$zzz'"  >> posthint.sh ;;
    eval)
 echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
    prepend)
 echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
    undef)
        case "$zzz" in
 ")
zzz="$uuu" ;;
 esac
 echo "$yyy=$zzz"  >> posthint.sh ;;
         *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
    esac
    shift
    ;;
 -V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
    exit 0;;
 --) break;;
 -*) echo "$me: unknown option $1" >&2; shift; error=true;;
 *) break;;
 esac
done

case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
 -d : use defaults for all answers.
 -e : go on without questioning past the production of config.sh.
 -f : specify an alternate default configuration file.
 -h : print this help message and exit (with an error status).
 -r : reuse C symbols value if possible (skips costly nm extraction).
 -s : silent mode, only echoes questions and essential information.
 -D : define symbol to have some value:
       -D symbol         symbol gets the value 'define'
       -D symbol=value
  symbol gets the value 'value'
 -E : stop at the end of questions, after having produced config.sh.
 -K : do not use unless you know what you are doing.
 -O : let -D and -U override definitions from loaded configuration file.
 -S : perform variable substitutions on all .SH files (can mix with -f)
 -U : undefine symbol:
       -U symbol    symbol gets the value 'undef'
       -U symbol=   symbol gets completely empty
 -A : manipulate symbol after the platform specific hints have been applied:
  -A symbol=value  append " "value to symbol
  -A append:symbol=value  append value to symbol
```

```
  -A define:symbol=value  define symbol to have value
       -A clear:symbol  define symbol to be ''
  -A define:symbol  define symbol to be 'define'
  -A eval:symbol=value  define symbol to be eval of value
  -A prepend:symbol=value prepend value to symbol
  -A undef:symbol  define symbol to be 'undef'
  -A undef:symbol=  define symbol to be ''
 -V : print version number and exit (with
 a zero status).
EOM
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and cannot use $me, since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
case "$fastread$alldone" in
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true)
 exec 1>/dev/null;;
esac
```

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Options.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Filexp.U,v $
?RCS: Revision 3.0.1.2 1994/10/29 15:52:53 ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: added HOME to the ?T: line since metalint now checks ${HOME}
?RCS:
?RCS: Revision 3.0.1.1 1994/05/06 14:03:00 ram
?RCS: patch23: made sure error status from csh is propagated (WED)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:53 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which will expand filenames beginning
?X:
 with tildes. The script is deleted at the end of Configure.
?X:
?MAKE:Filexp: startsh sed test expr eunicefix
?MAKE: -pick add $@ %<
?F:./filexp
?T:HOME LOGDIR dir me name failed
: set up shell script to do ~ expansion
cat >filexp <<EOSS
$startsh
: expand filename
?X:
?X: The case entries below escape the ~ as some shells have shown expansion

```
?X: of the ~ during here-doc processing.
?X:
case "\$1" in
\~/*|\~)
 echo \$1 | $sed "s|~|\${HOME-\$LOGDIR}|"
 ;;
\~*)
 if $test -f /bin/csh; then
  /bin/csh -f -c "glob \$1"
  failed=\$?
  echo ""
  exit \$failed
 else
  name=\`$expr x\$1 : '..\([^/]*\)'\`
  dir=\`$sed -n -e "/^\${name}:/{s/^[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\).*"'\$'"/\1/" -e p -e q -e '}' </etc/passwd\`
  if $test ! -d "\$dir"; then
   me=\`basename \$0\`
   echo "\$me: can't locate home directory for: \$name" >&2
   exit 1
  fi
  case "\$1" in
  */*)
   echo \$dir/\`$expr x\$1 : '..[^/]*/\(.*\)'\`
   ;;
  *)
   echo \$dir
   ;;
  esac
 fi
 ;;
*)
 echo \$1
 ;;
esac
EOSS
chmod
 +x filexp
$eunicefix filexp

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Filexp.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
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```

```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Whoa.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable is noticed.
?X:
?X: To use this
 unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was
?LINT:change td tu
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
echo " "
echo "*** WHOA THERE!!! ***" >&4
echo "    The $hint value for \$$var on this machine was \"$was\"!" >&4
rp="    Keep the $hint value?"
. ./myread
case "$ans" in
y) td=$was; tu=$was;;
esac
EOSC
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Whoa.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: MailList.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailList.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:01:49  ram
?RCS: patch16: created
?RCS:
?RCS:
?X:
?X: This unit offers the user the option of subscribing to the mailing
?X: list. To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: The address of the mailing list server must be set via a "list_request=..."
?X:
 entry in the .package file. This is usually done by running packinit and
?X: answering the proper questions.
?X:
?MAKE:MailList: cat mailer package Myread cf_name cf_email
?MAKE: -pick wipe $@ %<
?T:list_request list_sub list_unsub list_name
?X:
?X: The cf_name dependency is used through list_sub when the mailing list
?X: manager happens to be listserv, whereas cf_email is used whith majordomo
?X: or when the mailing list request address is scanned by a human. Since
?X: they do not appear within the unit itself, we need a lint hint.
?X:
?LINT:use cf_name cf_email
: offer to join the mailing list
list_request='<$list_request>'
list_sub="<$list_sub>"
list_unsub="<$list_unsub>"
list_name="<$list_name>"
$cat <<EOM

There is a mailing list for discussion about $package and related issues.
This is the preferred place to ask questions about the program and discuss
```

```
modifications and additions with the author and other users.  If you are able
to send mail to the Internet, you
 are encouraged to subscribe.  You need only
ever subscribe once, and you can unsubscribe automatically at any time in the
future.  If you have already subscribed and you wish to unsubscribe now, you
may do so by answering "unsubscribe".  Answer "subscribe" to subscribe to the
list.

EOM
rp="Subscribe to or unsubscribe from the $list_name mailing list?"
dflt=neither
. ./myread
case "$ans" in
[sS]*) $cat <<EOM

You will be sent a message from the list server to let you know when your
subscription has been successful and telling you how to submit articles and
how to unsubscribe again when necessary. You may also unsubscribe by running
this script again and asking it to do so for you.

EOM
 echo "Sending mail to subscribe you to the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To: $list_request

$list_sub
EOM
 ;;
[uU]*) echo "Sending mail to unsubscribe you from the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To:
 $list_request

$list_unsub
EOM
 ;;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/MailList.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Setvar.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
```

```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Setvar.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:58:28  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:16  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
?X:
 To use it, say:
?X: val=<value>
?X: set d_variable
?X: eval $setvar
?X:
?MAKE:Setvar: Whoa
?MAKE: -pick add $@ %<
?LINT:define setvar
?S:setvar:
?S: This shell variable is used internally by Configure to set a value
?S: to a given symbol that is defined or not. A typical use is:
?S: val=<value computed>
?S:  set d_variable
?S:  eval $setvar
?S: That will print a message in case the $val value is not the same
?S: as the previous value of $d_variable.
?S:.
?V:setvar:val
?T:var was td tu
: function used to set '$1' to '$val'
setvar='var=$1; eval "was=\$$1"; td=$define; tu=$undef;
case "$val$was" in
$define$undef) . ./whoa; eval "$var=\$td";;
$undef$define) . ./whoa; eval "$var=\$tu";;
*) eval "$var=$val";;
esac'
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Setvar.U

1.269 perl 5.36.0-7+deb12u2

1.269.1 Available under license :

[name]
Uppercase license text

[input]
=head1 Uppercase License

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Julian Seward, jseward@acm.org
bzip2/libbzip2 version 1.0.8 of 13 July 2019

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END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

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

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

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 1, or (at your option) any later version.

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

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

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

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

  Gnomovision version 69, Copyright (C) 19xx name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

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

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

 Yoyodyne, Inc., hereby disclaims all copyright interest in the
 program `Gnomovision' (a program to direct compilers to make passes
 at assemblers) written by James Hacker.

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

That's all there is to it!
#!perl

=head1 NAME

copyright.t

=head1 DESCRIPTION

Tests that the latest copyright years in the top-level README file and the
C<perl -v> output match each other.

If the test fails, update at least one of README and perl.c so that they match
reality.

Optionally you can pass the C<--now> option to check they are at the current
year. This isn't checked by default, so that it doesn't fail for people
working on older releases. It should be run before making a new release.

=cut

use strict;

```
use Config;
BEGIN { require './test.pl' }

if ( $Config{usecrosscompile} ) {
 skip_all( "Not all files are available during cross-compilation" );
}

my ($opt) = @ARGV;

my $readme_year = readme_year();
my $v_year = v_year();

# Check that both copyright dates are up-to-date, but only if requested, so
# that tests still pass for people intentionally working on older versions:
if ($opt eq '--now')
{
 my $current_year = (gmtime)[5] + 1900;
 is $v_year, $current_year, 'perl -v copyright includes current
 year';
 is $readme_year, $current_year, 'README copyright includes current year';
}

# Otherwise simply check that the two copyright dates match each other:
else
{
 is $readme_year, $v_year, 'README and perl -v copyright dates match';
}

done_testing;


sub readme_year
# returns the latest copyright year from the top-level README file
{

 open my $readme, '<', '../README' or die "Opening README failed: $!";

 # The copyright message is the first paragraph:
 local $/ = '';
 my $copyright_msg = <$readme>;

 my ($year) = $copyright_msg =~ /.*\b(\d{4,})/s
    or die "Year not found in README copyright message '$copyright_msg'";

 $year;
}
```

```
sub v_year
# returns the latest copyright year shown in perl -v
{

 my $output = runperl switches => ['-v'];
 my ($year) = $output =~ /copyright 1987.*\b(\d{4,})/i
    or die "Copyright statement not found in perl -v output '$output'";

 $year;
}
```

1.270 perl-modules-5.36 5.36.0-7+deb12u2

1.270.1 Available under license :

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

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: package.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:27:21  ram
?RCS: patch36: beware of non-ascii character sets when translating case
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:37:02  ram
?RCS: patch14: skip definition of spackage if not otherwise used
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:11:10  ram
?RCS: patch10: added spackage, suitable for starting sentences
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:28  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:package spackage:
 Nothing
?MAKE: -pick wipe $@ %<
?S:package:
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
```

```
?S: This variable contains the name of the package being constructed,
?S: with the first letter uppercased, i.e. suitable for starting
?S: sentences.
?S:.
?C:PACKAGE:
?C: This variable contains the name of the package being built.
?C:.
?H:#define PACKAGE "$package"
?H:.
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`" in
ABYZ) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo
 $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/package.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: patchlevel.U,v 3.0.1.1 1997/02/28 16:18:41 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: patchlevel.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
```

```
?RCS:
?MAKE:patchlevel revision version subversion \
 perl_patchlevel version_patchlevel_string \
 api_revision api_version api_subversion api_versionstring: \
 package test rsrc echo awk osname
?MAKE: -pick
 add $@ %<
?S:revision:
?S: The value of revision comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "5".
?S: In patchlevel.h, this is referred to as "PERL_REVISION".
?S:.
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "6".
?S: In patchlevel.h, this is referred to as "PERL_VERSION".
?S:.
?S:subversion:
?S: The subversion level of this package.
?S: The value of subversion comes from the patchlevel.h file.
?S: In a version number such as 5.6.1, this is the "1".
?S: In patchlevel.h, this is referred to as "PERL_SUBVERSION".
?S: This is unique to perl.
?S:.
?S:version:
?S: The full version number of this package, such as 5.6.1 (or 5_6_1).
?S: This combines revision, patchlevel, and subversion to get the
?S: full version number, including any possible subversions.
?S: This is suitable for use as a directory name, and hence is
?S: filesystem
 dependent.
?S:.
?S:api_revision:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl.  In a full version string
?S: such as '5.6.1', api_revision is the '5'.
?S: Prior to 5.5.640, the format was a floating point number,
?S: like 5.00563.
?S:
?S: perl.c:incpush() and lib/lib.pm will automatically search in
?S: $sitelib/.. for older directories back to the limit specified
?S: by these api_ variables.  This is only useful if you have a
?S: perl library directory tree structured like the default one.
?S: See INSTALL for how this works.  The versioned site_perl
?S: directory was introduced in 5.005, so that is the lowest
?S: possible value.  The version list appropriate for the current
```

?S: system is determined in inc_version_list.U.
?S:
?S: XXX To do: Since compatibility can depend on compile time
?S: options (such as bincompat, longlong, etc.) it should
?S: (perhaps) be set by
 Configure, but currently it isn't.
?S: Currently, we read a hard-wired value from patchlevel.h.
?S: Perhaps what we ought to do is take the hard-wired value from
?S: patchlevel.h but then modify it if the current Configure
?S: options warrant. patchlevel.h then would use an #ifdef guard.
?S:.
?S:api_version:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_version is the '6'. See api_revision for
?S: full details. As a special case, 5.5.0 is rendered in the
?S: old-style as 5.005. (In the 5.005_0x maintenance series,
?S: this was the only versioned directory in $sitelib.)
?S:.
?S:api_subversion:
?S: The three variables, api_revision, api_version, and
?S: api_subversion, specify the version of the oldest perl binary
?S: compatible with the present perl. In a full version string
?S: such as '5.6.1', api_subversion is the
 '1'. See api_revision for
?S: full details.
?S:.
?S:api_versionstring:
?S: This variable combines api_revision, api_version, and
?S: api_subversion in a format such as 5.6.1 (or 5_6_1) suitable
?S: for use as a directory name. This is filesystem dependent.
?S:.
?S:perl_patchlevel:
?S: This is the Perl patch level, a numeric change identifier,
?S: as defined by whichever source code maintenance system
?S: is used to maintain the patches; currently Perforce.
?S: It does not correlate with the Perl version numbers or
?S: the maintenance versus development dichotomy except
?S: by also being increasing.
?S:.
?S:version_patchlevel_string:
?S: This is a string combining version, subversion and
?S: perl_patchlevel (if perl_patchlevel is non-zero).
?S: It is typically something like
?S: 'version 7 subversion 1' or
?S: 'version 7 subversion 1 patchlevel 11224'
?S: It is computed here to avoid duplication of code in myconfig.SH

```
?S: and lib/Config.pm.
?S:.
?LINT:extern LC_ALL
?LINT:extern LANGUAGE
:
 get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r $rsrc/patchlevel.h;then
 revision=`awk '/define[  ]+PERL_REVISION/ {print $3}' $rsrc/patchlevel.h`
 patchlevel=`awk '/define[  ]+PERL_VERSION/ {print $3}' $rsrc/patchlevel.h`
 subversion=`awk '/define[  ]+PERL_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 api_revision=`awk '/define[  ]+PERL_API_REVISION/ {print $3}' $rsrc/patchlevel.h`
 api_version=`awk '/define[  ]+PERL_API_VERSION/ {print $3}' $rsrc/patchlevel.h`
 api_subversion=`awk '/define[  ]+PERL_API_SUBVERSION/ {print $3}' $rsrc/patchlevel.h`
 perl_patchlevel=`egrep ','"(MAINT|SMOKE)[0-9][0-9]*"' $rsrc/patchlevel.h|tail -1|sed 's/[^0-9]//g'`
else
 revision=0
 patchlevel=0
 subversion=0
 api_revision=0
 api_version=0
 api_subversion=0
 perl_patchlevel=0
 $echo "(You do not have patchlevel.h.  Eek.)"
fi
: Define a handy string here to avoid duplication in myconfig.SH and configpm.
version_patchlevel_string="version $patchlevel subversion $subversion"
case
 "$perl_patchlevel" in
0|'') ;;
*)  perl_patchlevel=`echo $perl_patchlevel | sed 's/.* //'`
   version_patchlevel_string="$version_patchlevel_string patch $perl_patchlevel"
   ;;
esac

$echo "(You have $package $version_patchlevel_string.)"

case "$osname" in
dos|vms)
 : XXX Should be a Configure test for double-dots in filenames.
 version=`echo $revision $patchlevel $subversion | \
   $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
   $awk '{ printf "%d_%d_%d", $1, $2, $3 }'`
 ;;
*)
 version=`echo $revision $patchlevel $subversion | \
```

```
  $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 api_versionstring=`echo $api_revision $api_version $api_subversion | \
  $awk '{ printf "%d.%d.%d", $1, $2, $3 }'`
 ;;
esac
: Special case the 5.005_xx maintenance series, which used 5.005
: without any subversion label as a subdirectory in $sitelib
if test "${api_revision}${api_version}${api_subversion}" = "550"; then
 api_versionstring='5.005'
fi

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/patchlevel.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_byacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: d_byacc.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:31:14  ram
?RCS: patch61: created
?RCS:
?MAKE:d_byacc: byacc Setvar
?MAKE: -pick add $@ %<
?S:d_byacc:
?S: This variable indicates whether byacc is available.
?S: If the user has specified 'portability', then Makefile.SH
?S: sees $byacc='byacc' whether or not the user actually has
?S: byacc.  This variable allows us to determine in a makefile
?S: if we really
 have byacc.
?S:.
?LINT:set d_byacc
: Check if we really have byacc
case "$byacc" in
"|'byacc') val="$undef" ;;
*) val="$define" ;;
esac
set d_byacc
```

```
eval $setvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_byacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Prefixup.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Prefixup.U,v $
?RCS: Revision 3.0.1.1  1995/01/30  14:30:40  ram
?RCS: patch49: created
?RCS:
?X:
?X: Used as: "set dflt; eval $prefixup" to set $dflt to be $prefix/dir
?X: instead of $prefixexp/dir, in case portability was involved somehow
?X: and $prefix uses ~name expansion.
?X:
?MAKE:Prefixup: prefix prefixexp
?MAKE: -pick add $@ %<
?LINT:define prefixup
?S:prefixup:
?S: This shell variable is used internally by Configure to reset
?S: the leading
 installation prefix correctly when $prefix uses
?S: ~name expansion.
?S:  set dflt
?S:  eval $prefixup
?S: That will set $dflt to $prefix/dir if it was $prefixexp/dir and
?S: $prefix differs from $prefixexp.
?S:.
?V:prefixup
: set the prefixup variable, to restore leading tilda escape
prefixup='case "$prefixexp" in
"$prefix") ;;
*) eval "$1=\`echo \$$1 | sed \"s,^$prefixexp,$prefix,\"\`";;
esac'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Prefixup.U

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

```
?RCS: $Id: siteprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: siteprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:siteprefix siteprefixexp +oldsiteprefix: Getfile Loc Oldconfig cat package prefix
?MAKE: -pick add $@ %<
?S:siteprefix:
?S: This variable holds the full absolute path of the directory below
?S: which the user will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
?S:siteprefixexp:
?S: This variable holds the full absolute path of the
 directory below
?S: which the user will install add-on packages.  Derived from siteprefix.
?S:.
?S:oldsiteprefix:
?S: This variable is set non-null if the siteprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
: Set the siteprefix variables
$cat <<EOM

After $package is installed, you may wish to install various
add-on modules and utilities.  Typically, these add-ons will
be installed under $prefix with the rest
of this package.  However, you may wish to install such add-ons
elsewhere under a different prefix.

If you do not wish to put everything under a single prefix, that's
ok.  You will be prompted for the individual locations; this siteprefix
is only used to suggest the defaults.

The default should be fine for most people.

EOM
```

```
fn=d~+
rp='Installation prefix to use for add-on modules and utilities?'
: XXX Here might be another good place for an installstyle setting.
case "$siteprefix" in
") dflt=$prefix ;;
*)  dflt=$siteprefix
 ;;
esac
. ./getfile
: XXX Prefixit unit does not yet support siteprefix and vendorprefix
oldsiteprefix="
case "$siteprefix" in
") ;;
*) case "$ans" in
 "$prefix") ;;
 *) oldsiteprefix="$prefix";;
 esac
 ;;
esac
siteprefix="$ans"
siteprefixexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteprefix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Inhdr.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inhdr.U,v $
?RCS: Revision 3.0.1.2  1995/05/12  12:01:31  ram
?RCS: patch54: deleted tabs that caused some /bin/sh to core dump (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:55:01  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks wether a set of header files exists or not.
```

```
?X: If the first header is not
 found, the function tries to locate
?X: the next header, and so on, until one is found or there is no
?X: more header in the list.
?X:
?X: To use it, say:
?X: set header i_header [ header2 i_header2 ... ]
?X: eval $inhdr
?X:
?MAKE:Inhdr: test Findhdr Whoa
?MAKE: -pick add $@ %<
?LINT:define inhdr
?V:inhdr
?S:inhdr:
?S: This shell variable is used internally by Configure to check
?S: wether a set of headers exist or not. A typical use is:
?S:  set header i_header [ header2 i_header2 ... ]
?S:  eval $inhdr
?S: That will print a message, saying wether header was found or not
?S: and set i_header* accordingly. If the first header is not found,
?S: we try the next one, until the list is empty or one is found.
?S:.
?T:xxx xxf var td xxnf tu yyy instead was cont
: define an alternate in-header-list? function
inhdr='echo " "; td=$define; tu=$undef; yyy=$@;
cont=true; xxf="echo \"<\$1> found.\" >&4";
case $# in 2) xxnf="echo \"<\$1> NOT found.\" >&4";;
*) xxnf="echo \"<\$1> NOT found, ...\" >&4";;
esac;
case
 $# in 4) instead=instead;; *) instead="at last";; esac;
while $test "$cont"; do
 xxx=`./findhdr $1`
 var=$2; eval "was=\$$2";
 if $test "$xxx" && $test -r "$xxx";
 then eval $xxf;
?X: Next line shifted left 1 tabstop to avoid sh core dump on MachTen 2.1.1.
 eval "case \"\$$var\" in $undef) . ./whoa; esac"; eval "$var=\$td";
  cont="";
 else eval $xxnf;
?X: Likewise, the next line has been shifted left 1 tabstop -- ADO, 08/03/95
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu"; fi;
 set $yyy; shift; shift; yyy=$@;
 case $# in 0) cont="";;
 2) xxf="echo \"but I found <\$1> $instead.\" >&4";
  xxnf="echo \"and I did not find <\$1> either.\" >&4";;
 *) xxf="echo \"but I found <\$1\> instead.\" >&4";
  xxnf="echo \"there is no <\$1>, ...\" >&4";;
```

```
 esac;
done;
?X: Remaining values are set to 'undef'
while $test "$yyy";
do set $yyy; var=$2; eval "was=\$$2";
 eval "case \"\$$var\" in $define) . ./whoa; esac"; eval "$var=\$tu";
 set $yyy; shift; shift; yyy=$@;
done'

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Inhdr.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: nis.U,v 3.0.1.3 1997/02/28 16:17:38 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
?RCS:
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:passcat
 groupcat hostcat: Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:groupcat:
```

```
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S: On some systems, such as os390, there may be no equivalent
?S: command, in which case this variable is unset.
?S:.
:
 see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
  case "$passcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the passwd file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) passcat='ypcat passwd'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='ypcat group'
@end
   ;;
  *) passcat='cat /etc/passwd'
@if groupcat
   echo "(Assuming /etc/group is also local.)"
   groupcat='cat /etc/group'
@end
   ;;
```

```
 esac
 ;;
esac
@end
@if hostcat
case "$hostcat" in
nidump*) ;;
*)
 case
"$hostcat" in
 *ypcat*) dflt=y;;
 ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
   dflt=y
  else
   dflt=n
  fi;;
 *) dflt=n;;
 esac
 echo " "
 rp='Are you getting the hosts file via yellow pages?'
 . ./myread
 case "$ans" in
 y*) hostcat='ypcat hosts';;
 *) hostcat='cat /etc/hosts';;
 esac
 ;;
esac
@end
fi
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
") test -f /etc/hosts && hostcat='cat /etc/hosts';;
esac
case "$groupcat" in
") test -f /etc/group && groupcat='cat /etc/group';;
esac
case "$passcat" in
") test -f /etc/passwd && passcat='cat /etc/passwd';;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/nis.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: kernel.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
```

```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: kernel.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:kernel: Getfile test
?MAKE: -pick add $@ %<
?S:kernel:
?S: This variable becomes the (fully rooted) path name of the kernel.
?S:.
: find the name of the kernel.
echo " "
case "$kernel" in
")
 if $test -r /unix; then
  dflt=/unix
 elif $test -r /vmunix; then
  dflt=/vmunix
 elif $test -r /xenix; then
  dflt=/xenix
 elif $test -r /mach; then
  dflt=/mach
 elif
 $test -r /dgux; then
  dflt=/dgux
 elif $test -r /hp-ux; then
  dflt=/hp-ux
 elif $test -r /syst; then
  dflt=/syst
 elif $test -r /arix; then
  dflt=/arix
 elif $test -r /irix; then
  dflt=/arix
 else
  dflt='unknown'
  set X /*x
  shift
  case $# in
  1)
   if $test -r "$1"; then
    dflt="$1"
   fi
   ;;
```

```
  esac
 fi
 ;;
*)
 dflt="$kernel"
 ;;
esac
fn=f
rp='What is the name of your kernel?'
. ./getfile
kernel="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/kernel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Csym.U,v 3.0.1.4 1995/07/25 13:36:29 ram Exp $
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4  1995/07/25  13:36:29  ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3  1995/05/12  12:00:33  ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/31  09:34:13  ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision
 3.0.1.1  1993/08/25  14:00:05  ram
?RCS: patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:50  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym mistrustnm extern_C: Options contains libc libs runnm test \
 +cc +optimize +ccflags +ldflags run rm_try _exe d_cplusplus
?MAKE: -pick add $@ %<
```

```
?LINT:define csym
?LINT:use libc
?LINT:extern mistrustnm
?LINT:set mistrustnm
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: whether a given C symbol is defined or not. A typical use is:
?S:  set symbol result [-fva] [previous]
?S:  eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?S:extern_C:
?S: ANSI C
 requires 'extern' where C++ requires 'extern "C"'. This
?S: variable can be used in Configure to do the right thing.
?S:.
?S:mistrustnm:
?S: This variable can be used to establish a fallthrough for the cases
?S: where nm fails to find a symbol.  If usenm is false or usenm is true
?S: and mistrustnm is false, this variable has no effect.  If usenm is true
?S: and mistrustnm is "compile", a test program will be compiled to try to
?S: find any symbol that can't be located via nm lookup.  If mistrustnm is
?S: "run", the test program will be run as well as being compiled.
?S:.
?V:csym
?T:tval tx tlook tf tdc
?F:!try
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tdc="";;
-a) tf=libc.tmp; tdc="[]";;
*) tlook="^$1\$"; tf=libc.list; tdc="()";;
esac;
case "$d_cplusplus" in
   $define) extern_C="extern \"C\"" ;;
   *)  extern_C="extern" ;;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
case "$tx"
```

```
 in
yes)
?X:
?X: Put symbol inside a printf to fool optimizing compilers...
?X:
?X: We use 'short' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'short' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lives so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the compile test, in case the 'short'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
 tval=false;
 if $test "$runnm" = true; then
  if $contains $tlook $tf >/dev/null 2>&1; then
   tval=true;
  elif $test "$mistrustnm"
 = compile -o "$mistrustnm" = run; then
   echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() !=
(void *)argv[0]) return(0); else return(1); }"> try.c;
   $cc -o try $optimize $ccflags $ldflags try.c >/dev/null 2>&1 $libs && tval=true;
   $test "$mistrustnm" = run -a -x try && { $run ./try$_exe >/dev/null 2>&1 || tval=false; };
   $rm_try;
  fi;
 else
  echo "$extern_C void *$1$tdc; void *(*(p()))$tdc { return &$1; } int main(int argc, char **argv) { if(p() && p() !=
(void *)argv[0]) return(0); else return(1); }"> try.c;
  $cc -o try $optimize $ccflags $ldflags try.c $libs >/dev/null 2>&1 && tval=true;
  $rm_try;
 fi;
 ;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;
 ;;
esac;
eval "$2=$tval"'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/Csym.U

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

```
?RCS: $Id: mailer.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mailer.U,v $
?RCS: Revision 3.0.1.3  1995/01/11  15:32:11  ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:10:04  ram
?RCS: patch23: ensure full path value is used for rmail also
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:14:18  ram
?RCS: patch16: now use _sendmail vars and friends for portability issues
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:10  ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:mailer: test cat rmail mail smail sendmail Getfile Oldconfig
?MAKE: -pick add $@ %<
?S:mailer:
?S: This variable contains the full pathname of a reasonable mailer.
?S: By reasonable, we mean some program which can understand internet
?S: addresses or at least forward them to some internet router. This
?S: mailer should be invoked as "mailer [options] recipients <mail".
?S:.
: determine the name of a reasonable mailer
case "$mailer" in
")
 if $test -f "$sendmail"; then
  dflt="$sendmail"
 elif $test -f "$smail"; then
  dflt="$smail"
 elif $test -f "$rmail"; then
  dflt="$rmail"
 elif $test -f /bin/mail; then
  dflt=/bin/mail
 else
  dflt=$mail
 fi
```

```
 ;;
*)  dflt="$mailer";;
esac
$cat <<EOM

I need the full pathname of the program used to deliver mail on your system.
A typical answer would be /usr/lib/sendmail or /bin/rmail, but you may choose
any other program, as long as it can be fed from standard input and will
honour any user-supplied headers.

EOM
fn=f
rp='Mail
 transport agent to be used?'
. ./getfile
mailer="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mailer.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cf_name.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: cf_name.U,v $
?RCS: Revision 3.0.1.2  1994/05/06  14:29:36  ram
?RCS: patch23: fixed user name computation from /etc/passwd in bsd systems
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:05:11  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:+cf_name: cf_by passcat Filexp nametype cat test
?MAKE: -pick add $@ %<
?S:cf_name:
?S: Full name of the person who ran the Configure script and
 answered the
?S: questions. This can be used by units that require the user's full name.
?S: This variable is for internal use only.
```

```
?S:.
?T:xxx fn NAME
: figure out their full name
case "$NAME" in
") case "$nametype" in
 other)
  fn=`./filexp ~/.fullname`
  xxx=usg
  $test -f $fn && xxx=other
  ;;
 *)
  xxx="$nametype"
  ;;
 esac

 case "$xxx" in
 bsd)
  cf_name=`$passcat | grep "^$cf_by:" | \
   sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
   -e 's/,.*//'`
  ;;
   usg)
  cf_name=`$passcat | grep "^$cf_by:" | \
   sed -e 's/^[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\):.*/\1/' \
   -e 's/[^-]*-\(.*\)(.*)/\1/'`
  ;;
 *)
  cf_name=`$cat $fn`
  ;;
 esac
 ;;
*)
 cf_name="$NAME"
 ;;
esac
?X:
?X: In the original unit, Graham asked for the user name, in case the above
?X: code was unable to figure it out correctly. Since now cf_name has been
?X: made an internal variable only (i.e. it is not saved in config.sh), letting
?X: the user override the computed default each time would be a pain.
?X:
 Therefore, I have decided to trust the above code to get it right, and for
?X: those rare cases where it will fail, too bad :-) --RAM.
?X:
echo " "
echo "Pleased to meet you, $cf_name."
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_name.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lns.U,v 3.0.1.1 1994/06/20 07:05:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
?X:
?MAKE:lns: ln rm touch
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic
 links (if they are supported).  It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 ; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/lns.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: getopt.C,v 3.0.1.1 1994/01/24 13:58:40 ram Exp ram $
*
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*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: unknown, got this off net.sources
*
* $Log: getopt.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:40  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/getopt.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: lex.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:22:50  ram
?RCS: patch36: spurious single quote could cause Configure to crash
?RCS: patch36: (reported by Xavier Le Vourch <xavierl@eiffel.com>.)
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:27:09  ram
?RCS: patch32: added lexflags variable for lex flags setting
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  15:06:01  ram
?RCS: patch23: added
 trailing blank line for metalint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:55  ram
```

```
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lex lexflags: Guess Myread Oldconfig flex test
?MAKE: -pick add $@ %<
?S:lex:
?S: This variable holds the name of the lexical analyser generator we
?S: want to use in the Makefile. It can be lex or flex.
?S:.
?S:lexflags:
?S: This variable holds any flags that should be passed to the lexical
?S: analyzer.  It is up to the Makefile to use it.
?S:.
: determine lexical analyser generator
case "$lex" in
")
 dflt=lex;;
*)
 dflt="$lex";;
esac
echo " "
if $test -f "$flex"; then
 rp='Which lexical analyser generator (lex or flex) shall I use?'
else
 rp='Which lexical analyser generator shall I use?'
fi
. ./myread
lex="$ans"

@if lexflags
: if using lex this will normally be useless, but flex frequently takes args
echo " "
case "$lexflags" in
") dflt='none';;
*) dflt="$lexflags";;
esac
rp="What flags should be given to $lex?"
. ./myread
case "$ans"
 in
none) lexflags='';;
*) lexflags="$ans";;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lex.U

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

```
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
./warn "no $xxx -- ignoring your setting for $file."
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't know where '$file' is, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
done
echo " "
echo "Don't worry if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
eval xxx=\$$file
case "$xxx" in
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
./warn "no $xxx -- ignoring your setting for $file."
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx
```

```
 $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't see $file out there, $say."
say=either
;;
esac
done
case "$egrep" in
egrep)
echo "Substituting grep for egrep."
egrep=$grep
_egrep=$_grep
;;
esac
@if ln
case "$ln" in
ln)
echo "Substituting cp for ln."
ln=$cp
_ln=$_cp
;;
esac
@end
@if make || gmake
case "$make" in
make)
case "$gmake" in
gmake)
echo "I can't find make or gmake, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
;;
esac
case "$gmake" in
gmake) ;;
```

```
*) # We can't have osname yet.
if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
# Assume that gmake, if found, is definitely GNU make
# and prefer it over the system make.
echo "Substituting gmake for make."
make=$gmake
_make=$_gmake
fi
;;
esac
@end
case "$test" in
test)
echo "Hopefully test is built into
 your sh."
;;
*)
if `sh -c "PATH= test true" >/dev/null 2>&1`; then
echo "Using the test built into your sh."
?X:
?X: We need to set both test and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
?X: we choose to load an old config.sh generated on another platform.
?X:
test=test
_test=test
fi
;;
esac
?LINT:change n c
case "$echo" in
echo)
echo "Hopefully echo is built into your sh."
;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
echo " "
echo "Checking compatibility between $echo and builtin echo (if any)..." >&4
$echo $n "hi there$c" >foo1
echo $n "hi there$c" >foo2
if cmp foo1 foo2 >/dev/null 2>&1; then
echo "They are compatible.  In fact, they may be identical."
else
case "$n" in
'-n') n='' c='\c';;
*) n='-n' c='';;
esac
```

```
cat <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built
 in and we may have to run some Bourne shell scripts.  That
means I'll have to use '$n$c' to suppress newlines now.  Life is ridiculous.

FOO
$echo $n "The star should be here-->$c"
$echo "*"
fi
$rm -f foo1 foo2
;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Loc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Null.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Null.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:10  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit ends up producing shell code to set all variables to ".  This
?X: probably isn't necessary, but I'm paranoid.  About certain things.
?X:
?MAKE:Null: Head
?MAKE: -pick add.Null $@ %<
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Null.U
No license file was found, but licenses were detected in source scan.

```
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```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/makegloss

```
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/bindex
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/fixcpp
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.mk
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorhtml1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml1dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml1dir vendorhtml1direxp installvendorhtml1dir: html1dir Getfile \
 Setprefixvar Oldconfig Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml1dir:
?S: This variable contains the name of the directory for html
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this
 directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml1direxp:
?S: This variable is the ~name expanded version of vendorhtml1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml1dir="
?S:installvendorhtml1dir:
?S: This variable is really the same as vendorhtml1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml1dir
: Set the vendorhtml1dir variables
case "$vendorprefix" in
") vendorhtml1dir="
```

```
 vendorhtml1direxp="
 ;;
*) : determine where vendor-supplied html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default suggestions would be welcome.
 case "$vendorhtml1dir"
 in
 '') dflt=`echo "$html1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml1dir ;;
 esac
 case "$dflt" in
 ''|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml1dir="$ans"
 vendorhtml1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml1dir" = "X" && vendorhtml1dir=' '
prefixvar=vendorhtml1dir
. ./installprefix

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorhtml1dir.U
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?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
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?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml1dir sitehtml1direxp installsitehtml1dir: Getfile \
 Setprefixvar prefix siteprefix html1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml1dir=''
?S:sitehtml1dir:
?S: This variable contains the name of the directory in which site-specific
?S: html source pages are to be put.  It is the responsibility of the
```

```
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml1direxp="
?S:sitehtml1direxp:
?S: This variable is the same as the sitehtml1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml1dir="
?S:installsitehtml1dir:
?S: This variable is really the same as sitehtml1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml1dir
?LINT:set sitehtml1dir
?LINT:set sitehtml1direxp
: determine where add-on html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case "$sitehtml1dir" in
")
   dflt=`echo "$html1dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml1dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific html pages should be installed?'
. ./getfile
prefixvar=sitehtml1dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitehtml1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: spitshell.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: spitshell.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:22:12  ram
?RCS: patch61: removed useless chatter as this is now done very early
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:37:01  ram
?RCS: patch45: use 'test -f' instead of 'test -r' for exec-only cat progs (WED)
?RCS: patch45: protected "sh -c" within backquotes for Linux and SGI
?RCS:
?RCS: Revision 3.0.1.2  1994/08/29  16:33:00  ram
?RCS: patch32: don't create spitshell under the UU directory
?RCS:
 patch32: allow for cat in /bin or /usr/bin
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:12:58  ram
?RCS: patch10: made #!-failure message more friendly (WAD)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:spitshell shsharp sharpbang: eunicefix sh Head
?MAKE: -pick add $@ %<
?S:spitshell:
?S: This variable contains the command necessary to spit out a runnable
?S: shell on this system.  It is either cat or a grep -v for # comments.
?S:.
?S:shsharp:
?S: This variable tells further Configure units whether your sh can
?S: handle # comments.
?S:.
?S:sharpbang:
?S: This variable contains the string #! if this system supports that
?S: construct.
?S:.
?F:!sharp
?T:xcat p
?X: "paths" comes from Head
?LINT:extern paths _exe
: see if sh knows # comments
?X: This is loaded up early, so avoid being chatty.
?X: echo " "
```

```
?X: echo "Checking your $sh to see if it knows about # comments..." >&2
if `$sh -c '#' >/dev/null 2>&1`; then
?X: echo
 "Your $sh handles # comments correctly."
 shsharp=true
 spitshell=cat
?X: echo " "
?X: echo "Okay, let's see if #! works on this system..."
 xcat=/bin/cat
 test -f $xcat$_exe || xcat=/usr/bin/cat
 if test ! -f $xcat$_exe; then
  for p in `echo $PATH | sed -e "s/$p_/ /g"` $paths; do
   if test -f $p/cat$_exe; then
    xcat=$p/cat
    break
   fi
  done
  if test ! -f $xcat$_exe; then
   echo "Can't find cat anywhere!"
   exit 1
  fi
 fi
 echo "#!$xcat" >sharp
 $eunicefix sharp
 chmod +x sharp
 ./sharp > today 2>/dev/null
 if test -s today; then
?X:  echo "It does."
  sharpbang='#!'
 else
  echo "#! $xcat" > sharp
  $eunicefix sharp
  chmod +x sharp
  ./sharp > today 2>/dev/null
  if test -s today; then
?X:   echo "It does."
   sharpbang='#! '
  else
?X:   echo "Okay, let's see if #! works on this system..."
?X:   echo "It's just a comment."
   sharpbang=': use '
  fi
 fi
else
 echo " "
 echo "Your $sh doesn't grok # comments--I will strip them later on."
 shsharp=false
?X: The
```

```
 spitshell script will be perused, so leave it out the UU directory
 cd ..
 echo "exec grep -v '^[  ]*#"' >spitshell
 chmod +x spitshell
 $eunicefix spitshell
 spitshell=`pwd`/spitshell
 cd UU
 echo "I presume that if # doesn't work, #! won't work either!"
 sharpbang=': use '
fi
rm -f sharp today
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/spitshell.U
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```
?RCS: $Id$
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?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
?X: to be used in all the other metaconfig units.
?X:
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs
?MAKE: -pick add $@ %<
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally
 by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
```

```
?S: OS/2 users will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile,
 except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs;'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Compile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Init.U,v 3.0.1.1 1994/10/31 09:45:59 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Init.U,v $
```

```
?RCS: Revision 3.0.1.1  1994/10/31  09:45:59  ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file
 initializes certain default variables used by Configure.  They
?X: may be overridden or added to by definitions in Myinit.U.
?X:
?MAKE:Init eunicefix: Null
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell.  On other systems it is a no-op.
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in
?X: the dependency line since this unit makes them visible via ?V:, and
?X: everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
?LINT:extern DJGPP
?LINT:extern _exe
?LINT:change _exe
?LINT:extern is_os2
: Detect odd OSs
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
rmlist=''

: We must find out about
 Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
```

```
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
: Amiga OS
  _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
: Stratus VOS
  _exe=".pm"
elif test -n "$DJGPP"; then
: DOS DJGPP
  _exe=".exe"
elif test -f /kern/cookiejar; then
: MiNT
  _exe=""
elif test -d c:/. -o -n "$is_os2" ; then
: OS/2 or cygwin
  _exe=".exe"
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Init.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
```

```
?X:
 This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Begin Myread Configdir contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
 dflt=n
 . ./myread
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
fi
if $needman; then
 cat <<EOH

This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a command.  Many of the questions will have
 default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that.  Questions where this is
allowed will be marked "(~name ok)".

EOH
 rp="
 dflt='Type carriage return to continue'
 . ./myread
 cat <<'EOH'
```

```
The prompter used in this script allows you to use shell variables and
backticks in your answers.  You may use $1, $2, etc...  to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell.  This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Everytime there is a substitution, you will have to confirm.  If there is an
error (e.g. an unmatched backtick), the default answer will remain unchanged
and you will be prompted
 again.

If you are in a hurry, you may run 'Configure -d'.  This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
 . ./myread
 cat <<EOH

Much effort has been expended to ensure that this shell script will run on any
Unix system.  If despite that it blows up on yours, your best bet is to edit
Configure and run it again.  If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand.  Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
  in this kit.
2) it builds a config.h file for inclusion in C programs.  You may edit
  any of these
 files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently.  The easiest thing to do is to edit config.sh and rerun all the SH
files.  Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
 dflt='Type carriage return to continue'
 . ./myread
 case "$firsttime" in
 true) echo $user >>../.config/instruct;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Instruct.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: longsize.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: longsize.U,v $
?RCS: Revision 3.0.1.2 1997/02/28 16:09:35 ram
?RCS: patch61: code moved to intsize.U
?RCS:
?RCS: Revision 3.0.1.1 1994/10/29 16:24:31 ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:07 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: 'longsize' is now defined within intsize.U
?X:
?LINT: empty

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/longsize.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
?RCS: Copyright (c) 1999, Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:full_ar: ar
?MAKE: -pick add $@ %<
?S:full_ar:
?S: This variable contains the full pathname to 'ar', whether or
?S: not the user has specified 'portability'. This is only used

```
?S: in the Makefile.SH.
?S:.
: Store the full pathname to the ar program for use in the C program
: Respect a hint or command line value for full_ar.
case "$full_ar" in
'') full_ar=$ar ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Loc_ar.U
No license file was found, but licenses were detected in source scan.

```
/*
* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises.  Note, however,
* that running config_h.SH again will wipe out any changes you've made.
* For a more permanent change edit $CONFIG_SH and rerun config_h.SH.
*
* \$Id: Config_h.U 1 2006-08-24 12:32:52Z rmanfredi $
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Config_h.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: contains.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: contains.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:contains: Nothing
?MAKE: -pick add $@ %<
?S:contains:
?S: This variable holds the command to do a grep with a proper return
?S: status.  On most sane systems it is simply "grep".  On insane systems
?S: it is a grep followed by a cat followed by a test.  This variable
```

```
?S: is primarily for the use of other Configure units.
?S:.
: Some
 greps do not return status, grrr.
echo "grimblepritz" >grimble
if grep blurfldyick grimble >/dev/null 2>&1 ; then
 contains=contains
elif grep grimblepritz grimble >/dev/null 2>&1 ; then
 contains=grep
else
 contains=contains
fi
rm -f grimble
: the following should work in any shell
case "$contains" in
contains*)
 echo " "
 echo "AGH!  Grep doesn't return a status.  Attempting remedial action."
 cat >contains <<'EOSS'
grep "$1" "$2" >.greptmp && cat .greptmp && test -s .greptmp
EOSS
chmod +x contains
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/contains.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libs.U,v 3.0.1.6 1997/02/28 16:09:11 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:09:11  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5  1995/07/25  14:12:05  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  16:24:22  ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
?RCS:
```

?RCS: Revision 3.0.1.3 1994/06/20 07:05:44 ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
?RCS: patch30:
 undone patch23 for libswanted default setting
?RCS:
?RCS: Revision 3.0.1.2 1994/05/06 15:08:45 ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1 1993/08/25 14:02:31 ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:03 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libs ignore_versioned_solibs libsfound libsfiles libsdirs libspath: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 usesocks sed uselongdouble usequadmath
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it. The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
?S:.
?S:libsdirs:
?S: This
 variable holds the directory names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:ignore_versioned_solibs:
?S: This variable should be non-empty if non-versioned shared
?S: libraries (libfoo.so.x.y) are to be ignored (because they
?S: cannot be linked against).
?S:.
?T:xxx yyy thislib thisdir libswanted libstyle
?D:libs="
?X:
?X: This order is chosen so that libraries -lndir, -ldir, -lucb, -lbsd,

```
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatibility
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
?X: -lc_s proceeds -lc so we pick up the shared library version,
 if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: default library list
?INIT:libswanted="
?INIT:: some systems want to use only the non-versioned libso:s
?INIT:ignore_versioned_solibs="
?LINT:extern usecbacktrace
?LINT:extern libscheck
?LINT:extern p
?LINT:use uselongdouble
: Looking for optional libraries
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
' '|'') dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
"$define") libswanted="$libswanted
 socks5 socks5_sh" ;;
esac
case "$usecbacktrace" in
"$define") libswanted="$libswanted bfd" ;;
esac
```

```
case "$usequadmath" in
"$define") libswanted="$libswanted quadmath" ;;
esac
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted; do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" -a "X$ignore_versioned_solibs" = "X"; then
 xxx=`ls $thisdir/lib$thislib.$so.[0-9] 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=shared
 xxx=`ls $thisdir/lib$thislib.[0-9].$so 2>/dev/null|sed -n '$p'`
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib$thislib.$so
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib$thislib$_a
        $test -f "$xxx"
&& eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/$thislib$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/lib${thislib}_s$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
 $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
 xxx=$thisdir/Slib$thislib$_a
        $test -f "$xxx" && eval $libscheck
 $test -f "$xxx" && libstyle=static
    fi
```

```
    if $test -f "$xxx"; then
  case "$libstyle" in
  shared) echo "Found -l$thislib (shared)." ;;
  static) echo "Found -l$thislib." ;;
  *)      echo "Found -l$thislib ($libstyle)." ;;
  esac
  case " $dflt " in
  *"-l$thislib "*);;
  *) dflt="$dflt -l$thislib"
                libsfound="$libsfound $xxx"
                yyy=`basename $xxx`
                libsfiles="$libsfiles $yyy"
                yyy=`echo $xxx|$sed -e
 "s%/$yyy\\$%%"`
                case " $libsdirs " in
                *" $yyy "*) ;;
                *) libsdirs="$libsdirs $yyy" ;;
                esac
    ;;
  esac
  break
    fi
 done
 if $test ! -f "$xxx"; then
    echo "No -l$thislib."
 fi
done
set X $dflt
shift
dflt="$*"
case "$libs" in
'') dflt="$dflt";;
*) dflt="$libs";;
esac
case "$dflt" in
' '|'') dflt='none';;
esac

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed.  Include any other special libraries here as well.
Say "none" for none.  The default list is almost always right.
EOM

echo " "
rp="What libraries to use?"
. ./myread
```

```
case "$ans" in
none) libs=' ';;
*) libs="$ans";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/libs.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: make.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: make.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:09:40  ram
?RCS: patch61: created
?RCS:
?MAKE:make_set_make : Loc rm sed make
?MAKE: -pick add $@ %<
?S:make_set_make:
?S: Some versions of 'make' set the variable MAKE.  Others do not.
?S: This variable contains the string to be included in Makefile.SH
?S: so that MAKE is set if needed, and not if not needed.
?S: Possible values are:
?S:
?S: make_set_make='#'  #
 If your make program handles this for you,
?S:
?S: make_set_make="MAKE=$make" # if it doesn't.
?S:
?S: This uses a comment character so that we can distinguish a
?S: 'set' value (from a previous config.sh or Configure -D option)
?S: from an uncomputed value.
?S:.
?LINT: extern MAKE
?LINT: change MAKE
?X: This test is based on one from an autoconf-generated configure
?X: script. Autoconf stole a lot from Configure, but now it's our
?X: turn to do so... ;-) -- RAM, 21/02/97
: check whether make sets MAKE
echo " "
```

```
echo "Checking if your $make program sets \$(MAKE)..." >&4
case "$make_set_make" in
")
?X: Use sed so we don't have a line begining with @echo.  Metaconfig
?X: will think that's a command like @if or @end.
 $sed 's/^X //' > testmake.mak << 'EOF'
Xall:
X  @echo 'maketemp="$(MAKE)"'
EOF
?X: GNU make sometimes prints "make[1]: Entering...", which would confuse us
 case "`$make -f testmake.mak 2>/dev/null`" in
 *maketemp=*) make_set_make='#' ;;
 *) make_set_make="MAKE=$make" ;;
 esac
 $rm
 -f testmake.mak
 ;;
esac
case "$make_set_make" in
'#') echo "Yup, it does.";;
*) echo "Nope, it doesn't.";;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/make.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: You may distribute under the terms of either the GNU General Public
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sigsetjmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sigsetjmp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: Original author Jarkko Hietaniemi <jhi@iki.fi>
```

```
?RCS: Merged into dist by Andy Dougherty  July 13, 1998
?RCS:
?MAKE:trnl: Nothing
?MAKE: -pick add $@ %<
?S:trnl:
?S: This variable contains the value to be passed to the tr(1)
?S: command to transliterate a newline.  Typical values are
?S: '\012' and '\n'.  This is needed for EBCDIC systems where
?S: newline is not necessarily '\012'.
?S:.
?T: DJGPP
: Find the appropriate value for a newline for tr
?X: We can't
 use $tr since that would cause a circular dependency via Myread
?X: dos djgpp uses '\015\012', but reportedly is happy with '\012' in the
?X: tr command.  I don't know why it passes the '\n' test but later
?X: refuses to work correctly with it.  --AD  6/14/98
if test -n "$DJGPP"; then
     trnl='\012'
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\n' x 2>/dev/null`" in
 foox) trnl='\n' ;;
 esac
fi
if test X"$trnl" = X; then
 case "`echo foo | tr '\012' x 2>/dev/null`" in
 foox) trnl='\012' ;;
 esac
fi
if test X"$trnl" = X; then
     case "`echo foo | tr '\r\n' xy 2>/dev/null`" in
     fooxy) trnl='\n\r' ;;
     esac
fi
if test X"$trnl" = X; then
 cat <<EOM >&2

$me: Fatal Error: cannot figure out how to translate newlines with 'tr'.

EOM
 exit 1
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/trnl.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:versiononly: cat Myread Setvar Devel
?MAKE: -pick add $@ %<
?LINT:set versiononly
?Y:TOP
?S:versiononly:
?S: If set, this symbol indicates that only the version-specific
?S: components of a perl installation should be installed.
?S: This may be useful for making a test installation of a new
?S: version without disturbing the existing installation.
?S: Setting versiononly is equivalent to setting installperl's -v option.
?S: In particular, the non-versioned scripts and programs such as
?S: a2p, c2ph, h2xs, pod2*, and perldoc
 are not installed
?S: (see INSTALL for a more complete list).  Nor are the man
?S: pages installed.
?S: Usually, this is undef.
?S:.
?LINT:extern inc_version_list
?LINT:change inc_version_list
?LINT:extern inc_version_list_init
?LINT:change inc_version_list_init
?LINT:extern version
: determine whether to use a version number suffix for installed binaries
echo " "
$cat <<EOM
Do you want to use a version number suffix for installed binaries? This
will install 'perl$version' instead of 'perl', and likewise for other
binaries like 'perldoc' and 'cpan'. This allows many versions of perl
to be installed side-by-side. Unless you are a developer, you probably
do *not* want to do this.
EOM
case "$versiononly" in
"$define"|[Yy]*|true) dflt='y' ;;
*) dflt='n';
esac
rp="Do you want to use a version number suffix for installed binaries?"
. ./myread
case "$ans" in
```

```
[yY]*) val="$define";;
*) val="$undef" ;;
esac
set versiononly
eval $setvar

case "$versiononly" in
"$define") inc_version_list="
        inc_version_list_init=0
       ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/versiononly.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: packadmin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?MAKE:packadmin: cf_email Oldconfig Myread cat spackage package
?MAKE: -pick add $@ %<
?Y:TOP
?S:packadmin:
?S: Electronic mail address of the package administrator.
?S:.
: check wehther they will act as local admin for the package
$cat <<EOM

If you or somebody else will be maintaining $package at your site, please
fill in the correct e-mail address here so that they may be contacted
if necessary.  You may enter "none"
 for no administrator.

EOM
case "$packadmin" in
") dflt="$cf_email";;
*) dflt="$packadmin";;
esac
rp="$spackage administrator e-mail address"
. ./myread
```

packadmin="$ans"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/packadmin.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: vendorprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorprefix.U,v $
?RCS: Revision 1.1 1999/07/08 18:32:57 doughera
?RCS: Initial revision
?RCS:
?MAKE:usevendorprefix vendorprefix vendorprefixexp +oldvendorprefix: \
 Getfile Loc Oldconfig cat prefix Myread
?MAKE: -pick add $@ %<
?S:usevendorprefix:
?S: This variable tells whether the vendorprefix
?S: and consequently other vendor* paths are in use.
?S:.
?S:vendorprefix:
?S: This variable holds the full absolute path of the directory below
?S: which
 the vendor will install add-on packages.
?S: See INSTALL for usage and examples.
?S:.
?S:vendorprefixexp:
?S: This variable holds the full absolute path of the directory below
?S: which the vendor will install add-on packages. Derived from vendorprefix.
?S:.
?S:oldvendorprefix:
?S: This variable is set non-null if the vendorprefix was previously defined
?S: and gets set to a new value. Used internally by Configure only.
?S:.
: Set the vendorprefix variables
$cat <<EOM

The installation process will also create a directory for
vendor-supplied add-ons. Vendors who supply perl with their system
may find it convenient to place all vendor-supplied files in this
directory rather than in the main distribution directory. This will

```
ease upgrades between binary-compatible maintenance versions of perl.

Of course you may also use these directories in whatever way you see
fit.  For example, you might use them to access modules shared over a
company-wide network.

The default answer should be
 fine for most people.
This causes further questions about vendor add-ons to be skipped
and no vendor-specific directories will be configured for perl.

EOM
rp='Do you want to configure vendor-specific add-on directories?'
case "$usevendorprefix" in
define|true|[yY]*) dflt=y ;;
*) : User may have set vendorprefix directly on Configure command line.
 case "$vendorprefix" in
 "|' ') dflt=n ;;
 *) dflt=y ;;
 esac
 ;;
esac
. ./myread
case "$ans" in
[yY]*) fn=d~+
 rp='Installation prefix to use for vendor-supplied add-ons?'
 case "$vendorprefix" in
 '') dflt="$prefix" ;;
 *)  dflt=$vendorprefix ;;
 esac
 . ./getfile
 : XXX Prefixit unit does not yet support siteprefix and vendorprefix
 oldvendorprefix=''
 case "$vendorprefix" in
 '') ;;
 *) case "$ans" in
  "$prefix") ;;
  *) oldvendorprefix="$prefix";;
  esac
  ;;
 esac
 usevendorprefix="$define"
 vendorprefix="$ans"
 vendorprefixexp="$ansexp"
 ;;
*) usevendorprefix="$undef"
 vendorprefix=''
 vendorprefixexp=''
```

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 ;;
esac

Found in path(s):
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorprefix.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: dlsrc.U,v$
?RCS:
?RCS: Copyright (c) 1996-1998, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: dlext.U,v $
?RCS:
?X:  hpux support thanks to Jeff Okamoto <okamoto@hpcc101.corp.hp.com>
?X:
?X:  To create a shared library, you must compile ALL source files in the
?X:  library with +z (or possibly +Z if the library is whopping huge),
?X:  then link the library with -b.  Example:
?X:   cc -c +z module_a.c
?X:   cc -c +z module_b.c
?X:   ld -b module_a.o module_b.o -o module.sl
?X:
?MAKE:dlext: \
 Getfile Myread cat usedl so
?MAKE: -pick add $@ %<
?Y:BOTTOM
?S:dlext:
?S: This variable contains the extension that is to be used for the
?S: dynamically loaded modules that perl generates.
?S:.
: Check what extension to use for shared libs
case "$usedl" in
$define|y|true)
 $cat <<
 EOM

On a few systems, the dynamically loaded modules that perl generates and uses
will need a different extension than shared libs. The default will probably
be appropriate.

EOM
 case "$dlext" in
 '') dflt="$so" ;;
 *) dflt="$dlext" ;;
```

```
 esac
 rp='What is the extension of dynamically loaded modules'
 . ./myread
 dlext="$ans"
 ;;
*)
 dlext="none"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/dlext.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun
 like everybody
?RCS: patch54: can now grok Linux nm output with lead __IO (ADO)
?RCS: patch54: added support for Linux ELF output, using 'W' for alias (ADO)
?RCS:
?RCS: Revision 3.0.1.7  1994/10/29  16:23:40  ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6  1994/08/29  16:28:10  ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
?RCS: Revision 3.0.1.5  1994/06/20  07:03:24  ram
?RCS: patch30: checks are now presented by succession of if/elif
```

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?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4  1994/05/06  15:06:33  ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3  1994/01/24  14:12:17  ram
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2  1993/09/13  16:09:03  ram
?RCS: patch10: added special handling for Apollo
 systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:40:03  ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libc +nm_extract: echo n c rm test grep Getfile Myread Oldconfig Loc \
 sed libs incpath libpth ar runnm nm nm_opt nm_so_opt contains xlibpth \
 so _a _o osname trnl tr sort uniq sysroot
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp
?LINT:extern PASE
?LINT:extern libnames
?LINT:change nm_opt
?INIT:libnames="
: Figure out where the libc is located
case "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
:
 get list of predefined functions in a handy place
echo " "
case "$libc" in
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
```

```
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
 -lc|-lc_s)
  : Handle C library specially below.
  ;;
 -l*)
  thislib=`echo $thislib | $sed -e 's/^-l//'`
  if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
   :
  else
   try=''
  fi
  libnames="$libnames $try"
  ;;
 *) libnames="$libnames $thislib" ;;
 esac
 done
 ;;
esac
?X:
?X: Some systems (e.g. DG/UX) use
 "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
```

```
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
?X: part is removed after sorting. Nice efficient work from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing
 pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set $sysroot/usr/ccs/lib/libc.$so
 $test -r $1 || set $sysroot/lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
 libc="$1"
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
?X:
 echo "Your C library seems to be in both /lib/clib
 and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
```

```
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc
 Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
 cat <<EOM

If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.

EOM
else
 dflt="
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:
```

```
EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...

EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
set X `cat libnames`
shift
xxx=files
case $# in 1) xxx=file; esac
echo
 "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
done >libc.tmp

$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
```

```
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval "<libc.tmp $com >libc.list"; echo "done." >&4'
?X:
 BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
?X: HP-UX 10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
?X: GNU extension: i is "indirect function"
xxx='[ADTSIWi]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$'
 libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
```

```
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: OS/2
 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[       ]*D[    ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
  echo "$nm didn't seem to work right. Trying $ar instead..." >&4
  com="
  if $ar t $libc > libc.tmp && \
   $contains '^fprintf$' libc.tmp >/dev/null 2>&1
  then
   for thisname in $libnames $libc; do
    $ar t $thisname >>libc.tmp
   done
   $sed -e "s/\\$_o\$//" < libc.tmp > libc.list
   echo
 "Ok." >&4
  elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
```

```
   for thisname in $libnames $libc; do
    $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
    $rm -f tmp.imp
   done
   $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
   echo "Ok." >&4
  else
   echo "$ar didn't seem to work right." >&4
   echo "Maybe this is a Cray...trying bld instead..." >&4
   if  bld t $libc | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
    $test -s libc.list
   then
    for thisname in $libnames; do
     bld t $libnames | \
     $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
     $ar t $thisname >>libc.tmp
    done
    echo "Ok." >&4
   else
    echo
 "That didn't work either.  Giving up." >&4
    exit 1
   fi
  fi
 fi
fi
nm_extract="$com"
case "$PASE" in
define)
   echo " "
   echo "Since you are compiling for PASE, extracting more symbols from libc.a ...">&4
   dump -Tv /lib/libc.a | awk '$7 == "/unix" {print $5 " " $8}' | grep "^SV" | awk '{print $2}' >> libc.list
   ;;
*)  if $test -f /lib/syscalls.exp; then
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
   fi
   ;;
esac
```

```
;;
esac
$rm -f libnames libpath
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/libc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Hasproto.U $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasproto string that is used internally
?X: by Configure to check if this system has a prototype for a
?X: particular function
?X:
?X: To use it, say something like:
?X:  set d_getnetent_proto getnetent $i_netdb netdb.h
?X:  eval $hasproto
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/types.h
?X:  $i_systime sys/time.h
?X:  $i_sysselct sys/select.h
?X:  $i_netdb netdb.h"
?X: set d_getnetent_proto getnetent $hdrs
?X: eval $hasproto
?X:
?X: There is also an 'escape' hatch built in.  If you have a pair
?X: of args   'literal 'stuff' then 'stuff' gets included literally
?X: into the test program.  See Protochk.U for more details.
?X:
?MAKE:Hasproto:
 Setvar cppstdin cppflags cppminus contains rm_try test
?MAKE: -pick add $@ %<
?T:func varname
?F:!try.c
?V:hasproto
: Define hasproto macro for Configure internal use
hasproto='varname=$1; func=$2; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 literal) echo "$2" ;;
 esac ;
   shift 2;
```

```
done > try.c;
$cppstdin $cppflags $cppminus < try.c > tryout.c 2>/dev/null;
if $contains "$func.*(" tryout.c >/dev/null 2>&1; then
 echo "$func() prototype found.";
 val="$define";
else
 echo "$func() prototype NOT found.";
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try tryout.c'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasproto.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libyacc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libyacc.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:09:19  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.3  1994/05/13  15:27:12  ram
?RCS: patch27: added byacc case (ADO)
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:09:01  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:49  ram
?RCS: patch16: un-obsoleted this unit for smooth yacc compilations
?RCS:
?RCS:
 Revision 3.0  1993/08/18  12:09:04  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libyacc: Loc yacc libpth _a
?MAKE: -pick add $@ %<
?S:libyacc:
?S: This variable contains the argument to pass to the loader in order
```

```
?S: to get the yacc library routines.  If there is no yacc or yacc
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -ly
echo " "
case "$yacc" in
*byacc*)
 echo "You are using byacc, so I won't look for a yacc library." >&4
 libyacc="
 ;;
*yacc)
 xxx=`./loc liby$_a x $libpth`
 case "$xxx" in
 x)
  echo "No yacc library found." >&4
  libyacc="
  ;;
 *)
  echo "yacc library found in $xxx." >&4
  libyacc="$xxx"
  ;;
 esac
 ;;
*bison*)
 echo "You are using bison, so I won't look for a yacc library." >&4
 libyacc="
 ;;
*)
echo "You don't seem to have yacc, so I won't look for the yacc library." >&4
 libyacc="
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libyacc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Options.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS:
 patch49: this unit now exports file optdef.sh, not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options:
 startsh
?MAKE: -pick wipe $@ %<
?V:reuseval alldone error realsilent silent extractsh fastread \
 knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp ccflags
?F:!Configure
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
```

```
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like    ./Configure -Dcc="gcc -B/usr/ccs/bin/"
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X:
 to worry too much.
cat > cmdline.opt <<EOSH
: Configure command line arguments.
config_arg0='$0'
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp="
args_sep="
for arg in "$@"; do
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by '"'"'
 cat <<EOC | sed -e "s/'/'\"'\"'/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification

 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
```

```
  i++;
 }
 opt[c]
= 1;
 }
}
{
 expect = 0;
 str = $0;
 if (substr(str, 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prepended to each
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
eval "set $*"
shift
rm -f options.awk
```

```
: set up default values
fastread="
reuseval=false
config_sh="
alldone="
error="
silent="
extractsh="
knowitall="
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:

: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
   echo "$me: cannot read config file $1."
 >&2
   error=true
  fi
  cd UU
  shift;;
 --help|\
 -h) shift; error=true;;
```

```
-r) shift; reuseval=true;;
-s) shift; silent=true; realsilent=true;;
-E) shift; alldone=exit;;
-K) shift; knowitall=true;;
-O) shift;;
-S) shift; silent=true; extractsh=true;;
-D)
 shift
 case "$1" in
 *=)
  echo "$me: use '-U symbol=', not '-D symbol='." >&2
  echo "$me: ignoring -D $1" >&2
  ;;
 *=*) echo "$1" | \
   sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
 *) echo "$1='define'" >> optdef.sh;;
 esac
 shift
 ;;
-U)
 shift
 case "$1" in
 *=) echo "$1" >> optdef.sh;;
 *=*)
  echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
  echo "$me: ignoring -U $1" >&2
  ;;
 *) echo "$1='undef'" >> optdef.sh;;
 esac
 shift
 ;;
-A)
    shift
    xxx=''
    yyy="$1"
    zzz=''
    uuu=undef
    case "$yyy" in
         *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
              case "$zzz" in
              *:*) zzz='' ;;
              *)   xxx=append

              zzz=" "`echo "$yyy"|sed 's!^[^=]*=!!'`
                   yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
              esac
              ;;
         esac
```

```
        case "$xxx" in
        '')  case "$yyy" in
            *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
                zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
                yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
            *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
                yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
            esac
            ;;
        esac
    case "$xxx" in
    append)
  echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
    clear)
  echo "$yyy=""   >> posthint.sh ;;
    define)
        case "$zzz" in
  '') zzz=define ;;
  esac
  echo "$yyy='$zzz'"  >> posthint.sh ;;
    eval)
  echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
    prepend)
  echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
    undef)

      case "$zzz" in
  '') zzz="$uuu" ;;
  esac
  echo "$yyy=$zzz"  >> posthint.sh ;;
        *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
    esac
    shift
    ;;
 -V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
    exit 0;;
 --) break;;
 -*) echo "$me: unknown option $1" >&2; shift; error=true;;
 *) break;;
 esac
done

case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
```

```
-d : use defaults for all answers.
-e : go on without questioning past the production of config.sh.
-f : specify an alternate default configuration file.
-h : print this help message and exit (with an error status).
-r : reuse C symbols value if possible (skips costly nm extraction).
-s : silent mode, only echoes questions and essential information.
-D : define symbol to have some value:
     -D symbol               symbol gets the
value 'define'
     -D symbol='some value'   symbol is set to 'some value'
   common used examples (see INSTALL for more info):
     -Duse64bitint           use 64bit integers
     -Duse64bitall           use 64bit integers and pointers
     -Dusethreads            use thread support
     -Dinc_version_list=none  do not include older perl trees in @INC
     -DEBUGGING=none          DEBUGGING options
     -Dcc=gcc                choose your compiler
     -Dprefix=/opt/perl5      choose your destination
-E : stop at the end of questions, after having produced config.sh.
-K : do not use unless you know what you are doing.
-O : ignored for backward compatibility
-S : perform variable substitutions on all .SH files (can mix with -f)
-U : undefine symbol:
     -U symbol    symbol gets the value 'undef'
     -U symbol=   symbol gets completely empty
   e.g.:  -Uversiononly
-A : manipulate symbol after the platform specific hints
have been applied:
     -A append:symbol=value   append value to symbol
     -A symbol=value          like append:, but with a separating space
     -A define:symbol=value   define symbol to have value
     -A clear:symbol          define symbol to be ''
     -A define:symbol         define symbol to be 'define'
     -A eval:symbol=value     define symbol to be eval of value
     -A prepend:symbol=value  prepend value to symbol
     -A undef:symbol          define symbol to be 'undef'
     -A undef:symbol=         define symbol to be ''
   e.g.:  -A prepend:libswanted='cl pthread '
          -A ccflags=-DSOME_MACRO
-V : print version number and exit (with a zero status).
EOM
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
```

```
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and
 cannot use $me, since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
case "$fastread$alldone" in
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true) exec 1>/dev/null;;
esac

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
?X: -q is POSIX
?X: It does not work in SysV (solaris) or old BSD greps.
grep '\\' optdef.sh >/dev/null 2>&1
if test $? = 0; then
   echo "Configure does not support \\
 in -D arguments"
   exit 1
fi
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Options.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Inlibc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Inlibc.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:55:08  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks for the definition of a given function.
?X:
?X: To use it, say:
?X: set function d_func
?X: eval $inlibc
?X:
?MAKE:Inlibc: Csym Whoa Oldconfig
?MAKE: -pick add $@ %<
?LINT:define inlibc
?V:inlibc
?S:inlibc:
?S: This
 shell variable is used internally by Configure to check
?S: wether a given function is defined or not. A typical use is:
?S:  set function d_func
?S:  eval $inlibc
?S: That will print a message, saying wether function was found or
?S: not and set d_func accordingly.
?S:.
?T:was tx sym tres td tu var
: define an is-in-libc? function
inlibc='echo " "; td=$define; tu=$undef;
sym=$1; var=$2; eval "was=\$$2";
tx=yes;
case "$reuseval$was" in
true) ;;
true*) tx=no;;
```

```
esac;
case "$tx" in
yes)
 set $sym tres -f;
 eval $csym;
 case "$tres" in
 true)
  echo "$sym() found." >&4;
  case "$was" in $undef) . ./whoa; esac; eval "$var=\$td";;
 *)
  echo "$sym() NOT found." >&4;
  case "$was" in $define) . ./whoa; esac; eval "$var=\$tu";;
 esac;;
*)
 case "$was" in
 $define) echo "$sym() found." >&4;;
 *) echo "$sym() NOT found." >&4;;
 esac;;
esac'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Inlibc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: AAAAA.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: AAAAA.U,v $
?RCS: Revision 3.0.1.4  1994/06/20  06:50:26  ram
?RCS: patch30: changes from Jarkko Hietaniemi are tagged with JHI
?RCS:
?RCS: Revision 3.0.1.3  1994/05/06  14:01:39  ram
?RCS: patch23: initials for Wayne Davison are now WED
?RCS: patch23: added initials for new unit contributor Andy Dougherty
?RCS:
?RCS: Revision 3.0.1.2  1994/01/24  14:01:09  ram
?RCS: patch16: make metalint shut up on special unit definition for All target
?RCS:
?RCS: Revision
 3.0.1.1  1993/09/13  15:43:57  ram
?RCS: patch10: documents initials used for Wayne Davison's contributions
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:44  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply the head of the Makefile created
?X: by metaconfig.  For this reason it must be first in alphabetical order.
?X: The leading '+' in front of the unit name is a hint for metalint, since
?X: the use of that special unit name as a "made" unit is legitimate here.
?X:
?MAKE:+All: Finish
?X:
?X: Throughout the units, the following initials are used to identify comments:
?X:
?X:  HMS: Harlan Stenn
?X:  RAM: Raphael Manfredi
?X:  WED: Wayne Davison (was WAD by mistake--RAM)
?X:  ADO: Andy Dougherty
?X:  JHI: Jarkko Hietaniemi
?X:
?X: Agreed, this is a weird place to document it, but I couldn't find a better
?X: place to do so. I've bet on the curiosity of users, who would probably
?X: want to know what's in this strangely-named file--RAM.
```

Found
in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/AAAAA.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extras.U,v$
?RCS:
?RCS: Copyright (c) 2001, Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:extras: Myread Oldconfig Setvar rm
?MAKE: -pick add $@ %<
?Y:TOP
?S:extras:
?S: This variable holds a list of extra modules to install.
?S:.
: See if we want extra modules installed
echo " "
case "$extras" in
'') dflt='n';;
*) dflt='y';;
esac
```

```
cat <<EOM
Perl can be built with extra modules or bundles of modules which
will be fetched from the CPAN and installed alongside Perl.

Notice that you will need access to the CPAN; either via the Internet,
or a local copy, for example a CD-ROM or a local CPAN mirror.  (You will
be asked later to configure the CPAN.pm module which will in turn do
the installation of the rest of the extra modules or bundles.)

Notice also that if the modules require
 any external software such as
libraries and headers (the libz library and the zlib.h header for the
Compress::Zlib module, for example) you MUST have any such software
already installed, this configuration process will NOT install such
things for you.

If this doesn't make any sense to you, just accept the default '$dflt'.
EOM
rp='Install any extra modules (y or n)?'
. ./myread
case "$ans" in
y|Y)
 cat <<EOM

Please list any extra modules or bundles to be installed from CPAN,
with spaces between the names.  The names can be in any format the
'install' command of CPAN.pm will understand.  (Answer 'none',
without the quotes, to install no extra modules or bundles.)
EOM
 rp='Extras?'
 dflt="$extras"
 . ./myread
 extras="$ans"
esac
case "$extras" in
"|'none')
 val="
 $rm -f ../extras.lst
 ;;
*) echo "(Saving the list of extras for later...)"
 echo "$extras" > ../extras.lst
 val="'$extras'"
 ;;
esac
set extras
eval $setvar
echo " "
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Extras.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorhtml3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorhtml3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorhtml3dir vendorhtml3direxp installvendorhtml3dir: html3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorhtml3dir:
?S: This variable contains the name of the directory for html
?S: library pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing
 in this directory.
?S: Vendors who distribute perl may wish to place their own
?S: html pages for modules and extensions in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorhtml3direxp:
?S: This variable is the ~name expanded version of vendorhtml3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorhtml3dir="
?S:installvendorhtml3dir:
?S: This variable is really the same as vendorhtml3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorhtml3dir
: Set the vendorhtml3dir variables
case "$vendorprefix" in
") vendorhtml3dir="
 vendorhtml3direxp="
```

```
 ;;
*) : determine where vendor-supplied module html pages go.
 : There is no standard location, so try to copy the previously-selected
 : directory structure for the core html pages.
 : XXX Better default
 suggestions would be welcome.
 case "$vendorhtml3dir" in
 '') dflt=`echo "$html3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorhtml3dir ;;
 esac
 case "$dflt" in
 ''|' ') dflt=none ;;
 esac
 fn=dn+~
 rp='Pathname for the vendor-supplied html pages?'
 . ./getfile
 vendorhtml3dir="$ans"
 vendorhtml3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorhtml3dir" = "X" && vendorhtml3dir=' '
prefixvar=vendorhtml3dir
. ./installprefix

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorhtml3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cf_who.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:28:50  ram
?RCS: patch61: new computation method avoiding use of temporary file
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:42:34  ram
?RCS: patch23: login name now computed the hard way
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:32  ram
?RCS: Baseline for dist 3.0 netwide release.
```

```
?RCS:
?X:
?X: Oldconfig dependency is there to ensure computation occurs after old values
?X: from config.sh have been loaded, so that we can supersede them.
?X:
?MAKE:cf_time
 cf_by: date Oldconfig
?MAKE: -pick add $@ %<
?S:cf_time:
?S: Holds the output of the "date" command when the configuration file was
?S: produced. This is used to tag both config.sh and config_h.SH.
?S:.
?S:cf_by:
?S: Login name of the person who ran the Configure script and answered the
?S: questions. This is used to tag both config.sh and config_h.SH.
?S:.
?LINT:change LC_ALL LANGUAGE
: who configured the system
?X: Ensure English date -- Jarkko Hietaniemi
cf_time=`LC_ALL=C; LANGUAGE=C; export LC_ALL; export LANGUAGE; $date 2>&1`
?X:
?X: Leave a white space between first two '(' for ksh. The sub-shell is needed
?X: on some machines to avoid the error message when logname is not found; e.g.
?X: on SUN-OS 3.2, (logname || whoami) would not execute whoami if logname was
?X: not found. Sigh!
?X:
?X: Convex had a broken logname executable which returned a non-zero status,
?X: and that broke the previous:
?X:   cf_by=`( (logname) 2>/dev/null || whoami) 2>&1`
?X: Switch to emergency
 mode... -- RAM, 19/04/94
?X:
?X: Parentheses needed to avoid error message if the program does not exist.
?X: Uses case instead of $test so it can be put before $test is defined.
?X: Don't redirect to a file because on Ultrix (under script?) logname
?X: outputs a blank line first.  This method will apparently work.
case "$cf_by" in
"")
 cf_by=`(logname) 2>/dev/null`
 case "$cf_by" in
 "")
  cf_by=`(whoami) 2>/dev/null`
  case "$cf_by" in
  "") cf_by=unknown ;;
  esac ;;
 esac ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_who.U
No license file was found, but licenses were detected in source scan.

* Feel free to modify any of this as the need arises. Note, however,

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/metaconfig.html
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: End.U,v 3.0 1993/08/18 12:04:51 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End perllibs: $W cppstdin gzip zip
 libs usedl osname osvers
?MAKE: -pick add $@ %<
?S:perllibs:
?S: The list of libraries needed by Perl only (any libraries needed
?S: by extensions only will by dropped, if using dynamic loading).
?S:.
?INIT:perllibs="
?LINT:use $W
?LINT:use gzip zip
?LINT:change cppstdin
: Remove libraries needed only for extensions
: The appropriate ext/Foo/Makefile.PL will add them back in, if necessary.
: The exception is SunOS 4.x, which needs them.
case "${osname}X${osvers}" in
sunos*X4*)
  perllibs="$libs"
  ;;
```

```
*) case "$usedl" in
  $define|true|[yY]*)
    set X `echo " $libs " | sed -e 's@ -lndbm @ @' -e 's@ -lgdbm @ @' -e 's@ -lgdbm_compat @ @' -e 's@ -ldbm @ @' -e 's@ -ldb @ @'`
    shift
    perllibs="$*"
    ;;
  *) perllibs="$libs"
    ;;
  esac
  ;;
esac

?X: If the user has the cppstdin wrapper, perl.c will try to call
?X: CPPSTDIN, but that will point to a location in the build
?X: directory, not the installed version!.  Here, we'll just strip the
?X: name down to 'cppstdin',
 and rely on the fact that perl.c will
?X: then call SCRIPTDIR/cppstdin, but local things like 'make depend'
?X: will continue to work.
: Remove build directory name from cppstdin so it can be used from
: either the present location or the final installed location.
echo " "
: Get out of the UU directory to get correct path name.
cd ..
case "$cppstdin" in
`pwd`/cppstdin)
 echo "Stripping down cppstdin path name"
 cppstdin=cppstdin
 ;;
esac
cd UU

: end of configuration questions
echo " "
echo "End of configuration questions."
echo " "
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/End.U
No license file was found, but licenses were detected in source scan.

Perl5 Metaconfig Units

Copyright (c) 1996-1998, Andy Dougherty
Copyright (c) 1999-2011, H.Merijn Brand
All rights reserved.

These units are the ones used to build Configure and config_h.SH
in the Perl5 distribution.

metaconfig will first look in its standard locations (specified when you
installed dist). It will then recurse through the 'U' subdirectory
and find any additional "private" units. Private units override
standard ones supplied with metaconfig.

Files in this directory:

README
  This file.

Glossary.patch
  The standard dist units contain some strings that make pod2man
  complain. This patch silences those warnings. As new units are
  added and Configure is regenerated, this patch may need more and more
  'fuzz' to be applied. It should be freshly regenerated every once
  in a while. See also mkgloss.pl

ln-all.pl
  Re-generate the all/ folder

mkglossary
  A script
 to regenerate Porting/Glossary. You have to manually
  edit the top of the script to point the location of your metaconfig
  units. It is called automatically by 'mksample'. See also mkgloss.pl

mkgloss.pl
  A perl script that calls U/mkglossary from the perl source tree, sorts
  the list of symbols, and applies the patch mentioned in Glossary.patch.
  When called on its own, redirect the output to a temporary file, and
  compare that file to Porting/Glossary before applying.

mksample
  A script to regenerate Porting/config.sh and Porting/config.H.
  It also calls mkglossary, if necessary.

Subdirectories:

The units and other related files have been broken up into the following
directories.

a_dvisory/
  These are units that have to go first in the generated config_h.SH.
  A word of explanation: Configure and config_h.SH are generated from 'Units'
  (the *.U files). Files indicate dependencies (using make(1)), and

Configure is built to follow those dependencies.
However, config_h.SH
is simply built by putting all the units in alphabetical order and
extracting the relevant lines. (This could be fixed, I suppose, but
it wasn't trivial the one time I looked.)
The a_dvisory/ directory, then, is a place to put units that need
to be early in config_h.SH. (Most units are self-contained
and ought to be able to go anywhere. However, some things, like
byteorder, need to have the #defines from multiarch available.)

acl/
This is an old patch to begin to detect and use ACL (access
control list) file protection schemes.

all/
A folder that conveniently holds symbolic links to all the modules
that are used to build the current Configure and config_h.SH.

compline/
These are similar to the standard units, but I have modified them
to have a more uniform compile command line, usually using the
new Compile.U unit. (The ccflags.U unit is perl-specific since it
mentions -DDEBUGGING and
-DPOSIX_SOURCE, but that's the only place
it is perl-specific.)

dist_patches/
These are patches to dist that must be applied before it is built
and installed. I have submitted these for inclusion in the
regular dist distribution. They have already been applied
to the ../dist-3.0at70b directory.

ebcdic/
These are units that had to be specially modified to work under
either EBCDIC or ASCII.

installdirs/
These are units to handle perl's installation directories and
related issues.

modified/
These are modified versions of the standard units. Also included in
this directory are new units that are clearly derived from existing
units. I have submitted these for inclusion in the regular dist
distribution.

nullified/
These are null units that replace units in the standard

distribution. Typically they are there because some part of the
perl source accidentally uses a symbol that metaconfig thinks means we
want the corresponding
unit.

perl/
These are specific to perl. Some are heavily derived from
original dist units, and are marked as such. Others are original.

perl_patches/
These are patches to the perl source. This directory
should ordinarily be empty, but there may have been drift between
the standard version of perl and the one associated with these
units.

protos/
These are units modified to use the new Hasproto.U or Protochk.U
units to check for prototypes.

threads/
These are specific to threading perl.

typedefs/
These are standard units modified to use the modified Typedef.U
unit to check for typedefs. (The modified Typdef.U includes a
function to avoid unnecessary prompts if the typdef being searched
for exists.)

Where appropriate, I submitted these units for inclusion into the
regular dist distribution. However, since dist is no longer actively
maintained, and the alternative is for *me* to actively maintain it,
the units just
sit here.

Copyright Information:

Unless otherwise indicated, the files contained in this
distribution are:

Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in
this distribution:

You may distribute the files contained in this distribution
under the terms of either

a) the "Artistic License" which comes with Perl, or

b) the "Artistic License" which comes with dist, or

c) the GNU General Public License as published by the Free
Software Foundation; either version 1, or (at your option) any
later version (see the file "Copying" that comes with the
Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified
license as contained in dist-3.0-pl60 provides:

7. You may reuse parts of this Package in your own programs, provided
that you explicitly state where you got them from, in the source code
(and, left to your courtesy, in the documentation), duplicating
all the associated copyright notices and disclaimers. Besides
your changes, if any, must be clearly marked as such. Parts reused
that way will no longer fall under this license if, and only if,
the name of your program(s) have no immediate connection with the
name of the Package itself or its associated programs. You may then
apply whatever restrictions you wish on the reused parts or choose
to place them in the Public Domain--this will apply only within the
context of your package.

In accordance with this clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences
between these units and the standard versions, please
feel free to ask.

Andy Dougherty doughera@lafayette.edu
Dept. of Physics
Lafayette College
Easton, PA 18042-1782

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/README
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Chk_MANI.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_MANI.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:57:25  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/31  09:33:14  ram
?RCS: patch44: now lists Begin instead of Myinit in its dependencies
?RCS: patch44: leading comment now explains how this unit is included
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:45  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit checks the package by making sure
 every file listed in MANIFEST
?X: is present. It is systematically "included" via the Finish unit (which
?X: is always present in every Configure script), although it may result in
?X: an empty inclusion when no MANIFEST is present.
?X:
?MAKE:Chk_MANI: Begin c n rsrc
?MAKE: -pick wipe $@ %<
?T:filelist ans tmppwd
?X: This check happens at metaconfig-time, so it's ok to hard-code the path.
@if {test -f ../MANIFEST}
: Now test for existence of everything in MANIFEST
echo " "
if test -f "$rsrc/MANIFEST"; then
 echo "First let's make sure your kit is complete.  Checking..." >&4
?X:
?X: Files spelled uppercased and beginning with PACK are produced by the
?X: shell archive builder and may be removed by the user. Usually, they are
?X: not listed in the MANIFEST file, but you never know...
?X:
?X: "split -l" is the new way of running a split, but we also try the older way
?X:
 awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
  (split -l 50 2>/dev/null || split -50)
 rm -f missing
 tmppwd=`pwd`
```

```
 for
 filelist in x??; do
  (cd "$rsrc"; ls `cat "$tmppwd/$filelist"` \
   >/dev/null 2>>"$tmppwd/missing")
 done
 if test -s missing; then
  cat missing >&4
  cat >&4 <<'EOM'

THIS PACKAGE SEEMS TO BE INCOMPLETE.

You have the option of continuing the configuration process, despite the
distinct possibility that your kit is damaged, by typing 'y'es.  If you
do, don't blame me if something goes wrong.  I advise you to type 'n'o
and contact the author (<MAINTLOC>).

EOM
?X: Can't use $echo at this early stage
  echo $n "Continue? [n] $c" >&4
  read ans
  case "$ans" in
  y*)
   echo "Continuing..." >&4
   rm -f missing
   ;;
  *)
?X:
?X: Use kill and not exit, so that the trap gets executed to clean up
?X:
   echo "ABORTING..." >&4
   kill $$
   ;;
  esac
 else
  echo "Looks good..."
 fi
else
 echo "There is no MANIFEST file.  I hope your kit is complete !"
fi
rm -f missing x??

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Chk_MANI.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: install.U 1 2006-08-24 12:32:52Z rmanfredi $
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: install.U,v $
?RCS: Revision 3.0.1.2  1995/09/25  09:16:37  ram
?RCS: patch59: all possible install programs are now looked for
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:30:41  ram
?RCS: patch45: created
?RCS:
?MAKE:install installdir: Loc Oldconfig Getfile cat test startsh rm +cc \
 eunicefix package contains mkdir echo n c
?MAKE: -pick add $@ %<
?S:install:
?S: This variable contains the name of an install program that can accept
?S: BSD-style arguments.
 It must correctly support -c, -s, and -m at least.
?S: It is a fully qualified pathname when found. If you have a local
?S: install.SH file at the root directory of your package, it is assumed to
?S: be the default script emulating a BSD install and the variable will be
?S: set to ./install. Otherwise, it is set to plain 'install', relying on
?S: the user's PATH to perform miracles.
?S:.
?S:installdir:
?S: This variable contains the name of a program that can install nested
?S: directories. Often set to 'mkdir -p', it can also be 'install -d' if
?S: you have such a beast and lack the former. If you have an install.SH
?S: file at the root directory of your package, it will be used in last
?S: resort, setting the variable to './install -d'. Otherwise, it is set to
?S: plain 'mkdir', and cross your fingers!
?S:.
?T:dir file tryit prog creatdir either
?F:!tryinst
: locate a BSD compatible install program
echo " "
echo "Looking for a BSD-compatible install program..." >&4
@if installdir
creatdir="
@end
case
 "$install" in
")
```

```
 tryit="
 for dir in $pth; do
  for file in ginstall installbsd scoinst install; do
   if $test -f $dir/$file; then
    tryit="$tryit $dir/$file"
   fi
  done
 done
 $cat >try.c <<EOC
int main()
{
 printf("OK\n");
 exit(0);
}
EOC
 if $cc -o try try.c >/dev/null 2>&1; then
  cp try try.ns
  strip try >/dev/null 2>&1
 else
  echo "(I can't seem to compile a trivial C program -- bypassing.)"
  echo "try" >try
  cp try try.ns
 fi
 $cat >tryinst <<EOS
$startsh
$rm -rf foo d
@if installdir
\$1 -d foo/bar
@end
$mkdir d
\$1 -c -m 764 try.ns d
\$1 -c -s -m 642 try.ns d/try
EOS
 chmod +x tryinst
 $eunicefix tryinst
 dflt="
 either="
 for prog in $tryit; do
  $echo $n "Checking $prog... $c"
  ./tryinst $prog >/dev/null 2>&1
@if installdir
  if $test -d foo/bar; then
   creatdir="$prog -d"
  fi
@end
  (ls -l d/try >try.ls; ls -l d/try.ns >tryno.ls) 2>/dev/null
  if (cmp -s d/try try && cmp -s d/try.ns try.ns && \
   $contains 'rwxrw-r--' tryno.ls &&
```

```
\
  $contains 'rw-r---w-' try.ls) >/dev/null 2>&1
 then
  dflt="$prog"
  echo "ok, that will do."
  break
 fi
 echo "not good$either."
 either=' either'
 $rm -f try*.ls
done
$rm -rf foo d tryinst try try*.ls try.*
case "$dflt" in
")
@if {test -f ../install.SH}
  echo "Hopefully, $package comes with its own install script!"
  dflt='./install'
@else
  dflt='install'
@end
  ;;
 esac
 ;;
*) dflt="$install";;
esac
$cat <<EOM

I will be requiring a BSD-compatible install program (one that allows
options like -s to strip executables or -m to specify a file mode) to
install $package.

If the question below contains a fully qualified default path, then it
is probably ok. If it is an unqualified name such as 'install', then it
means I was unable to find out a good install program I could use. If
@if {test -f ../install.SH}
you know of one, please tell me about it. If the default is './install',
then I shall be using the install script supplied with $package.
@else
you know of one,
 please tell me about it.
@end

EOM
@if {test -f ../install.SH}
fn='/fe~(install,./install)'
@else
fn='/fe~(install)'
@end
```

```
rp='Which install program shall I use?'
. ./getfile
install="$ans"

@if installdir
: how can we create nested directories?
echo " "
echo "Ok, let's see how we can create nested directories..." >&4
case "$installdir" in
")
?X: First time, maybe we already found out a working one in $creatdir above...
?X: Prefer "mkdir -p" because of bugs in GNU install when not running as root
 $mkdir -p foo/bar >/dev/null 2>&1
 if $test -d foo/bar; then
  echo "Great, we can build them using 'mkdir -p'."
  creatdir='mkdir -p'
 else
  case "$creatdir" in
  ")
   if eval "$install -d foo/bar"; $test -d foo/bar; then
    creatdir="install -d"
    echo "It looks like '$creatdir' will do it for us."
   fi
   ;;
  *)
   eval "$creatdir foo/bar" >/dev/null 2>&1
   if $test -d foo/bar; then
    echo "Ah! We can use '$creatdir' to do just that."
   else
    creatdir="
   fi
   ;;
  esac
 fi
 $rm
 -rf foo
 case "$creatdir" in
 ")
  echo "Heck! Another ancient system lacking the comfort of modern ones!"
@if {test -f ../install.SH}
  echo "You can thank $package for bringing you its own install script!"
  installdir='./install -d'
@else
  echo "We have no choice but to use plain old 'mkdir' -- wish me luck!"
  installdir=mkdir
@end
  ;;
 *) installdir="$creatdir";;
```

```
 esac
 ;;
*) echo "As you already told me, '$installdir' should work.";;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/install.U
No license file was found, but licenses were detected in source scan.

```
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:     You may distribute under the terms of either the GNU General Public
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/archlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/a_dvisory/multiarch.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/startperl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_portable.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/privlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perlpath.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: etc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: etc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:etc etcexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:etc:
?S: This variable holds the name of the directory in which the user wants
?S: to put "administrative" executable images for the package in question.
?S: It is most often a local directory such as /usr/local/etc. Programs
?S: relying on this variable must be prepared to deal with
 ~name
?S: substitutions.
?S:.
?S:etcexp:
```

```
?S: This is the same as the etc variable, but is filename expanded at
?S: configuration time, for convenient use in makefiles.
?S:.
: determine where administrative executables go
case "$etc" in
")
 dflt=`./loc . /local/etc /usr/local/etc /local/etc /usr/etc /etc`
 ;;
*)
 dflt="$etc"
 ;;
esac
fn=d~
rp='Where should the administrative executables go?'
. ./getfile
etc="$ans"
etcexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/etc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: h_fcntl.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_fcntl.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:12  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_fcntl: Nothing
?MAKE: -pick add $@ %<
?S:h_fcntl:
?S: This is variable gets set in various places to tell i_fcntl that
?S: <fcntl.h> should be included.
?S:.
: Initialize h_fcntl
h_fcntl=false
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/h_fcntl.U

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

```
?RCS: $Id: Extract.U,v 3.0.1.2 1997/02/28 14:58:52 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running
 Configure from a remote directory ($src is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: src
?MAKE: -pick add $@ %<
?F:./extract
?T:PERL_CONFIG_SH dir file name create mkdir_p
: script used to extract .SH files with variable substitutions
cat >extract <<'EOS'
PERL_CONFIG_SH=true
echo "Doing variable substitutions on .SH files..."
if test -f MANIFEST; then
 set x `awk '{print $1}' < MANIFEST | grep '\.SH$'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$src"; find . -name "*.SH" -print)`
fi
shift
case $# in
0) set x `(cd "$src"; echo *.SH)`; shift;;
esac
```

```
if test ! -f "$src/$1"; then
 shift
fi
?X: script to emulate mkdir -p
mkdir_p='
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create";
  name=`echo $name | sed -e "s|^[^/]*$||"`;
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`;
 else
  name="";
 fi;
done;
for file in $create; do
 mkdir $file;
done
'
for file in $*;
 do
 case "$src" in
 ".")
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (cd "$dir" && . ./$file)
   ;;
  *)
   . ./$file
   ;;
  esac
  ;;
 *)
?X:
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
```

```
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to
 be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
?X:  -- RAM, 18/03/96
?X:
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (set x $dir; shift; eval $mkdir_p)
   sh <"$src/$dir/$file"
   ;;
  *)
   sh <"$src/$file"
   ;;
  esac
  ;;
 esac
done
if test -f "$src/config_h.SH"; then
 if test ! -f config.h; then
 : oops, they left it out of MANIFEST, probably, so do it anyway.
 . "$src/config_h.SH"
 fi
fi
EOS
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Extract.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: rename.C,v 3.0.1.1 1994/01/24 13:58:42 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: rename.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:42  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/rename.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure proper semantics. -- RAM, 15/03/96
?X:
?MAKE:Extractall:
 Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
 esac
 echo " "
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
 test "$override" && . ./optdef.sh
```

```
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
 rm -rf UU
 echo "Extraction done."
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Extractall.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may distribute under the terms of either the GNU General Public
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_timegm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_random_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_frexpl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_crypt_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getnetbyaddr_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fmax.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_inetntop.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_tmpnam_r.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/usethreads.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usequadmath.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_sysstatfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_towupper.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_mntent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gethostbyaddr_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_isnan.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_readdir64_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_cmsghdr_s.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_statvfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtoll.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_timefuncs64.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llroundl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setpwent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_endgrent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Cross.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getservent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lgamma.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llrintl.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setgrent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strlcat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/libperl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getservbyport_r.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_ttyname_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lgamma_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usedtrace.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_off64_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_log1p.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_setnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fma.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/atoll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_finite.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_setitimer.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_ctime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtold.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nan.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpgetround.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getnbynm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strtoull.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getnbyad.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/dtraceobject.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_faststdio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getitimer.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpos64_t.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_qgcvt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strftime.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_finitel.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_gmtime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/infnan.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/usemorebits.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fpclassify.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strlcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getnetent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getpwuid_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lrint.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_aintl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ftello.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getgrnam_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getprotobyname_r.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_copysignl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_asctime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ualarm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_getpwent_r.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_ieeefp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sendmsg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/ebcdic/ebcdic.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_unsetenv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/uidf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_exp2.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_lroundl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strnlen.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/mantbits.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/atolf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getaddrinfo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_localtime_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_nl_langinfo.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_sethostent_r.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/defaultincdot.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ilogbl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_cplusplus.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fstatfs.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/longdblfio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_log2.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_llround.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_fp_classl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_memmem.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_ustat.U
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#  of the source tree for dist 4.0.
#
# Original Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedepend.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:05  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:37  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/makedepend.SH
No license file was found, but licenses were detected in source scan.

```
# $Id: errnolist.a,v 3.0 1993/08/18 12:04:35 ram Exp ram $
#
```

```
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#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.a,v $
# Revision 3.0  1993/08/18 12:04:35  ram
# Baseline for dist 3.0 netwide release.
#
#
# This is a simple-minded awk script to generate an initialization for
# sys_errnolist on systems that don't have it.
# This file now depends only on sys/errno.h error numbers under maxerr being
# in order.  It will complain and die if not.  NOTE: It will still produce
# a compilable output file, even with errors, so you must
 check the output.

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.a
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998 Jarkko Hietaniemi
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasfield string that is used internally
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat st_blocks i_sysstat sys/stat.h
?X:  eval $hasfield
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat st_blocks $hdrs
?X: eval $hasfield
?X:
```

```
?MAKE:Hasfield: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct field
?V:hasfield
: Define hasfield macro for Configure internal use
hasfield='varname=$1;
 struct=$2; field=$3; shift; shift; shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
echo "int main () { struct $struct foo; char* bar; bar = (char*)foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasfield.U
No license file was found, but licenses were detected in source scan.

```
# $Id: makedir.sh,v 3.0.1.1 1994/01/24 14:00:08 ram Exp ram $
#
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#  of the source tree for dist 4.0.
#
# Original Author: Larry Wall <lwall@netlabs.com>
#
# $Log: makedir.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:08  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:38  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/makedir.SH
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so: test libpth Loc Myread Oldconfig cat
?MAKE: -pick add $@ %<
?S:so:
?S: This variable holds the extension used to identify
 shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?T: xxx
: compute shared library extension
case "$so" in
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
  dflt='sl'
 else
  dflt='so'
 fi
 ;;
*) dflt="$so";;
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
```

of this configuration.

EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/so.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Csym.U,v $
?RCS: Revision 3.0.1.4 1995/07/25 13:36:29 ram
?RCS: patch56: re-arranged compile line to include ldflags before objects
?RCS: patch56: added quotes for OS/2 support
?RCS:
?RCS: Revision 3.0.1.3 1995/05/12 12:00:33 ram
?RCS: patch54: fixed C test program to bypass gcc builtin type checks (ADO)
?RCS:
?RCS: Revision 3.0.1.2 1994/10/31 09:34:13 ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.1 1993/08/25 14:00:05 ram
?RCS:
 patch6: added ldflags as a conditional dependency and to compile line
?RCS: patch6: a final double quote was missing in csym variable after eval
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:50 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Csym: Options contains libc libs runnm +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?LINT:define csym
?LINT:use libc
?S:csym:
?S: This shell variable is used internally by Configure to check
?S: wether a given C symbol is defined or not. A typical use is:
?S: set symbol result [-fva] [previous]

```
?S:  eval $csym
?S: That will set result to 'true' if the function [-f], variable [-v]
?S: or array [-a] is defined, 'false' otherwise. If a previous value is
?S: given and the -r flag was provided on the command line, that value
?S: is reused without questioning.
?S:.
?V:csym
?T:tval tx tlook tf tdc tc
: is a C symbol defined?
csym='tlook=$1;
case "$3" in
-v) tf=libc.tmp; tc=""; tdc="";;
-a) tf=libc.tmp; tc="[0]"; tdc="[]";;
*) tlook="^$1\$";
 tf=libc.list; tc=""; tdc="()";;
esac;
tx=yes;
case "$reuseval-$4" in
true-) ;;
true-*) tx=no; eval "tval=\$$4"; case "$tval" in "") tx=yes;; esac;;
esac;
case "$tx" in
yes)
 case "$runnm" in
 true)
  if $contains $tlook $tf >/dev/null 2>&1;
  then tval=true;
  else tval=false;
  fi;;
 *)
?X:
?X: We use 'char' instead of 'int' to try to circumvent overzealous
?X: optimizing compilers using built-in prototypes for commonly used
?X: routines to complain when seeing a different external declaration. For
?X: instance, gcc 2.6.3 fails if we use 'int' and we attempt a test against
?X: memcpy() on machines where sizeof(int) == sizeof(char *) (the usual return
?X: type), the compiler assuming it's a built-in declaration given that the
?X: returned size matches. At least with 'char' we are safe! -- RAM, for ADO
?X:
?X: Let's thank GNU cc for making our lifes so easy! :-)
?X: (An alternative for the future would be to use our knowledge about gcc
?X: to force a -fno-builtin option in the
 compile test, in case the 'char'
?X: trick is obsoleted by future gcc releases). -- RAM
?X:
?X: Lastly, gcc 3.4 otimizes &missing == 0 away, so we use + 2 instead now.
?X: The GNU folks like to do weird things, don't they? -- RAM, 2004-06-05
?X:
```

```
 echo "extern char $1$tdc; int main() { return &$1$tc + 2; }" > t.c;
 if $cc $ccflags $ldflags -o t t.c $libs >/dev/null 2>&1;
 then tval=true;
 else tval=false;
 fi;
 $rm -f t t.c;;
esac;;
*)
 case "$tval" in
 $define) tval=true;;
 *) tval=false;;
 esac;;
esac;
eval "$2=$tval"'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Csym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: MailAuthor.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailAuthor.U,v $
?RCS: Revision 3.0.1.5  1997/02/28  15:04:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.4  1994/08/29  16:05:09  ram
?RCS: patch32: avoid message sending if they said no previously
?RCS:
?RCS: Revision 3.0.1.3  1993/10/16  13:47:30  ram
?RCS: patch12: now makes sure user-specified address is in Internet format
?RCS:
?RCS: Revision
 3.0.1.2  1993/09/13  15:48:49  ram
?RCS: patch10: reverted to original intent by the Author himself
?RCS:
?RCS: Revision 3.0.1.1  1993/08/27  14:38:38  ram
?RCS: patch7: now prompts user for its e-mail address
?RCS: patch7: no longer silent when mail has been sent
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:06  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?RCS:
?X:
?X: This unit asks the user to please send a message to the author.
?X: To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: This allows a smart mailagent program to automatically let users know
?X: when their package is out of date, and to allow users to be notified of
?X: any future patches.
?X:
?MAKE:MailAuthor mailpatches notifypatches usermail: test cat mailer \
 package Myread patchlevel baserev rm rsrc Oldconfig Configdir
?MAKE: -pick wipe $@ %<
?S:mailpatches:
?S: Indicates whether the user would like future patches to be mailed
?S: directly
 to them.
?S:.
?S:notifypatches:
?S: Indicates whether the user would like notification of future patches
?S: mailed to them.
?S:.
?S:usermail:
?S: This variable is used internally by Configure to keep track of the
?S: user e-mail address, where notifications or patches should be sent.
?S: A '-' value means the return address will be extracted by parsing
?S: the mail headers.
?S:.
?T:opt mailpatches notifypatches atsh status
: notify author that his package is used
if $test -f ../.config/mailauthor &&
 cmp $rsrc/patchlevel.h ../.config/mailauthor >/dev/null 2>&1
then
 status="say that you're using $package";
 case "$mailpatches" in
 true) status='have patches mailed to you as they are issued';;
 esac
 case "$notifypatches" in
 true) status='be notified when new patches are issued';;
 esac
 $cat <<EOM

You have already sent the author of $package (<MAINTLOC>) mail to
$status. If you wish, you may modify
your previous request by sending a new mail with different options.
```

```
EOM
 rp='Should
 I send a status update to <MAINTLOC>?'
 dflt=n
else
 $cat <<EOM

If you are able to send mail to the Internet, the author of $package would
really appreciate you letting me send off a quick note, just to say that you've
tried it. The author is more likely to spend time maintaining $package if it's
known that many people are using it, and you can even ask to get sent new
patches automagically this way if you wish. To protect your privacy, all I'll
say in the mail is the version of $package that you're using.

EOM
 rp='Should I send mail to <MAINTLOC>?'
 dflt=y
?X: Ensure default is 'n' if question has been asked already, in case they
?X: run Configure -d next time and answered 'n' the first time. Therefore,
?X: an empty nomail will be created later on even if no mail is sent.
 $test -f ../.config/nomail && dflt=n
fi
. ./myread
case "$ans" in
[yY]*)
 echo " "
 echo "Great! Your cooperation is really appreciated."
 $cat <<EOM

Some braindead sites do not set a proper return
 address in the From: header of
their outgoing mail, making it impossible to reply to mail they generate.
If your site is broken in this way, write to your system administrator and get
it fixed!!! In the mean time, you can manually specify the Internet e-mail
address by which the author can get back to you, should there be a need to do
so. If manually specified, it should be something like "user@domain.top".
If your mail system generates addresses correctly, specify "none".

EOM
 case "$usermail" in
 '-'|'') dflt=none;;
 *) dflt="$usermail";;
 esac
 rp='Manually specify a return address to use:'
 . ./myread
 case "$ans" in
 none|*@*.*)
```

```
 case "$ans" in
 none) usermail='-';;
 *) usermail="$ans";;
 esac
 ;;
*)
 echo "(Address does not look like an Internet one -- ignoring it.)"
?X:
?X: If we can't trust their mailer or their return address, it's highly
?X: suggested that they only register and don't ask to get anything from
?X: the author, since it's likely to bounce in null-land --
 RAM.
?X:
 usermail='-'
 mailpatches=false
 notifypatches=false
 ;;
esac
echo " "
opt=''
rp='Would you like to have new patches automatically mailed to you?'
case "$mailpatches" in
true) dflt=y;;
*) dflt=n;;
esac
. ./myread
case "$ans" in
[yY]*) opt=' mailpatches'; mailpatches=true;;
*)
 mailpatches=false
 echo " "
 rp='Ok, would you like to simply be notified of new patches?'
 case "$notifypatches" in
 false) dflt=n;;
 *) dflt=y;;
 esac
 . ./myread
 echo " "
 case "$ans" in
 [yY]*) opt=' notifypatches'; notifypatches=true;;
 *)
  echo "Fine, I'll simply say that you've tried it then."
  notifypatches=false
  ;;
 esac
 ;;
esac
echo "Sending mail to <MAINTLOC>..." >&4
```

```
?X: Bizarre hack here. We can't just put @SH in the hereis lines below, because
?X: metaconfig will interpret it as a command, and there's no quoting mechanism.
?X: Do it via a variable instead.
 atsh='@SH'
 $mailer <MAINTLOC> <<EOM >/dev/null 2>&1
Subject: Command
Precedence: junk
To: <MAINTLOC>

$atsh
 package $usermail $package $baserev $patchlevel$opt
EOM
 $rm -f ../.config/mailauthor ../.config/nomail
 cp $rsrc/patchlevel.h ../.config/mailauthor
 ;;
*)
 case "$dflt" in
 "y")
  echo "Oh well, maybe next time."
  cp /dev/null ../.config/nomail
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/MailAuthor.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: yacc.U,v 3.0.1.1 1994/05/13 15:28:48 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1  1994/05/13  15:28:48  ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:10:03  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Oldconfig byacc bison cat test _exe
?MAKE: -pick add $@ %<
```

```
?S:yacc:
?S: This variable holds the name of the compiler compiler we
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.
?S:.
?S:yaccflags:
?S: This
 variable contains any additional yacc flags desired by the
?S: user.  It is up to the Makefile to use this.
?S:.
?T:comp
: determine compiler compiler
case "$yacc" in
")
 dflt=yacc;;
*)
 dflt="$yacc";;
esac
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 dflt="$byacc"
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"
fi
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behavior.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH
```

```
Your yacc program may need extra flags to normally process the parser sources.
Do NOT specify any -d or -v flags here, since those are explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the
 maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
. ./myread
case "$ans" in
none) yaccflags="";;
*) yaccflags="$ans";;
esac

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/yacc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: usenm.U,v 3.0.1.1 1997/02/28 16:26:40 ram Exp $
?RCS:
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?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:26:40  ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig myuname grep \
 nm d_gnulibc osname egrep rsrc
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending
 whether the
?S: nm extraction is wanted or not.
?S:.
```

```
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
?S: to work on a shared library but that can not be used on an
?S: archive library.  Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
?X: Don't bother if we're
 using GNU libc -- skimo
?LINT:extern PASE
case "$usenm" in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "nm probably won't work on the GNU C Library." >&4
  dflt=n
  ;;
 esac
 case "$dflt" in
 ")
  if $test "$osname" = aix -a "X$PASE" != "Xdefine" -a ! -f /lib/syscalls.exp; then
   echo " "
   echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
   echo "'nm' won't be sufficient on this system." >&4
   dflt=n
  fi
  ;;
 esac
 case "$dflt" in
 ") dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
  if $test $dflt -gt 20; then
   dflt=y
  else
```

```
  dflt=n
 fi
 ;;
 esac
 ;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
 *) dflt=n;;
 esac
 ;;
esac
$cat <<EOM

I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the 'nm' extraction part and to compile a small
test
 program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

You probably shouldn't let me use 'nm' if you are using the GNU C Library.

EOM
rp="Shall I use $nm to extract C symbols from the libraries?"
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt='' # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p' # Solaris (and SunOS?)
 elif $test -f /dgux; then
```

```
  nm_opt='-p' # DG-UX
 elif $test -f /lib64/rld; then
  nm_opt='-p' # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

: nm options which may be necessary for shared libraries but illegal
: for archive
 libraries.  Thank you, Linux.
case "$nm_so_opt" in
'') case "$myuname" in
 *linux*|gnu*)
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
  fi
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/usenm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libc.U,v $
?RCS: Revision 3.0.1.10  1997/02/28  15:56:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: added support for HPUX-10 nm output
?RCS:
?RCS: Revision 3.0.1.9  1995/07/25  14:11:56  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.8  1995/05/12  12:20:47  ram
?RCS: patch54: made sure only most recent version of shared lib is picked
?RCS: patch54: final "nm -p" check now uses xscan and xrun like everybody
?RCS: patch54: can now grok
```

linux nm output with lead __IO (ADO)
?RCS: patch54: added support for linux ELF output, using 'W' for alias (ADO)
?RCS:
?RCS: Revision 3.0.1.7 1994/10/29 16:23:40 ram
?RCS: patch36: now looks for shared libraries before anything else (ADO)
?RCS: patch36: added new nm output format (ADO)
?RCS:
?RCS: Revision 3.0.1.6 1994/08/29 16:28:10 ram
?RCS: patch32: added I-type symbols for nm output parsing on Linux
?RCS:
?RCS: Revision 3.0.1.5 1994/06/20 07:03:24 ram
?RCS: patch30: checks are now presented by succession of if/elif
?RCS: patch30: uniformized checks for shared objects with new so symbol
?RCS:
?RCS: Revision 3.0.1.4 1994/05/06 15:06:33 ram
?RCS: patch23: added shared library knowledge (ADO and WED)
?RCS:
?RCS: Revision 3.0.1.3 1994/01/24 14:12:17 ram
?RCS: patch16: can now export nm_extract as an internal-use only variable
?RCS:
?RCS: Revision 3.0.1.2 1993/09/13 16:09:03 ram
?RCS: patch10: added special handling for Apollo systems (WAD)
?RCS:
?RCS: Revision 3.0.1.1
  1993/08/27 14:40:03 ram
?RCS: patch7: added entry for /usr/shlib/libc.so (OSF/1 machines)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:08:57 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libc libnames +nm_extract: echo n c rm test grep Getfile Myread \
 Oldconfig Loc sed libs incpath libpth ar runnm nm nm_opt nm_so_opt \
 contains xlibpth so osname trnl tr sort uniq _o _a
?MAKE: -pick add $@ %<
?S:libc:
?S: This variable contains the location of the C library.
?S:.
?S:libnames:
?S: The constructed list of library names. Normally empty, but hint files
?S: may set this for later perusal by Configure.
?S:.
?S:nm_extract:
?S: This variable holds the name of the extraction command used to process
?S: the output of nm and yield the list of defined symbols. It is used
?S: internally by Configure.
?S:.
?T:thislib try libnames xxx xscan xrun thisname com tans file
?F:!libnames !libc.tmp !tmp.imp

```
?LINT:change nm_opt runnm
?INIT:libnames="
: Figure out where the libc is located
case
 "$runnm" in
true)
?X: indentation is wrong on purpose--RAM
: get list of predefined functions in a handy place
echo " "
case "$libc" in
") libc=unknown
 case "$libs" in
 *-lc_s*) libc=`./loc libc_s$_a $libc $libpth`
 esac
 ;;
esac
case "$libs" in
") ;;
*)  for thislib in $libs; do
 case "$thislib" in
 -lc|-lc_s)
  : Handle C library specially below.
  ;;
 -l*)
  thislib=`echo $thislib | $sed -e 's/^-l//'`
  if try=`./loc lib$thislib.$so.'*' X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib.$so X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib$_a X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc lib$thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc $thislib X $libpth`; $test -f "$try"; then
   :
  elif try=`./loc Slib$thislib$_a X $xlibpth`; $test -f "$try"; then
   :
  else
   try="
  fi
  libnames="$libnames $try"
  ;;
 *) libnames="$libnames $thislib"
 ;;
 esac
 done
```

```
 ;;
esac
?X:
?X: Some systems (e.g. DG/UX) use "environmental" links, which make the test
?X: -f fail. Ditto for symbolic links. So in order to reliably check the
?X: existence of a file, we use test -r. It will still fail with DG/UX links
?X: though, but at least it will detect symbolic links. At some strategic
?X: points, we make use of (test -h), using a sub-shell in case builtin test
?X: does not implement the -h check for symbolic links. This makes it
?X: possible to preset libc in a hint file for instance and have it show up
?X: as-is in the question.
?X:
xxx=normal
case "$libc" in
unknown)
?X:
?X: The sed below transforms .so.9 .so.12 into something like .so.0009 .so.0012,
?X: then sorts on it to allow keeping .so.12 instead of .so.9 as the latest
?X: up-to-date library. The initial filename (before sed munging, saved in hold
?X: space via 'h') is appended via 'G' before sorting, then the leading munged
?X: part is removed after sorting. Nice efficient work
 from Tye McQueen.
?X: The initial blurfl is here to prevent the trailing pipe from producing an
?X: empty string, causing Configure to output all its set variables!
?X:
 set /lib/libc.$so
 for xxx in $libpth; do
  $test -r $1 || set $xxx/libc.$so
  : The messy sed command sorts on library version numbers.
  $test -r $1 || \
   set `echo blurfl; echo $xxx/libc.$so.[0-9]* | \
   tr ' ' $trnl | egrep -v '\.[A-Za-z]*$' | $sed -e '
    h
    s/[0-9][0-9]*/0000&/g
    s/0*\([0-9][0-9][0-9][0-9][0-9]\)/\1/g
    G
    s/\n/ /' | \
    $sort | $sed -e 's/^.* //'`
  eval set \$$#
 done
 $test -r $1 || set /usr/ccs/lib/libc.$so
 $test -r $1 || set /lib/libsys_s$_a
 ;;
*)
?X: ensure the test below for the (shared) C library will fail
 set blurfl
 ;;
esac
```

```
if $test -r "$1"; then
 echo "Your (shared) C library seems to be in $1."
 libc="$1"
elif $test -r /lib/libc && $test -r /lib/clib; then
?X:
?X: Apollo has its C library in /lib/clib AND /lib/libc
?X: not to mention its math library in /lib/syslib...
?X:
 echo
 "Your C library seems to be in both /lib/clib and /lib/libc."
 xxx=apollo
 libc='/lib/clib /lib/libc'
 if $test -r /lib/syslib; then
  echo "(Your math library is in /lib/syslib.)"
?X: Put syslib in libc -- not quite right, but won't hurt
  libc="$libc /lib/syslib"
 fi
elif $test -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 echo "Your C library seems to be in $libc, as you said before."
?X: For mips, and...
elif $test -r $incpath/usr/lib/libc$_a; then
 libc=$incpath/usr/lib/libc$_a;
 echo "Your C library seems to be in $libc.  That's fine."
elif $test -r /lib/libc$_a; then
 libc=/lib/libc$_a;
 echo "Your C library seems to be in $libc.  You're normal."
else
 if tans=`./loc libc$_a blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc libc blurfl/dyick $libpth`; $test -r "$tans"; then
  libnames="$libnames "`./loc clib blurfl/dyick $libpth`
 elif tans=`./loc clib blurfl/dyick $libpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Slibc$_a blurfl/dyick
 $xlibpth`; $test -r "$tans"; then
  :
 elif tans=`./loc Mlibc$_a blurfl/dyick $xlibpth`; $test -r "$tans"; then
  :
 else
  tans=`./loc Llibc$_a blurfl/dyick $xlibpth`
 fi
 if $test -r "$tans"; then
  echo "Your C library seems to be in $tans, of all places."
  libc=$tans
 else
  libc='blurfl'
 fi
fi
```

```
if $test $xxx = apollo -o -r "$libc" || (test -h "$libc") >/dev/null 2>&1; then
 dflt="$libc"
 cat <<EOM

If the guess above is wrong (which it might be if you're using a strange
compiler, or your machine supports multiple models), you can override it here.

EOM
else
 dflt="
 echo $libpth | $tr ' ' $trnl | $sort | $uniq > libpath
 cat >&4 <<EOM
I can't seem to find your C library.  I've looked in the following places:

EOM
 $sed 's/^/ /' libpath
 cat <<EOM

None of these seems to contain your C library. I need to get its name...

EOM
fi
fn=f
rp='Where is your C library?'
. ./getfile
libc="$ans"

echo " "
echo $libc $libnames | $tr ' ' $trnl | $sort | $uniq > libnames
set X `cat libnames`
shift
xxx=files
case
 $# in 1) xxx=file; esac
echo "Extracting names from the following $xxx for later perusal:" >&4
echo " "
$sed 's/^/ /' libnames >&4
echo " "
$echo $n "This may take a while...$c" >&4

?X:
?X: Linux may need the special Dynamic option to nm for shared libraries.
?X: In general, this is stored in the nm_so_opt variable.
?X: Unfortunately, that option may be fatal on non-shared libraries.
?X:
for file in $*; do
 case $file in
 *$so*) $nm $nm_so_opt $nm_opt $file 2>/dev/null;;
```

```
 *) $nm $nm_opt $file 2>/dev/null;;
 esac
done >libc.tmp

$echo $n ".$c"
?X:
?X: To accelerate processing, we look at the correct 'sed' command
?X: by using a small subset of libc.tmp, i.e. fprintf function.
?X: When we know which sed command to use, do the name extraction
?X:
$grep fprintf libc.tmp > libc.ptf
?X:
?X: In order to enhance readability and save some space, we define
?X: some variables that will be "eval"ed.
?X:
xscan='eval "<libc.ptf $com >libc.list"; $echo $n ".$c" >&4'
xrun='eval
 "<libc.tmp $com >libc.list"; echo "done." >&4'
?X: BSD-like output, I and W types added for Linux
?X: Some versions of Linux include a leading __IO in the symbol name.
?X: HPUX10 reportedly has trailing spaces, though I'm surprised it has
?X: BSD-like output.  (AD).
xxx='[ADTSIW]'
if com="$sed -n -e 's/__IO//' -e 's/^.* $xxx  *_[_.]*//p' -e 's/^.* $xxx  *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: SYSV-like output
elif com="$sed -n -e 's/^__*//' -e 's/^\([a-zA-Z_0-9$]*\).*xtern.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/|UNDEF/d' -e '/FUNC..GL/s/^.*|__*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.* D __*//p' -e 's/^.* D //p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^_//' -e 's/^\([a-zA-Z_0-9]*\).*xtern.*text.*/\1/p'";\
 eval
 $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
```

```
  eval $xrun
elif com="$grep '|' | $sed -n -e '/|COMMON/d' -e '/|DATA/d' \
    -e '/ file/d' -e 's/^\([^  ]*\).*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|FUNC |GLOB .*|//p' -e 's/^.*|FUNC |WEAK .*|//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: mips nm output (sysV)
elif com="$sed -n -e 's/^__//' -e '/|Undef/d' -e '/|Proc/s/ .*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/^.*|Proc .*|Text *| *//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e '/Def. Text/s/.* \([^ ]*\)\$/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null
 2>&1; then
  eval $xrun
?X: OS/2 nm output
elif com="$sed -n -e 's/^[-0-9a-f ]*_\(.*\)=.*/\1/p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
elif com="$sed -n -e 's/.*\.text n\ \ \ \.//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
?X: AIX nm output
elif com="sed -n -e 's/^__.*//' -e 's/[       ]*D[    ]*[0-9]*.*//p'";\
 eval $xscan;\
 $contains '^fprintf$' libc.list >/dev/null 2>&1; then
  eval $xrun
else
 $nm -p $* 2>/dev/null >libc.tmp
 $grep fprintf libc.tmp > libc.ptf
 if com="$sed -n -e 's/^.* [ADTSIW]  *_[_.]*//p' -e 's/^.* [ADTSIW] //p'";\
  eval $xscan; $contains '^fprintf$' libc.list >/dev/null 2>&1
 then
  nm_opt='-p'
  eval $xrun
 else
  echo " "
```

```
 echo "$nm didn't seem to work right. Trying $ar instead..." >&4
 com="
 if $ar t $libc > libc.tmp && \
  $contains '^fprintf$' libc.tmp >/dev/null 2>&1
 then
  for thisname in $libnames $libc; do
   $ar t $thisname >>libc.tmp
  done
  $sed
-e "s/\\$_o\$//" < libc.tmp > libc.list
  echo "Ok." >&4
 elif test "X$osname" = "Xos2" && $ar tv $libc > libc.tmp; then
?X: Repeat libc to extract forwarders to DLL entries too
  for thisname in $libnames $libc; do
   $ar tv $thisname >>libc.tmp
?X: Revision 50 of EMX has bug in ar: it will not extract forwarders
?X: to DLL entries.  Use emximp which will extract exactly them.
    emximp -o tmp.imp $thisname \
        2>/dev/null && \
        $sed -e 's/^\([_a-zA-Z0-9]*\) .*$/\1/p' \
        < tmp.imp >>libc.tmp
   $rm -f tmp.imp
  done
  $sed -e "s/\\$_o\$//" -e 's/^ \+//' < libc.tmp > libc.list
  echo "Ok." >&4
 else
  echo "$ar didn't seem to work right." >&4
  echo "Maybe this is a Cray...trying bld instead..." >&4
  if
   bld t $libc | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" > libc.list &&
   $test -s libc.list
  then
   for thisname in $libnames; do
    bld t $libnames | \
    $sed -e 's/.*\///' -e "s/\\$_o:.*\$//" >>libc.list
    $ar t $thisname >>libc.tmp
   done
   echo
"Ok." >&4
  else
   echo "That didn't work either." >&4
   echo "No problem, I'll be compiling test programs then..." >&4
   runnm=false
  fi
 fi
fi
```

```
nm_extract="$com"
if $test -f /lib/syscalls.exp; then
 echo " "
 echo "Also extracting names from /lib/syscalls.exp for good ole AIX..." >&4
 $sed -n 's/^\([^  ]*\)[  ]*syscall[0-9]*[  ]*$/\1/p' \
  /lib/syscalls.exp >>libc.list
fi
?X: remember, indentation is wrong on purpose--RAM
;;
esac
$rm -f libnames libpath
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
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?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:10:34  ram
?RCS: patch61: created
?RCS:
?X:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man3 used instead of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir
 man3direxp man3ext installman3dir: afs cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile prefix Prefixit Prefixup \
 d_flexfnam privlib Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
```

```
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual
 page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
?S:.
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

echo "If you don't want the manual sources installed, answer 'none'."
```

```
?X: We dont use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with TCL man pages.
?X: However, something like /opt/perl/man/man3
 is fine.
case "$man3dir" in
'') case "$prefix" in
 *$package*) dflt=`echo $man1dir |
   $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'` ;;
 *) dflt="$privlib/man/man3" ;;
 esac
 ;;
' ') dflt=none;;
*) dflt="$man3dir" ;;
esac
echo " "

fn=dn+~
rp="Where do the $package library man pages (source) go?"
. ./getfile
if test "X$man3direxp" != "X$ansexp"; then
 installman3dir=''
fi

man3dir="$ans"
man3direxp="$ansexp"
case "$man3dir" in
'') man3dir=' '
 installman3dir='';;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installman3dir" in
 '') dflt=`echo $man3direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman3dir";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman3dir="$ans"
else
```

```
 installman3dir="$man3direxp"
fi

: What suffix
 to use on installed man pages

case "$man3dir" in
' ')
 man3ext='0'
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 '') case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/man3dir.U
No license file was found, but licenses were detected in source scan.

```
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?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
?X: special symbols: defines from patchlevel.h file if any and CONFIG,
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint file or a previous config.sh file.
?X:
?MAKE:Oldsym:
 Config_sh Options test hint src sed sort uniq
?MAKE: -pick add $@ %<
?T:CONFIG sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "CONFIG=true" >>config.sh

: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh |\
  $sort | $uniq -u >UU/oldsyms
 set X `cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  cat <<EOM
Hmm...You had some extra variables I don't know about...I'll
 try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
```

```
  for sym in `cat UU/oldsyms`; do
   echo "    Propagating $hint variable '"$sym..."
   eval 'tmp="$'"${sym}"'"'
   echo "$tmp" | \
    sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
  done
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Oldsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Chk_whoami.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Chk_whoami.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit makes sure we don't try to include whoami.h if uname() exists.
?X:
?MAKE:Chk_whoami: d_uname i_whoami
?MAKE: -pick add $@ %<
?LINT:change i_whoami
: weed out incompatibilities
case "$d_uname" in
 "$define") i_whoami="$undef" ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Chk_whoami.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: installprefix.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
```

```
?RCS: as specified in the README file that comes with the distribution.
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: installprefix.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:installprefix installprefixexp: Getfile Loc \
 Oldconfig afs cat package prefix
?MAKE: -pick add $@ %<
?S:installprefix:
?S: This variable holds the name of the directory below which
?S: "make install" will install the package.  For most users, this
?S: is the same
 as prefix.  However, it is useful for
?S: installing the software into a different (usually temporary)
?S: location after which it can be bundled up and moved somehow
?S: to the final location specified by prefix.
?S:.
?S:installprefixexp:
?S: This variable holds the full absolute path of installprefix
?S: with all ~-expansion done.
?S:.
: determine installation prefix for where package is to be installed.
if $afs; then
$cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
files will reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installprefix" in
 '') dflt=`echo $prefix | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installprefix";;
 esac
else
$cat <<EOM

In some special cases, particularly when building $package for distribution,
it is convenient to distinguish the directory in which files should be
installed from the directory ($prefix) in which they will
eventually
```

```
 reside.  For most users, these two directories are the same.

EOM
 case "$installprefix" in
 '') dflt=$prefix ;;
 *) dflt=$installprefix;;
 esac
fi
fn=d~
rp='What installation prefix should I use for installing files?'
. ./getfile
installprefix="$ans"
installprefixexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/installprefix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1998, Jarkko Hietaniemi
?RCS:
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?RCS: of the source tree for dist 3.0.
?X:
?X: Useless unit dropped.  Use randfunc instead.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/randbits.U
No license file was found, but licenses were detected in source scan.

```
# Yes, you may rip this off to use in other distribution packages. This
# script belongs to the public domain and cannot be copyrighted.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Head.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Head.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: cc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cc.U,v $
?RCS: Revision 3.0.1.4  1995/05/12  12:06:47  ram
?RCS: patch54: may now abort Configure when cc does not work
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:20:11  ram
?RCS: patch45: changed gcc checking message to a more explicit one (WED)
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:04:29  ram
?RCS: patch36: detect gcc even when not called as 'gcc' (ADO)
?RCS: patch36: simplified gcc version checking (ADO)
?RCS: patch36: added ?F: line for metalint
 file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:26:06  ram
?RCS: patch23: added support for gcc version (ADO)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:30  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:cc: Myread Oldconfig Checkcc test
?MAKE: -pick add $@ %<
?S:cc:
?S: This variable holds the name of a command to execute a C compiler which
?S: can resolve multiple global references that happen to have the same
?S: name.  Usual values are 'cc' and 'gcc'.
?S: Fervent ANSI compilers may be called 'c89'.  AIX has xlc.
?S:.
?F:!cc.cbu
?D:cc='cc'
: Determine the C compiler to be used
echo " "
case "$cc" in
'') dflt=cc;;
*) dflt="$cc";;
esac
rp="Use which C compiler?"
. ./myread
cc="$ans"

: See whether they have no cc but they do have gcc
. ./trygcc
```

```
?X: Look for a hint-file generated 'call-back-unit'.  Now that the
?X: user has specified the compiler, we may need to set or change some
?X: other defaults.
if $test -f cc.cbu; then
   . ./cc.cbu
fi
. ./checkcc

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Instruct.U,v 3.0.1.3 1997/02/28 15:02:55 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Instruct.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:02:55  ram
?RCS: patch61: logname / whoami sequence rewritten to use case
?RCS:
?RCS: Revision 3.0.1.2  1995/02/15  14:11:34  ram
?RCS: patch51: author name now appears at the end of the paragraph (WED)
?RCS:
?RCS: Revision 3.0.1.1  1995/01/11  15:12:05  ram
?RCS: patch45: now documents the & escape to turn -d on at the read prompt
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:04  ram
?RCS: Baseline for
 dist 3.0 netwide release.
?RCS:
?X:
?X: This unit spew out the directions that we want everyone to read.  I try to
?X: keep the first "pagefull" much less than a page since they don't know it
?X: isn't going to go shooting off the top of the screen, and we don't want
?X: to panic them yet.
?X:
?MAKE:Instruct: Myread Configdir Devel contains
?MAKE: -pick wipe $@ %<
?T:user needman firsttime
: general instructions
needman=true
```

```
firsttime=true
user=`(logname) 2>/dev/null`
case "$user" in
") user=`whoami 2>&1`;;
esac
if $contains "^$user\$" ../.config/instruct >/dev/null 2>&1; then
 firsttime=false
 echo " "
 rp='Would you like to see the instructions?'
 dflt=n
 . ./myread
 case "$ans" in
 [yY]*) ;;
 *) needman=false;;
 esac
fi
if $needman; then
 cat <<EOH

This installation shell script will examine your system and ask you questions
to determine how the <PACKAGENAME> package should be installed. If you get
stuck on a question, you may use a ! shell escape to start a subshell or
execute a
 command.  Many of the questions will have default answers in square
brackets; typing carriage return will give you the default.

On some of the questions which ask for file or directory names you are allowed
to use the ~name construct to specify the login directory belonging to "name",
even if you don't have a shell which knows about that.  Questions where this is
allowed will be marked "(~name ok)".

EOH
 rp="
 dflt='Type carriage return to continue'
 . ./myread
 cat <<'EOH'

The prompter used in this script allows you to use shell variables and
backticks in your answers.  You may use $1, $2, etc...  to refer to the words
in the default answer, as if the default line was a set of arguments given to a
script shell.  This means you may also use $* to repeat the whole default line,
so you do not have to re-type everything to add something to the default.

Every time there is a substitution, you will have to confirm.  If there is an
error (e.g. an unmatched backtick), the default answer
 will remain unchanged
and you will be prompted again.
```

```
If you are in a hurry, you may run 'Configure -d'.  This will bypass nearly all
the questions and use the computed defaults (or the previous answers if there
was already a config.sh file). Type 'Configure -h' for a list of options.
You may also start interactively and then answer '& -d' at any prompt to turn
on the non-interactive behaviour for the remainder of the execution.

EOH
. ./myread
cat <<EOH

Much effort has been expended to ensure that this shell script will run on any
Unix system.  If despite that it blows up on yours, your best bet is to edit
Configure and run it again.  If you can't run Configure for some reason,
you'll have to generate a config.sh file by hand.  Whatever problems you
have, let me (<MAINTLOC>) know how I blew it.

This installation script affects things in two ways:

1) it may do direct variable substitutions on some of the files included
  in this kit.
2) it builds a config.h file for inclusion in
 C programs.  You may edit
  any of these files as the need arises after running this script.

If you make a mistake on a question, there is no easy way to back up to it
currently.  The easiest thing to do is to edit config.sh and rerun all the SH
files.  Configure will offer to let you do this before it runs the SH files.

EOH
?X: In case they played with the prompter...
dflt='Type carriage return to continue'
. ./myread
case "$firsttime" in
true) echo $user >>../.config/instruct;;
esac
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Instruct.U
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?RCS: $Id: Typedef.U,v 3.0.1.3 1995/07/25 13:42:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  13:42:07  ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:01:16  ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:05:14  ram
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef
 val_t default [includes]
?X: eval $typedef
?X:
?MAKE:Typedef: cppstdin cppminus cppflags rm sed contains Oldconfig Myread
?MAKE: -pick add $@ %<
?LINT:define typedef
?LINT:define typedef_ask
?V:typedef typedef_ask
?S:typedef:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?S:typedef_ask:
?S: This shell variable is used internally by Configure to check
?S: whether a given typedef is defined or not.  If it is not defined,
?S: this will call the ./myread script to prompt for an answer.
?S: It is intended to be used to avoid unnecessary prompts.
?S: A typical use is
?S:  rp="What is the type for file position used by fsetpos()?"
?S:  set fpos_t fpostype long stdio.h sys/types.h
?S:  eval $typedef_ask
?S: This
 will set fpostype=fpos_t, if fpos_t is available.  Otherwise
?S: it will call myread with a default of 'long', and a prompt of $rp.
?S:.
?T:type var def inclist varval inc
```

```
?F:!temp.c
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'

?X: Originally, I eval'd $typedef and then checked the results against
?X: $type.  Unfortunately, it then became complicated to check
?X: whether you are re-using
 an old config.sh value, and the logic got
?X: so convoluted it became easier to just copy the function above
?X: and alter it slightly.  A.D.  3/1998
: define an is-a-typedef? function that prompts if the type is not available.
typedef_ask='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
?X: Maybe it's a #define instead of a typedef.
 echo "#ifdef $type" >> temp.c;
 echo "printf(\"We have $type\");" >> temp.c;
```

```
 echo "#endif" >> temp.c;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 echo " " ;
 echo "$rp" | $sed -e "s/What is/Looking for/" -e "s/?/./";
 if $contains $type temp.E >/dev/null 2>&1; then
  echo "$type found." >&4;
  eval "$var=\$type";
 else
  echo "$type NOT found." >&4;
  dflt="$def";
  . ./myread ;
  eval "$var=\$ans";
 fi;
 $rm -f temp.?;;
*) eval "$var=\$varval";;
esac'

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/Typedef.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Typedef.U,v $
?RCS: Revision 3.0.1.3  1995/07/25  13:42:07  ram
?RCS: patch56: added backslash escapes within evals to prevent space problems
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:01:16  ram
?RCS: patch36: don't clobber visible 'val' variable, use 'varval' instead
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:05:14  ram
?RCS: patch32: created
?RCS:
?X:
?X: This unit checks for the definition of a given typedef.
?X:
?X: To use it, say:
?X: set typedef val_t default [includes]
?X: eval $typedef
```

```
?X:
?MAKE:Typedef:
 cppstdin cppminus cppflags rm contains Oldconfig
?MAKE: -pick add $@ %<
?F:!temp.c
?LINT:define typedef
?V:typedef
?S:typedef:
?S: This shell variable is used internally by Configure to check
?S: wether a given typedef is defined or not. A typical use is:
?S:  set typedef val_t default [includes]
?S:  eval $typedef
?S: That will return val_t set to default if the typedef was not found,
?S: to typedef otherwise. If no includes are specified, look in sys/types.h.
?S:.
?T:type var def inclist varval inc
: define an is-a-typedef? function
typedef='type=$1; var=$2; def=$3; shift; shift; shift; inclist=$@;
case "$inclist" in
"") inclist="sys/types.h";;
esac;
eval "varval=\$$var";
case "$varval" in
"")
 $rm -f temp.c;
 for inc in $inclist; do
  echo "#include <$inc>" >>temp.c;
 done;
 $cppstdin $cppflags $cppminus < temp.c >temp.E 2>/dev/null;
 if $contains $type temp.E >/dev/null 2>&1; then
  eval "$var=\$type";
 else
  eval "$var=\$def";
 fi;
 $rm -f temp.?;;
*) eval
 "$var=\$varval";;
esac'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Typedef.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: d_passwd.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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```

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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: d_passwd.U,v $
?RCS: Revision 3.0.1.2 1997/02/28 15:37:21 ram
?RCS: patch61: useless unit dropped.
?RCS:
?RCS: Revision 3.0.1.1 1994/08/29 16:09:51 ram
?RCS: patch32: created by ADO
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_passwd.U
No license file was found, but licenses were detected in source scan.

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Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/prefshell.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_linuxstd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_unistd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setegid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_chown.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_fchown.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getopt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setlocale.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_bcopy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ilp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msgrcv.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strtol.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_tcgtpgrp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_readdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_siglist.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sjis2jis.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_raster.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_strxfrm_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strxfrm.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mailfile.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_su_chown.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_pwritev.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_scorfl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_brokstat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sighold.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/filexp_path.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_euc2jis.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msgget.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cpp_trad.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_sigblock.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strdup.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_system.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_waitpid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setsid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_stdlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_lstat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setgrps.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getpgid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sysresrc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setpgrp2.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_memmove.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_cuserid.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_memalign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_rename.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_syswait.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_values.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/pkgsrc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/rootid.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_setlnbuf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/basicshell.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_lockf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sysdir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_regex.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_normsig.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Magic_h.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sysfile.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strcoll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_systypes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getgrps.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_killpg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_symlink.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_semop.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_systwgcf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_poll.U

```
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_stdlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_dld.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_getprior.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_drem.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: afs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: afs.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:23:06  ram
?RCS: patch61: can now explicitly tell Configure whether AFS is running
?RCS:
?RCS: Revision 3.0.1.1  1993/08/24  12:24:43  ram
?RCS: patch3: created
?RCS:
?MAKE:afs afsroot: test
?MAKE: -pick add $@ %<
?S:afs:
?S: This variable is set to 'true' if AFS (Andrew File System) is used
?S: on the system, 'false' otherwise.  It is possible to override this
?S: with a hint value or command line option,
 but you'd better know
?S: what you are doing.
?S:.
?S:afsroot:
?S: This variable is by default set to '/afs'. In the unlikely case
?S: this is not the correct root, it is possible to override this with
?S: a hint value or command line option.  This will be used in subsequent
?S: tests for AFSness in the configure and test process.
?S:.
: allow them to override the AFS root
case "$afsroot" in
") afsroot=/afs ;;
*) afsroot=$afsroot ;;
esac

: is AFS running?
echo " "
case "$afs" in
```

```
$define|true) afs=true ;;
$undef|false) afs=false ;;
*) if $test -d $afsroot; then
  afs=true
 else
  afs=false
 fi
 ;;
esac
if $afs; then
 echo "AFS may be running... I'll be extra cautious then..." >&4
else
 echo "AFS does not seem to be running..." >&4
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/afs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libdbm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libdbm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:56:57  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:58  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libdbm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libdbm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the dbm library routines.  If there is no dbm or ndbm
?S: library, it is null.
?S:.
?T:xxx
:
 see if we should include -ldbm
echo " "
if $test -r /usr/lib/libndbm$_a || $test -r /usr/local/lib/libndbm$_a ; then
```

```
 echo "-lndbm found." >&4
 libdbm='-lndbm'
elif $test -r /usr/lib/libdbm$_a || $test -r /usr/local/lib/libdbm$_a ; then
 echo "-ldbm found." >&4
 libdbm='-ldbm'
else
 xxx=`./loc libdbm$_a x $libpth`
 case "$xxx" in
 x)
  echo "No dbm library found." >&4
  libdbm=''
  ;;
 *)
  echo "DBM library found in $xxx." >&4
  libdbm="$xxx"
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libdbm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libflex.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libflex.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  15:57:48  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:07:02  ram
?RCS: patch23: now uses full library path instead of -l notation
?RCS:
?RCS: Revision 3.0.1.1  1994/01/24  14:13:25  ram
?RCS: patch16: un-obsoleted this unit to allow smooth lex/flex compilations
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:59  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:libflex: Loc lex libpth _a
```

```
?MAKE: -pick add $@ %<
?S:libflex:
?S: This variable contains the argument to pass to the loader in order
?S: to get the flex/lex library routines.  If there is no flex or flex
?S: library, it is null.
?S:.
?T:xxx
: see if we should include -lfl
echo " "
case "$lex" in
*flex)
 xxx=`./loc libfl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No flex library found." >&4
  libflex="
  ;;
 *)
  echo "flex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*lex)
 xxx=`./loc libl$_a x $libpth`
 case "$xxx" in
 x)
  echo "No lex library found." >&4
  libflex="
  ;;
 *)
  echo "lex library found in $xxx." >&4
  libflex="$xxx"
  ;;
 esac
 ;;
*)
echo "You don't seem to have lex or flex, so I won't look for libraries." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libflex.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:20:06  ram
?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _a _o firstmakefile archobjs: Oldconfig
?MAKE: -pick add $@ %<
?S:_a (lib_ext):
?S: This variable defines the extension
 used for ordinary libraries.
?S: For unix, it is '.a'.  The '.' is included.  Other possible
?S: values include '.lib'.
?S:.
?S:_o (obj_ext):
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'.  The '.' is included.  Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make.  On unix,
?S: it is makefile (then Makefile).  On case-insensitive systems,
?S: it might be something else.  This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture.  On unix, it is usually
?S: empty.  It is typically used to include emulations of unix calls
?S: or other facilities.  For perl on OS/2, for example, this would
?S: include os2/os2.obj.
?S:.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files
```

```
 or command line option can be used to override them.
case "$_a" in
") _a='.a';;
esac
case "$_o" in
") _o='.o';;
esac

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
") firstmakefile='makefile';;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: You may redistribute only under the terms of the Artistic License,
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_telldirproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_ldbl_dig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_sysmman.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_wctype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_bitfield.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/myhostname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_snprintf_l.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_isascii.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_mmap.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/usrinc.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ccflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/prefix.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_wchar.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/prefix.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_times.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/nblock_io.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/bitpbyte.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/startperl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_wifstat.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sresgproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_termio.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/cpp_stuff.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strftime.U
*

/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/acl/i_syssecrt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mallocsrc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/ccflags.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_malloc_size.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/i_netinettcp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Signal.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_c99_variadic.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getnent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_attribut.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_closedir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/perlpath.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_dir_dd_fd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Guess.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sigprocmask.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_poll.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_keepsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_pwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_mprotect.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_endnent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Guess.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_int64_t.U
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* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/st_ino_def.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/i_time.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/fpostype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_execinfo.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/gccvers.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gnulibc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ptrsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_inttypes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/sbrksmart.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_sanemcmp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_grp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_gconvert.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_snprintf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_malloc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_dlopen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_getpent.U
*
 /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/doublesize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_htonl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_ndbm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_castneg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_strtoul.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_madvise.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strtoul.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_statblks.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_voidsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_pwd.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_setpgrp.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/ssizetype.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sresuproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sockopt.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/fflushall.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_dlopen.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_getpagsz.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_casti32.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Findhdr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethbynm.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_safebcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/i_pthread.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_db.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/fpostype.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sitelib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_closedir.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_htonl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/intsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/orderlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_dladdr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_flockproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/acl/i_sysaccess.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_msg.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_dirent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getspnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_csh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_neterrno.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_gethname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/ebcdic.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/i_varhdr.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/d_wcrtomb.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_syscallproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/fpu.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/randfunc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Signal.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_keepsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sunscanf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d__fwalk.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_socket.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorlib.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/scriptdir.U

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_getespwnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/threads/archname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/randfunc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/need_va_copy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cppstdin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/alignbytes.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/archname.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/typedefs/gidsign.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/instubperl.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorscript.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_scannl.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_sethent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/bin.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/d_attribut.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/ptrsize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_vprintf.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/i_dirent.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/d_gnulibc.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_lseekproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/abortsig.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/inc_version_list.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_strctcpy.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Cross.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sockatmarkproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/doublesize.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Config_sh.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_sbrkproto.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_flexfnam.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/selecttype.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/nullified/fpu.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitearch.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_vfork.U
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Oldconfig.U
*
/perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/d_getprotoprotos.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
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?RCS: of the source tree for dist 4.0.

?RCS:
?RCS: $Log: libpth.U,v $
?RCS: Revision 3.0.1.6 1997/02/28 16:08:49 ram
?RCS: patch61: new loclibpth variable
?RCS:
?RCS: Revision 3.0.1.5 1995/01/11 15:31:30 ram
?RCS: patch45: call ./mips instead of just mips (WED)
?RCS:
?RCS: Revision 3.0.1.4 1994/08/29 16:29:15 ram
?RCS: patch32: added /lib/pa1.1 for HP-UX specially tuned PA-RISC libs (ADO)
?RCS: patch32: fixed information message, making it clearer (ADO)
?RCS:
?RCS: Revision 3.0.1.3 1994/06/20 07:03:54 ram
?RCS: patch30: added /usr/shlib to
 glibpth for shared-only libraries
?RCS:
?RCS: Revision 3.0.1.2 1994/05/13 15:26:57 ram
?RCS: patch27: fixed a typo (libpth -> glibpth)
?RCS:
?RCS: Revision 3.0.1.1 1994/05/06 15:07:53 ram
?RCS: patch23: now asks for library directories to be searched (ADO)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:02 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit initializes the path for C library lookup.
?X:
?MAKE:libpth glibpth xlibpth plibpth loclibpth: \
 usrinc incpath test cat Myread Oldconfig
?MAKE: -pick add $@ %<
?S:libpth:
?S: This variable holds the general path (space-separated) used to find
?S: libraries. It is intended to be used by other units.
?S:.
?S:glibpth:
?S: This variable holds the general path (space-separated) used to
?S: find libraries. It may contain directories that do not exist on
?S: this platform, libpth is the cleaned-up version.
?S:.
?S:xlibpth:
?S: This variable holds extra path (space-separated) used to find
?S: libraries on this platform,
 for example CPU-specific libraries
?S: (on multi-CPU platforms) may be listed here.
?S:.
?S:loclibpth:
?S: This variable holds the paths (space-separated) used to find local

```
?S: libraries.  It is prepended to libpth, and is intended to be easily
?S: set from the command line.
?S:.
?S:plibpth:
?S: Holds the private path used by Configure to find out the libraries.
?S: Its value is prepend to libpth. This variable takes care of special
?S: machines, like the mips.  Usually, it should be empty.
?S:.
?T: xxx dlist
?LINT:use usrinc
?INIT:: change the next line if compiling for Xenix/286 on Xenix/386
?INIT:xlibpth='/usr/lib/386 /lib/386'
?INIT:: Possible local library directories to search.
?INIT:loclibpth="/usr/local/lib /opt/local/lib /usr/gnu/lib"
?INIT:loclibpth="$loclibpth /opt/gnu/lib /usr/GNU/lib /opt/GNU/lib"
?INIT:
?INIT:: general looking path for locating libraries
?INIT:glibpth="/lib /usr/lib $xlibpth"
?INIT:glibpth="$glibpth /usr/ccs/lib /usr/ucblib /usr/local/lib"
?X: /shlib
 is for Digital Unix 4.0
?X: /usr/shlib is for OSF/1 systems.
?INIT:test -f /usr/shlib/libc.so && glibpth="/usr/shlib $glibpth"
?INIT:test -f /shlib/libc.so     && glibpth="/shlib $glibpth"
?INIT:
?INIT:: Private path used by Configure to find libraries.  Its value
?INIT:: is prepended to libpth. This variable takes care of special
?INIT:: machines, like the mips.  Usually, it should be empty.
?INIT:plibpth="
?INIT:
: Set private lib path
case "$plibpth" in
") if ./mips; then
?X: on mips, we DO NOT want /lib, and we want $incpath/usr/lib
  plibpth="$incpath/usr/lib /usr/local/lib /usr/ccs/lib"
 fi;;
esac
case "$libpth" in
' ') dlist=";;
") dlist="$loclibpth $plibpth $glibpth";;
*) dlist="$libpth";;
esac

: Now check and see which directories actually exist, avoiding duplicates
libpth="
for xxx in $dlist
do
   if $test -d $xxx; then
```

```
  case " $libpth " in
  *" $xxx "*) ;;
  *) libpth="$libpth $xxx";;
  esac
   fi
done
$cat <<'EOM'

Some systems have incompatible or broken versions
 of libraries.  Among
the directories listed in the question below, please remove any you
know not to be holding relevant libraries, and add any that are needed.
Say "none" for none.

EOM
case "$libpth" in
'') dflt='none';;
*)
?X: strip leading space
 set X $libpth
 shift
 dflt=${1+"$@"}
 ;;
esac
rp="Directories to use for library searches?"
. ./myread
case "$ans" in
none) libpth=' ';;
*) libpth="$ans";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libpth.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Warn_v7EXT.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7EXT.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:42  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
```

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:17  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit issues warnings to V7 sites that they are living dangerously.
?X: This unit needs to get mentioned in End.U to get included.
?X:
?MAKE:Warn_v7EXT: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7;
 then
 cat <<EOM

NOTE: the V7 compiler may ignore some #undefs that $package uses.  If so,
you may get messages about redefining EXT.  Some V7 compilers also have
difficulties with #defines near buffer boundaries, so beware.  You may have
to play with the spacing in some .h files, believe it or not.
EOM
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn_v7EXT.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Warn.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?X:
?X: This unit produces a shell script which can be run in order to emit
?X: an important warning to the user, which will be remembered and shown
?X: at the end of the Configure run as well.
?X:
?X: A typical use would be:
?X:
?X:  ./warn <<EOM
?X:  Problem with your C compiler: can't turn debugging on.
?X:  EOM
?X:
```

```
?X: or:
?X:
?X:  ./warn "Problem with your C compiler: can't turn debugging on."
?X:
?X: Which will both display to the user:
?X:
?X:  ***
 WARNING:
?X:  *** Problem with your C compiler: can't turn debugging on.
?X:  ***
?X:
?MAKE:Warn: startsh eunicefix
?MAKE: -pick add $@ %<
?F:./warn
: script used to emit important warnings
cat >warn <<EOS
$startsh
?X: Read the whole warning message from stdin into a temporary file
?X: when no argument was supplied.
if test \$# -gt 0; then
 echo "\$@" >msg
else
 cat >msg
fi
?X: Emit the warning, prefixing all lines with '*** '
echo "*** WARNING:" >&4
sed -e 's/^/*** /' <msg >&4
echo "*** " >&4
?X: Save the warning in the logs, which will be shown again at the end
cat msg >>config.msg
echo " " >>config.msg
rm -f msg
EOS
chmod +x warn
$eunicefix warn
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn.U
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```
?RCS: $Id: baserev.U 1 2006-08-24 12:32:52Z rmanfredi $
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```

?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: baserev.U,v $
?RCS: Revision 3.0 1993/08/18 12:05:24 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:baserev: Null
?MAKE: -pick wipe $@ %<
?S:baserev:
?S: The base revision level of this package, from the .package file.
?S:.
: set the base revision
baserev=<BASEREV>

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/baserev.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Myread.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myread.U,v $
?RCS: Revision 3.0.1.6 1997/02/28 15:05:39 ram
?RCS: patch61: myread script now starts with a "startsh"
?RCS: patch61: miscellaneous fixes
?RCS:
?RCS: Revision 3.0.1.5 1995/01/11 15:14:22 ram
?RCS: patch45: added & escape allowing user to turn on -d from the prompt
?RCS:
?RCS: Revision 3.0.1.4 1994/10/31 09:48:04 ram
?RCS: patch44: added Options to the MAKE line since it's no longer in Init.U
?RCS:
?RCS: Revision 3.0.1.3 1994/10/29
 15:56:20 ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.2 1993/08/30 08:57:59 ram
?RCS: patch8: added new visible 'nostick' symbol, mainly for Finish.U
?RCS:
?RCS: Revision 3.0.1.1 1993/08/27 14:39:20 ram
?RCS: patch7: now sticks to the question when no default and empty answer

```
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:08  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to do a read.  It allows for shell escapes, default assignment and
?X: parameter evaluation.
?X:
?X: To use this unit, $rp and $dflt must hold the question and the
?X: default answer. The question will be printed by the script itself.
?X: Neither $rp nor $dflt is altered by the script.
?X:
?X: The myread script will stick to the question if no default is proposed
?X: and the user answer is empty, which prevents mistakes. However, at the
?X: end of Configure, there is an exception
 to this rule (Finish.U) where we
?X: set nostick to a non-empty value to allow the Return key to play its role!
?X:
?MAKE:Myread: Options startsh n c trnl
?MAKE: -pick add $@ %<
?V:ans:dflt rp nostick
?F:./myread
?T:COLUMNS xxxm rp dflt answ aok myecho
?LINT:change fastread
?X: Some shells (Ultrix) do not understand ${COLUMNS:-80}, sigh!
: compute the number of columns on the terminal for proper question formatting
case "$COLUMNS" in
") COLUMNS='80';;
esac

: set up the echo used in my read
?X:
?X: This variable is intended to be eval'ed. It will echo the two
?X: variables $rp and $dflt (provided this latter has a non null value).
?X: It is mainly used by the myread script to echo the questions.
?X:
?X: The $n and $c below are substituted before Loc does its silly echo check
?X: so don't put a $ on the echo below so we get builtin, even if $echo is
?X: pointing to /bin/echo.
?X:
myecho="case \"\$xxxm\" in
") echo $n \"\$rp $c\" >&4;;
*) case \"\$rp\" in
 ") echo $n \"[\$xxxm] $c\";;
 *)
  if
```

```
 test \`echo \"\$rp [\$xxxm]  \" | wc -c\` -ge $COLUMNS; then
  echo \"\$rp\" >&4
  echo $n \"[\$xxxm] $c\" >&4
 else
  echo $n \"\$rp [\$xxxm] $c\" >&4
 fi
 ;;
esac;;
esac"

: now set up to do reads with possible shell escape and default assignment
cat <<EOSC >myread
$startsh
?X:
?X: Save value of default -- do not alter original in case of eval
?X:
xxxm=\$dflt
$myecho
?X:
?X: If there is no default, then stop, regardless of the value in fastread.
?X: In silent mode, no new-line is to be echoed if the question is empty,
?X: since this is used to wait for the "return" key.
?X:
ans='!'
case "\$fastread" in
yes) case "\$dflt" in
 ") ;;
 *) ans='';
  case "\$silent-\$rp" in
  true-) ;;
  *) echo " " >&4;;
  esac;;
 esac;;
*) case "\$silent" in
 true) case "\$rp" in
  ") ans='';;
  esac;;
 esac;;
esac
while expr "X\$ans" : "X!" >/dev/null; do
 read answ
?X:
?X: Run 'eval' on the answer, in order to do variable substitution, in case
?X: the user types $HOME or $WHATEVER.
 Variables must be evaluated now.
?X: Typing '\$HOME' won't currently prevent from substitution -- use '\\$HOME'
?X: The $1 .. $9 and $*, as well as $@, are available to refer to the
?X: default value.
```

```
?X:
 set x \$xxxm
 shift
 aok=''; eval "ans=\\"\$answ\\"" && aok=y
 case  "\$answ" in
?X:
?X: Use "!" and not a plain ! because of a bug in BSD 4.4 shell
?X: (reported by Wayne Davison)
?X: We must handle the shell escapes before dealing with possible variable
?X: substitution, since the shell we're launching in that case will be able
?X: to do it as well as we can -- RAM, 15/03/96
?X
 "!")
  sh 1>&4
  echo " "
  $myecho
  ;;
 !*)
  set x \`expr "X\$ans" : "X!\(.*\)\$"\`
  shift
  sh 1>&4 -c "\$*"
  echo " "
  $myecho
  ;;
 "\$ans")
  case "\$ans" in
?X:
?X: Answers starting with & are hooks allowing to dynamically turn on/off
?X: some Configure options. That's for the future. -- RAM, 09/01/95
?X: Today, we only recognize '& -d' to mean 'go on as if Configure -d, which
?X: is a hardwired
 behaviour compatible with our general scheme.
?X:
  \\&*)
   set x \`expr "X\$ans" : "X&\(.*\)\$"\`
   shift
   case "\$1" in
   -d)
    fastread=yes
    echo "(OK, I'll run with -d after this question.)" >&4
    ;;
   -*)
    echo "*** Sorry, \$1 not supported yet." >&4
    ;;
   esac
   $myecho
   ans=!
   ;;
```

```
 esac;;
*)
 case "\$aok" in
 y)
  echo "*** Substitution done -- please confirm."
  xxxm="\$ans"
  ans=\`echo $n "\$ans$c" | tr '$trnl' ' '\`
  xxxm="\$ans"
  ans=!
  ;;
 *)
  echo "*** Error -- try again."
  ans=!
  ;;
 esac
 $myecho
 ;;
esac
?X: Stick in myread if no default answer and nothing was answered
 case "\$ans\$xxxm\$nostick" in
 '')
  ans=!
  $myecho
  ;;
 esac
done
case "\$ans" in
'') ans="\$xxxm";;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Myread.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lib.U,v 3.0.1.3 1995/09/25 09:16:47 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
```

```
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
?RCS: patch32: now uses installation prefix to set the default
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?LINT:
 empty
?X:?MAKE:lib libexp: Getfile Loc Oldconfig Prefixit Prefixup prefixexp
?X:?MAKE: -pick add $@ %<
?X:?Y:TOP
?X:?S:lib:
?X:?S: This variable holds the name of the directory in which the user wants
?X:?S: to put public library files for the package in question.  It is most
?X:?S: often a local directory such as /usr/local/lib. Programs using this
?X:?S: variable must be prepared to deal with filename expansion.
?X:?S:.
?X:?S:libexp:
?X:?S: This variable is the same as the lib variable, but is filename expanded
?X:?S: at configuration time, for convenient use in your makefiles.
?X:?S:.
?X:: determine where public libraries go
?X:set lib lib
?X:eval $prefixit
?X:case "$lib" in
?X:")
?X: dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
?X: set dflt
?X: eval $prefixup
?X: ;;
?X:*)  dflt="$lib";;
?X:esac
?X:echo " "
?X:fn=d~
?X:rp='Where do you want to put the public libraries?'
?X:. ./getfile
?X:lib="$ans"
?X:libexp="$ansexp"

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/nullified/lib.U
No license file was found, but licenses were detected in source scan.

# $Id: errnolist.sh,v 3.0.1.1 1994/01/24 14:00:00 ram Exp ram $
```

```
#
#  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
#
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#  as specified in the README file that comes with the distribution.
#  You may reuse parts of this distribution only within the terms of
#  that same Artistic Licence; a copy of which may be found at the root
#  of the source tree for dist 4.0.
#
# Original Author: Harlan Stenn <harlan@mumps.pfcs.com>
#
# $Log: errnolist.sh,v $
# Revision 3.0.1.1  1994/01/24  14:00:00  ram
# patch16: changed top ln-style config.sh lookup into test-style one
#
# Revision 3.0  1993/08/18  12:04:36  ram
# Baseline for dist 3.0 netwide release.
#
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/errnolist.SH
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: setsid.C,v 3.0.1.1 1994/01/24 13:58:47 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
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*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: setsid.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:47  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/setsid.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
```

```
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: patchlevel.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:18:41  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:31  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:patchlevel: package baserev test rsrc
?MAKE: -pick add $@ %<
?T:Revision
?S:patchlevel:
?S: The patchlevel level of this package.
?S: The value of patchlevel comes from the patchlevel.h file.
?S:.
: get the patchlevel
echo " "
echo "Getting the current patchlevel..." >&4
if $test -r
 $rsrc/patchlevel.h;then
 patchlevel=`awk \
  '/^#[  ]*define[  ][  ]*PATCHLEVEL/ {print $3}' \
  < $rsrc/patchlevel.h`
else
 patchlevel=0
fi
echo "(You have $package $baserev PL$patchlevel.)"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/patchlevel.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: d_group.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
```

```
?RCS:
?RCS: $Log: d_group.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:34:52  ram
?RCS: patch61: useless unit dropped.
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:07:48  ram
?RCS: patch32: created by ADO
?RCS:
?X:
?X: Useless unit dropped.
?X:
?LINT:empty
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/d_group.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: rcs_branch.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: rcs_branch.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:40  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:rcs_branch: Myread contains Loc
?MAKE: -pick add $@ %<
?S:rcs_branch:
?S: This variable will hold "true" if rcs can take the -b<revision>
?S: option, which can make Life Easier on those folks who like to run
?S: rcsdiff manually.
?S:.
?T:xxx
: Tra la la la la
echo " "
echo "Checking to see if RCS understands the -b switch..." >&4
xxx=`./loc
 rcs " $pth`
case "$xxx" in
")
 rcs_branch=false
 echo "Oh.  You don't seem to have RCS here."
```

```
 ;;
*)
 rcs > rcsbranch.out 2>&1
 if $contains 'b\[rev\]' rcsbranch.out  >/dev/null 2>&1 ; then
  rcs_branch=true
  echo "Nice!  Your RCS is spiffy!"
 else
  rcs_branch=false
 echo "Well, at least you have RCS.  You know, a newer version is available."
 fi
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/rcs_branch.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman3dir siteman3direxp installsiteman3dir: Getfile \
 Setprefixvar prefix siteprefix man3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman3dir="
?S:siteman3dir:
?S: This variable contains the name of the directory in which site-specific
?S: library man source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
 perl has been installed, users may install their own local
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman3direxp="
?S:siteman3direxp:
?S: This variable is the same as the siteman3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
```

```
?S:.
?D:installsiteman3dir="
?S:installsiteman3dir:
?S: This variable is really the same as siteman3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman3dir
?LINT:set siteman3dir
?LINT:set siteman3direxp
: determine where add-on library man pages go
case "$siteman3dir" in
") dflt=`echo $man3dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman3dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific library manual pages should be installed?'
. ./getfile
prefixvar=siteman3dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteman3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
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?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:sitehtml3dir sitehtml3direxp installsitehtml3dir: Getfile \
 Setprefixvar prefix siteprefix html3dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitehtml3dir="
?S:sitehtml3dir:
?S: This variable contains the name of the directory in which site-specific
```

```
?S: library html source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After
 perl has been installed, users may install their own local
?S: library html pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitehtml3direxp="
?S:sitehtml3direxp:
?S: This variable is the same as the sitehtml3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsitehtml3dir="
?S:installsitehtml3dir:
?S: This variable is really the same as sitehtml3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: html3direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsitehtml3dir
?LINT:set sitehtml3dir
?LINT:set sitehtml3direxp
: determine where add-on library html pages go
: There is no standard location, so try to copy the previously-selected
: directory structure for the core html pages.
case
 "$sitehtml3dir" in
")    dflt=`echo "$html3dir" | $sed "s#^$prefix#$siteprefix#"` ;;
*)     dflt=$sitehtml3dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname where the site-specific library html pages should be installed?'
. ./getfile
prefixvar=sitehtml3dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitehtml3dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: End.U,v $
?RCS: Revision 3.0  1993/08/18  12:04:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit serves as the goal which forces make to choose all the units that
?X: ask questions.  The $W on the ?MAKE: line is the list of all symbols wanted.
?X: To force any unit to be included, copy this unit to your private U directory
?X: and add the name of the unit desired to the ?MAKE: dependency line.
?X:
?MAKE:End: $W
?MAKE: -pick add $@ %<
?LINT:use $W
: end of configuration
 questions
echo " "
echo "End of configuration questions."
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/End.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: dup2.C,v 3.0.1.1 1994/01/24 13:58:37 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* Original Author: Larry Wall <lwall@netlabs.com>
*
* $Log: dup2.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:37  ram
* patch16: created
*
```

*/

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/dup2.C
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Finish.U,v $
?RCS: Revision 3.0.1.6 1995/02/15 14:09:30 ram
?RCS: patch51: now clearer about how to edit config.sh at the prompt (WED)
?RCS:
?RCS: Revision 3.0.1.5 1994/10/29 15:53:14 ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.4 1994/05/06 14:19:37 ram
?RCS: patch23: added blank lines around 'End of Configure'
?RCS:
?RCS: Revision 3.0.1.3 1993/10/16 13:46:09 ram
?RCS: patch12: replaced Config_h by Magic_h in the dependency line
?RCS:
?RCS:
 Revision 3.0.1.2 1993/09/13 15:45:26 ram
?RCS: patch10: fixed shell evaluation w/o shell escape while in silent mode
?RCS:
?RCS: Revision 3.0.1.1 1993/08/30 08:55:59 ram
?RCS: patch8: prevents myread from blocking on empty answers, exceptionally
?RCS:
?RCS: Revision 3.0 1993/08/18 12:04:55 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit is the very last one in the Configure script. It runs all the
?X: SH files, which among other things produce config.h and (usually) Makefile.
?X: It offers to do a make depend if the Makefile contains that target.
?X:
?MAKE:Finish: Chk_MANI Extract Myread Oldsym Magic_h cat rm contains \
 test package make
?MAKE: -pick add $@ %<
?F:!config.sh

```
?T:pwd
: Finish up by extracting the .SH files
case "$alldone" in
exit)
?X: They supplied the -E switch
 echo "Stopping at your request, leaving temporary files around."
 exit 0
 ;;
cont)
 ;;
")
 dflt="
 nostick=true
 $cat <<EOM

If you'd like to make any changes to the config.sh
 file before I begin
to configure things, do it as a shell escape now (e.g. !vi config.sh).

EOM
 rp="Press return or use a shell escape to edit config.sh:"
 . UU/myread
 nostick="
 case "$ans" in
 ") ;;
 *) : in case they cannot read
  sh 1>&4 -c "$ans";;
 esac
 ;;
esac

: if this fails, just run all the .SH files by hand
. ./config.sh

?X:
?X: Turn silent mode off from now on (we want a verbose file extraction).
?X: This means we have to explicitly test for '$silent' from now on to
?X: strip off any verbose messages.
?X:
echo " "
exec 1>&4
pwd=`pwd`
. ./UU/extract
cd "$pwd"

if $contains '^depend:' [Mm]akefile >/dev/null 2>&1; then
 dflt=y
 case "$silent" in
```

```
 true) ;;
 *)
  $cat <<EOM

Now you need to generate make dependencies by running "$make depend".
You might prefer to run it in background: "$make depend > makedepend.out &"
It can take a while, so you might not want to run it right now.

EOM
  ;;
 esac
 rp="Run $make depend now?"
 . UU/myread
 case "$ans" in
 y*)
  $make depend
 && echo "Now you must run '$make'."
  ;;
 *)
  echo "You must run '$make depend' then '$make'."
  ;;
 esac
elif test -f [Mm]akefile; then
 echo " "
 echo "Now you must run a $make."
else
 echo "Configure done."
fi

if $test -f Policy.sh; then
   $cat <<EOM

If you compile $package on a different machine or from a different object
directory, copy the Policy.sh file from this object directory to the
new one before you run Configure -- this will help you with most of
the policy defaults.

EOM
fi
if $test -f UU/config.msg; then
   echo "Hmm.  I also noted the following information while running:"
   echo " "
   $cat UU/config.msg >&4
fi
?X:
?X: kit*isdone files are left over by shell archives built using the makedist
?X: script which comes from dist, while ark*isdone files are left over by
?X: the cshar archive maker.
```

?X:
$rm -f kit*isdone ark*isdone
$rm -rf UU

: End of Configure

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Finish.U
No license file was found, but licenses were detected in source scan.

Perl5 Metaconfig Units

    Copyright (c) 1996-1998, Andy Dougherty
    Copyright (c) 1999-2011, H.Merijn Brand
  All rights reserved.

These units are the ones I used to build Configure and config_h.SH
in the Perl5 distribution.

The Configure script and config_h.SH file in the Perl distribution are
generated by a program called metaconfig. To run metaconfig, you will
need the full dist 3.0 distribution, maintained by Raphael Manfredi.
As of this writing, the current version is dist3.0, patchlevel 70.
Dist version dist-3.0@70.tar.gz is available on CPAN (the Comprehensive
Perl Archive Network) as
<http://www.perl.com/perl/CPAN/authors/id/RAM/dist-3.0@70.tar.gz>.

Instructions:

1. Unpack the full perl5 sources. Execute the following command

 chmod +w Configure config_h.SH Porting/Glossary Porting/config*

2. Unpack the archive containing this file in the perl5 source
   directory. This will create a directory
 'U' under the perl5
   sources. That directory will contain the metaconfig units for perl5.
   This will also create two files in the perl5 source tree:
   MANIFEST.new and .package.

3. Apply any patches to perl in the perl_patches/ directory.
   (This may well be empty.)

4. Obtain and install dist-3.0pl70.

4. Apply any patches to dist under the dist_patches subdirectory.

5. From your main perl5 source directory, run packinit to

regenerate the .package file. IMPORTANT: Change the name and address of the maintainer to your own name and address. I don't want bug reports intended for you coming to me.

6. From your main perl5 source directory, run

metalint (or mlint)

and repair every failure it reports.

7. From your main perl5 source directory, run

metaconfig -m (or mconfig -m)

8. Edit U/mkglossary and/or U/mkgloss.pl to point to your dist-3.0pl70 location. (See comments at the top.)

9. Run the Porting/mksample script to update the contents of the Porting/ subdirectory, or run all parts by hand. (see README)

NB: this script used to be U/mksample replaced by Porting/mksample; see Porting/pumpkin.pod instead for current documentation on its use.

10. Let me know about any changes, corrections, or enhancements.

Things to watch out for:

1. Future support of better random number generators should probably start with the randfunc.U unit included here. It's currently broken, but well commented and probably a good place to start.

Descriptions:

The units and other related files have been broken up into the following directories:

acl/
This is an old patch to begin to detect and use ACL (access control list) file protection schemes.

compline/
These are similar to the standard units, but I have modified them to have a more uniform compile command line, usually using the new Compile.U unit. I have submitted these for inclusion into the regular dist distribution. (The ccflags.U

unit is actually
perl-specific since it mentions -DDEBUGGING and -DPOSIX_SOURCE,
but that's the only place it is perl-specific.)

dist_patches/
These are patches to dist that must be applied before it is built
and installed. I have submitted these for inclusion in the
regular dist distribution.

modified/
These are modified versions of the standard units. Also included in
this directory are new units that are clearly derived from existing
units. I have submitted these for inclusion in the regular dist
distribution.

perl/
These are specific to perl. Some are heavily derived from
original dist units, and are marked as such. Others are original.

perl_patches/
These are patches to the perl source. This directory
should ordinarily be empty, but there may have been drift between
the standard version of perl and the one associated with these
units.

protos/
These are units modified to use the new Hasproto.U or Protochk.U
units to check for prototypes. I have submitted these for inclusion
into the regular dist distribution.

target/
This is the very, very beginning of cross-compiler support.
It doesn't work yet, and many standard units will need
modification.

typedefs/
These are standard units modified to use the modified Typedef.U
unit to check for typedefs. (The modified Typdef.U includes a
function to avoid unnecessary prompts if the typdef being searched
for exists.) I have submitted these for inclusion into the
regular dist distribution.

threads/
These are specific to threading perl.

Copyright Information:

Unless otherwise indicated, the files contained in this

distribution are:

  Copyright (c) 1996-1998, Andy Dougherty

The following licensing terms apply to all files contained in
this distribution:

You may distribute the files contained in this distribution
under the terms of either

  a) the "Artistic License" which comes with Perl,
or

  b) the "Artistic License" which comes with dist, or

  c) the GNU General Public License as published by the Free
  Software Foundation; either version 1, or (at your option) any
  later version (see the file "Copying" that comes with the
  Perl distribution).

Which one to use is your choice.

The units in the "modified" directory have been derived from units
associated with the metaconfig program of Raphael Manfredi's "dist"
distribution. These units list Raphael Manfredi as the Copyright holder.
dist is distributed under a modified version of the Perl Artistic License.
Clause 7 of this modified license as contained in dist-3.0-pl60 provides:

  7. You may reuse parts of this Package in your own programs, provided
  that you explicitly state where you got them from, in the source code
  (and, left to your courtesy, in the documentation), duplicating
  all the associated copyright notices and disclaimers. Besides
  your changes, if any, must be clearly marked
as such. Parts reused
  that way will no longer fall under this license if, and only if,
  the name of your program(s) have no immediate connection with the
  name of the Package itself or its associated programs. You may then
  apply whatever restrictions you wish on the reused parts or choose
  to place them in the Public Domain--this will apply only within the
  context of your package.

In accordance with this clause, the versions of these units
contained here are made available under the same terms as the
rest of the units.

If you have any questions about the use of these units or about
the differences between these units and the standard versions, please
feel free to ask.

Andy Dougherty doughera@lafayette.edu
Dept. of Physics
Lafayette College
Easton, PA 18042-1782

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/README.dist
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: n.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: n.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:n c: contains
?MAKE: -pick add $@ %<
?S:n:
?S: This variable contains the -n flag if that is what causes the echo
?S: command to suppress newline.  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
?S:c:
?S: This variable contains the \c string if that is what causes the echo
?S: command to suppress newline.
  Otherwise it is null.  Correct usage is
?S:     $echo $n "prompt for a question: $c".
?S:.
: first determine how to suppress newline on echo command
echo " "
echo "Checking echo to see how to suppress newlines..."
(echo "hi there\c" ; echo " ") >.echotmp
if $contains c .echotmp >/dev/null 2>&1 ; then
 echo "...using -n."
 n='-n'
 c=''
else
 cat <<'EOM'
...using \c
```

```
EOM
 n=''
 c='\c'
fi
echo $n "The star should be here-->$c"
echo '*'
rm -f .echotmp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/n.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sitebin.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitebin.U,v $
?RCS:
?MAKE:sitebin sitebinexp installsitebin : Getfile Oldconfig \
 Setprefixvar siteprefix
?MAKE: -pick add $@ %<
?Y:TOP
?D:sitebin=''
?S:sitebin:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard distribution will put nothing
 in this directory.
?S: After perl has been installed, users may install their own local
?S: executables in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitebinexp=''
?S:sitebinexp:
?S: This is the same as the sitebin variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitebin=''
?S:installsitebin:
```

```
?S: This variable is usually the same as sitebinexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitebin
?LINT:set sitebin
?LINT:set sitebinexp
: determine where add-on public executables go
case "$sitebin" in
'') dflt=$siteprefix/bin ;;
*) dflt=$sitebin ;;
esac
fn=d~
rp='Pathname where the add-on public executables should be installed?'
. ./getfile
prefixvar=sitebin
. ./setprefixvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitebin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?MAKE:perladmin: cf_email Oldconfig Myread cat
?MAKE: -pick add $@ %<
?Y:TOP
?S:perladmin:
?S: Electronic mail address of the perl5 administrator.
?S:.
: Ask e-mail of administrator
$cat <<EOM

If you or somebody else will be maintaining perl at your site, please
fill in the correct e-mail address here so that they may be contacted
if necessary. You may enter "none" for no administrator.

EOM
case "$perladmin" in
'') dflt="$cf_email";;
*) dflt="$perladmin";;
esac
rp='Perl administrator e-mail address'
. ./myread
```

```
perladmin="$ans"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/perladmin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Warn_v7ND.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Warn_v7ND.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:01:46  ram
?RCS: patch36: call ./v7 explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:18  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit warns V7 sites that they may not have a non-blocking read.
?X: This unit needs to be mentioned in End.U to get included.
?X:
?MAKE:Warn_v7ND: package Guess
?MAKE: -pick add $@ %<
: Warnings
if ./v7; then
 cat
 <<EOM

NOTE: many V7 systems do not have a way to do a non-blocking read.  If you
don't have any of FIONREAD, O_NDELAY, or rdchk(), the $package package
may not work as well as it might.  It might not work at all.
EOM
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Warn_v7ND.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: prototype.U,v 3.0.1.3 1994/05/06 15:11:49 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
```

?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: prototype.U,v $
?RCS: Revision 3.0.1.3 1994/05/06 15:11:49 ram
?RCS: patch23: ensure cc flags used when looking for prototype support
?RCS:
?RCS: Revision 3.0.1.2 1994/01/24 14:15:36 ram
?RCS: patch16: prototype handling macros now appear only when needed
?RCS:
?RCS: Revision 3.0.1.1 1993/08/25 14:03:12 ram
?RCS: patch6: defines were referring to non-existent VOID symbol
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:36 ram
?RCS: Baseline for dist
 3.0 netwide release.
?RCS:
?MAKE:prototype: Nothing
?S:prototype:
?S: This variable holds the eventual value of CAN_PROTOTYPE, which
?S: indicates the C compiler can handle function prototypes.
?S:.
: stub, never used
prototype=nothing

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/prototype.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: sitescript.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sitescript.U,v $
?RCS:
?MAKE:sitescript sitescriptexp installsitescript : Getfile Oldconfig test \
 Setprefixvar sitebin siteprefix
?MAKE: -pick add $@ %<
?Y:TOP

```
?D:sitescript="
?S:sitescript:
?S: This variable holds the name of the directory in which the user wants
?S: to put add-on publicly executable files for the package in question.  It
?S: is most often a local directory such as /usr/local/bin. Programs using
?S: this variable must be prepared to deal with ~name substitution.
?S: The standard
 distribution will put nothing in this directory.
?S: After perl has been installed, users may install their own local
?S: scripts in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:sitescriptexp="
?S:sitescriptexp:
?S: This is the same as the sitescript variable, but is filename expanded at
?S: configuration time, for use in your makefiles.
?S:.
?D:installsitescript="
?S:installsitescript:
?S: This variable is usually the same as sitescriptexp, unless you are on
?S: a system running AFS, in which case they may differ slightly. You
?S: should always use this variable within your makefiles for portability.
?S:.
?LINT:change prefixvar
?LINT:set installsitescript
?LINT:set sitescript
?LINT:set sitescriptexp
: determine where add-on public executable scripts go
case "$sitescript" in
") dflt=$siteprefix/script
 $test -d $dflt || dflt=$sitebin ;;
*)  dflt="$sitescript" ;;
esac
fn=d~+
rp='Pathname where add-on public executable scripts
 should be installed?'
. ./getfile
prefixvar=sitescript
. ./setprefixvar
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/sitescript.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
```

```
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: lib.U,v $
?RCS: Revision 3.0.1.3  1995/09/25  09:16:47  ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:38:08  ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/08/29  16:27:40  ram
?RCS: patch32: now uses installation prefix to set the default
?RCS:
?RCS: Revision 3.0  1993/08/18  12:08:56  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lib libexp: Getfile
 Loc Oldconfig Prefixit Prefixup prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?S:lib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public library files for the package in question.  It is most
?S: often a local directory such as /usr/local/lib. Programs using this
?S: variable must be prepared to deal with filename expansion.
?S:.
?S:libexp:
?S: This variable is the same as the lib variable, but is filename expanded
?S: at configuration time, for convenient use in your makefiles.
?S:.
: determine where public libraries go
set lib lib
eval $prefixit
case "$lib" in
")
 dflt=`./loc . "." $prefixexp/lib /usr/local/lib /usr/lib /lib`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$lib";;
esac
echo " "
fn=d~
rp='Where do you want to put the public libraries?'
```

```
. ./getfile
lib="$ans"
libexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: usenm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:26:40  ram
?RCS: patch61: don't use nm with the GNU C library
?RCS: patch61: added support for Linux shared libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:57  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:usenm runnm nm_opt nm_so_opt: cat test Myread Oldconfig grep \
 d_gnulibc nm egrep rsrc osname Guess
?MAKE: -pick add $@ %<
?S:usenm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction is wanted
 or not.
?S:.
?S:runnm:
?S: This variable contains 'true' or 'false' depending whether the
?S: nm extraction should be performed or not, according to the value
?S: of usenm and the flags on the Configure command line.
?S:.
?S:nm_opt:
?S: This variable holds the options that may be necessary for nm.
?S:.
?S:nm_so_opt:
?S: This variable holds the options that may be necessary for nm
?S: to work on a shared library but that can not be used on an
?S: archive library.  Currently, this is only used by Linux, where
?S: nm --dynamic is *required* to get symbols from an ELF library which
?S: has been stripped, but nm --dynamic is *fatal* on an archive library.
```

```
?S: Maybe Linux should just always set usenm=false.
?S:.
: see if nm is to be used to determine whether a symbol is defined or not
?X: If there is enough inquiries, it might be worth to wait for the nm
?X: extraction. Otherwise, the C compilations might be a better deal.
?X:
?X: Don't bother if we're using GNU libc -- skimo
case "$usenm"
 in
")
 dflt="
 case "$d_gnulibc" in
 "$define")
  echo " "
  echo "$nm probably won't work on the GNU C Library." >&4
  dflt=n
  ;;
 esac
 case "$dflt" in
 ")
  if $test "$osname" = aix -a ! -f /lib/syscalls.exp; then
   echo " "
   echo "Whoops!  This is an AIX system without /lib/syscalls.exp!" >&4
   echo "'nm' won't be sufficient on this system." >&4
   dflt=n
  fi
  ;;
 esac
 case "$dflt" in
 ")
  if ./gnu; then
   echo " "
   echo "Hmm...  A GNU system without a GNU C Library?  Weird..." >&4
   dflt=n
  else
   dflt=`$egrep 'inlibc|csym' $rsrc/Configure | wc -l 2>/dev/null`
   if $test $dflt -gt 20; then
    dflt=y
   else
    dflt=n
   fi
  fi
  ;;
 esac
 ;;
*)
 case "$usenm" in
 true|$define) dflt=y;;
```

```
 *) dflt=n;;
 esac
 ;;
esac
$cat <<EOM

I can use $nm to extract the symbols from your C libraries. This
is a time consuming task which may generate huge output on the disk (up
to 3 megabytes) but that should make the symbols extraction faster. The
alternative is to skip the
 'nm' extraction part and to compile a small
test program instead to determine whether each symbol is present. If
you have a fast C compiler and/or if your 'nm' output cannot be parsed,
this may be the best solution.

EOM
rp='Shall I use nm to extract C symbols from the libraries?'
. ./myread
case "$ans" in
[Nn]*) usenm=false;;
*) usenm=true;;
esac

?X: Name extraction is to be run if 'nm' usage is wanted and if no -r flag
?X: was provided to configure (in which case we simply re-use the previous
?X: values).
runnm=$usenm
case "$reuseval" in
true) runnm=false;;
esac

: nm options which may be necessary
case "$nm_opt" in
'') if $test -f /mach_boot; then
  nm_opt=''  # Mach
 elif $test -d /usr/ccs/lib; then
  nm_opt='-p'  # Solaris (and SunOS?)
 elif $test -f /dgux; then
  nm_opt='-p'  # DG-UX
 elif $test -f /lib64/rld; then
  nm_opt='-p'  # 64-bit Irix
 else
  nm_opt=''
 fi;;
esac

?X: nm options which may be necessary for shared libraries but illegal
?X: for archive libraries.  Thank you,
```

```
 Linux.
case "$nm_so_opt" in
") case "$osname" in
 *linux*)
  if $nm --help | $grep 'dynamic' > /dev/null 2>&1; then
   nm_so_opt='--dynamic'
  fi
  ;;
 esac
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/usenm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: man3dir.U,v 3.1 1999/07/08 20:52:19 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996-1999, Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man3dir.U,v $
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:34  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man3 used instead
 of man everywhere.
?X: I then added various tests because perl5 has *lots* of man3
?X: pages with long file names. -- ADO
?X:
?MAKE:man3dir man3direxp man3ext installman3dir: cat nroff Loc Oldconfig \
 sed man1dir spackage package Getfile Setprefixvar Prefixit Prefixup \
 d_flexfnam privlib Myread test
?MAKE: -pick add $@ %<
?Y:TOP
?D:man3dir="
```

```
?S:man3dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?D:man3direxp="
?S:man3direxp:
?S: This variable is the same as the man3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman3dir="
?S:installman3dir:
?S: This variable is really the same as man3direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man3direxp only
 points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man3ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '3'.  The Makefile must supply the '.'.
?S: See man3dir.
?S:.
?T:prog tdflt
?LINT:change prefixvar
?LINT:set man3direxp
: determine where library module manual pages go
set man3dir man3dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages for many of the library modules.
EOM

case "$nroff" in
nroff)
 $cat <<'EOM'
However, you don't have nroff, so they're probably useless to you.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

case "$d_flexfnam" in
undef)
 $cat <<'EOM'
```

```
However, your system can't handle the long file names like File::Basename.3.
EOM
 case "$man3dir" in
 ") man3dir="none";;
 esac;;
esac

echo "If you don't want the manual sources installed, answer 'none'."
?X: In 5.005_57 and earlier, I had the following notes:
?X:
 We do not use /usr/local/man/man3 because some man programs will
?X: only show the /usr/local/man/man3 contents, and not the system ones,
?X: thus man less will show the perl module less.pm, but not the system
?X: less command.  We might also conflict with Tcl man pages.
?X: However, something like /opt/perl/man/man3 is fine.
?X:
?X: However, opinion seems to be shifting such that 'man POSIX' ought
?X: to just work.  -- Andy Dougherty  July 8, 1999
?X:
?X: remove any trailing -3.0 or other version indication from $package
prog=`echo $package | $sed 's/-*[0-9.]*$//'`
case "$man3dir" in
") dflt=`echo "$man1dir" | $sed -e 's/man1/man3/g' -e 's/man\.1/man\.3/g'`
 if $test -d "$privlib/man/man3"; then
  cat <<EOM >&4

WARNING:  Previous versions of perl installed man3 pages into
$privlib/man/man3.  This version will suggest a
new default of $dflt.
EOM
  tdflt=$dflt
  dflt='n'
  rp='Do you wish to preserve the old behavior?(y/n)'
  . ./myread
  case "$ans" in
  y*) dflt="$privlib/man/man3"
 ;;
  *)  dflt=$tdflt ;;
  esac
   fi
 ;;
*) dflt="$man3dir" ;;
esac
case "$dflt" in
' ') dflt=none ;;
esac
echo " "
fn=dn+~
```

```
rp="Where do the $package library man pages (source) go?"
. ./getfile
prefixvar=man3dir
. ./setprefixvar

case "$man3dir" in
'') man3dir=' '
 installman3dir='';;
esac

: What suffix to use on installed man pages
case "$man3dir" in
' ')
 man3ext='0'
 ;;
*)
 rp="What suffix should be used for the $package library man pages?"
 case "$man3ext" in
 '') case "$man3dir" in
  *3)  dflt=3 ;;
  *3p) dflt=3p ;;
  *3pm) dflt=3pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L3) dflt=L3;;
  *) dflt=3;;
  esac
  ;;
 *) dflt="$man3ext";;
 esac
 . ./myread
 man3ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/man3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: lintlib.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

```
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: lintlib.U,v $
?RCS: Revision 3.0  1993/08/18  12:09:05  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:lintlib lintlibexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:lintlib:
?S: This variable holds the name of the directory in which the user wants
?S: to put public lint-library files for the package in question.  It is
?S: most often a local directory such as /usr/local/lib/lint. Programs using
?S: this variable must be prepared to
 deal with ~name expansion.
?S:.
?S:lintlibexp:
?S: This variable is the same as the lintlib variable, but is filename
?S: expanded at configuration time, for convenient use in your makefiles.
?S:.
: determine where public lint libraries go
case "$lintlib" in
'') dflt=`./loc . "." /usr/local/lib/lint /usr/lib/lint /usr/lib`;;
*) dflt="$lintlib" ;;
esac
echo " "
fn=d~
rp='Where do you want to put the public lint libraries?'
. ./getfile
lintlib="$ans"
lintlibexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lintlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1996, Andy Dougherty
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

```
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:10:29  ram
?RCS: patch61: created
?RCS:
?X:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and man3dir.  This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: afs cat nroff Loc Oldconfig \
 spackage test Getfile Prefixit prefixexp
 Prefixup sysman Myread
?MAKE: -pick add $@ %<
?Y:TOP
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
: determine
 where manual pages go
set man1dir man1dir none
eval $prefixit
$cat <<EOM

$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
```

```
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 '') man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$man1dir" in
' ') dflt=none
 ;;
'')
 lookpath="$prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
*)
  dflt="$man1dir"
 ;;
esac
echo " "
fn=dn+~
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir="
fi
man1dir="$ans"
man1direxp="$ansexp"
case "$man1dir" in
'') man1dir=' '
 installman1dir="';;
esac
if $afs; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).
```

```
EOM
 case "$installman1dir" in
 '') dflt=`echo $man1direxp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installman1dir";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installman1dir="$ans"
else
 installman1dir="$man1direxp"
fi

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 '') case "$man1dir" in
  *1)  dflt=1 ;;
  *1p)
 dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L1) dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/man1dir.U

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

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: orderlib.U,v $
?RCS: Revision 3.0.1.4  1997/02/28  16:18:18  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS: patch61: likewise for .o replaced by $_o
?RCS: patch61: now uses the ar located by Loc.U
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:33:04  ram
?RCS: patch45: allows hint files to specify their own value for 'ranlib'
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  16:26:48  ram
?RCS: patch36: now performs a real small compile for accurate checks (ADO)
?RCS:
?RCS: Revision 3.0.1.1
  1994/08/29  16:31:17  ram
?RCS: patch32: use cc variable instead of hardwired 'cc' in 1st compile
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:26  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:orderlib ranlib: Loc ar cat test rm +cc +ccflags +ldflags +libs _a _o
?MAKE: -pick add $@ %<
?S:orderlib:
?S: This variable is "true" if the components of libraries must be ordered
?S: (with `lorder $* | tsort`) before placing them in an archive.  Set to
?S: "false" if ranlib or ar can generate random libraries.
?S:.
?S:ranlib:
?S: This variable is set to the pathname of the ranlib program, if it is
?S: needed to generate random libraries.  Set to ":" if ar can generate
?S: random libraries or if random libraries are not supported
?S:.
?F:!foobar
: see if ar generates random libraries by itself
echo " "
echo "Checking how to generate random libraries on your machine..." >&4
?X: Some systems (like MIPS) complain when running ar... Others like Ultrix
```

```
?X: need an explicit 'ar ts'
 to add the table of contents.
?X: Still others like Linux run ar ts successfully, but still need ranlib.
?X: This set of tests seems the minimum necessary to check out Linux.
?X: We need to explicitly put the entries in out-of-order so that Sun's ld
?X: will fail.  (Otherwise it complains, but gives an exit status of 0.)
echo 'int bar1() { return bar2(); }' > bar1.c
echo 'int bar2() { return 2; }' > bar2.c
$cat > foo.c <<'EOP'
int main() { printf("%d\n", bar1()); exit(0); }
EOP
$cc $ccflags -c bar1.c >/dev/null 2>&1
$cc $ccflags -c bar2.c >/dev/null 2>&1
$cc $ccflags -c foo.c >/dev/null 2>&1
$ar rc bar$_a bar2$_o bar1$_o >/dev/null 2>&1
if $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
 echo "ar appears to generate random libraries itself."
 orderlib=false
 ranlib=":"
elif $ar ts bar$_a >/dev/null 2>&1 &&
 $cc $ccflags $ldflags -o foobar foo$_o bar$_a $libs > /dev/null 2>&1 &&
 ./foobar >/dev/null 2>&1; then
  echo "a table of contents
 needs to be added with 'ar ts'."
  orderlib=false
  ranlib="$ar ts"
else
?X: Allow hints to specify their own ranlib "script". For instance, on
?X: some NeXT machines, the timestamp put by ranlib is not correct, and this
?X: may raise tedious recompiles for nothing. Therefore, NeXT may add the
?X: ranlib='sleep 5; /bin/ranlib' line in their hints to "fix" that.
?X: (reported by Andreas Koenig <k@franz.ww.tu-berlin.de>)
 case "$ranlib" in
 :) ranlib='';;
 '')
  ranlib=`./loc ranlib X /usr/bin /bin /usr/local/bin`
  $test -f $ranlib || ranlib=''
  ;;
 esac
 if $test -n "$ranlib"; then
  echo "your system has '$ranlib'; we'll use that."
  orderlib=false
 else
  echo "your system doesn't seem to support random libraries"
  echo "so we'll use lorder and tsort to order the libraries."
  orderlib=true
  ranlib=":"
```

```
 fi
fi
$rm -f foo* bar*
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/orderlib.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: so.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: so.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  16:30:04  ram
?RCS: patch36: now tells user how he can suppress shared lib lookup (ADO)
?RCS: patch36: removed echo at the top, since it's now in the here-doc (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  07:07:02  ram
?RCS: patch30: created
?RCS:
?X:
?X: This unit computes the shared-object / shared-lib extension
?X:
?MAKE:so d_libname_unique: test libpth Loc Myread Oldconfig cat Setvar
?MAKE: -pick add $@ %<
?S:so:
?S: This
 variable holds the extension used to identify shared libraries
?S: (also known as shared objects) on the system. Usually set to 'so'.
?S:.
?S:d_libname_unique:
?S: This variable is defined if the target system insists on unique
?S: basenames for shared library files. This is currently true on Android,
?S: false everywhere else we know of.
?S: Defaults to 'undef'.
?S:.
?LINT:set d_libname_unique
?T: xxx
: compute shared library extension
case "$so" in
")
 if xxx=`./loc libc.sl X $libpth`; $test -f "$xxx"; then
```

```
 dflt='sl'
else
 dflt='so'
fi
;;
*) dflt="$so";;
esac
$cat <<EOM

On some systems, shared libraries may be available.  Answer 'none' if
you want to suppress searching of shared libraries for the remainder
of this configuration.

EOM
rp='What is the file extension used for shared libraries?'
. ./myread
so="$ans"

: Does target system insist that shared library basenames are unique
$cat << EOM

Some dynamic loaders assume that the *basename* of shared library
 filenames
are globally unique.  We'll default this to undef as we assume your system
is not this weird. Set to defined if you're on one of them.

EOM

dflt='n'
rp='Make shared library basenames unique?'
. ./myread
case "$ans" in
y|Y) val="$define" ;;
*)   val="$undef"  ;;
esac
set d_libname_unique
eval $setvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/so.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Compile.U,v $
?RCS:
?RCS: Copyright (c) 1998 Andy Dougherty
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
```

```
?RCS:
?RCS:
?X:
?X: This unit is just a quick shorthand for the compile command
?X: to be used in all the other metaconfig units.
?X:
?MAKE:Compile: +cc +optimize +ccflags +ldflags +libs test
?MAKE: -pick wipe $@ %<
?LINT:extern usedevel maintloc
?LINT:define compile compile_ok
?V:compile compile_ok mc_file
?S:compile:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command, namely
?S: $cc $optimize $ccflags $ldflags -o $1 $1.c $libs > /dev/null 2>&1
?S: Note that the output filename does _not_ include the _exe
?S: extension.  Instead we assume that the linker will be
?S: "helpful" and automatically appending the correct suffix.
?S: OS/2
 users will apparently need to supply the -Zexe flag to
?S: get this behavior.
?S:
?S: To use this variable, say something like:
?S:  echo 'int main() { exit(0); }' > try.c
?S:  set try
?S:  if eval $compile; then
?S:   echo "success"   # and do whatever . . .
?S:  else
?S:   echo "failure"   # and do whatever . . .
?S:  fi
?S: To add extra flags cc flags (e.g. -DWHATEVER) just put them
?S: in $*, e.g.
?S:  set try -DTRY_THIS_FLAG
?S:.
?S:compile_ok:
?S: This shell variable is used internally by Configure to provide
?S: a convenient shorthand for the typical compile command that you
?S: expect to work ok.  It is the same as $compile, except we
?S: deliberately let the user see any error messages.
?S:.
: define a shorthand compile call
compile='
mc_file=$1;
shift;
case "$usedevel" in $define|true|[yY]*) if $test ! -f "${mc_file}.c"; then
echo "Internal Configure script bug - compiler test file ${mc_file}.c is missing. Please report this to <$maintloc>"
>&4;
exit 1;
```

```
fi;
esac;
$cc
 -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
: define a shorthand compile call for compilations that should be ok.
compile_ok='
mc_file=$1;
shift;
$cc -o ${mc_file} $optimize $ccflags $ldflags $* ${mc_file}.c $libs > /dev/null 2>&1;'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/compline/Compile.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Oldsym.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Oldsym.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:06:58  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:13  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit follows the creation of the config.sh file. It adds some
?X: special symbols: defines from patchlevel.h file if any and PERL_CONFIG_SH,
?X: which is set to true. Then, we try to keep all the new symbols that
?X: may come from a hint
 file or a previous config.sh file.
?X:
?MAKE:Oldsym: Config_sh cat test hint src sed sort uniq perl_patchlevel
?MAKE: -pick add $@ %<
?T:PERL_CONFIG_SH PERL_PATCHLEVEL sym tmp
?F:!UU
: add special variables
$test -f $src/patchlevel.h && \
awk '/^#define[  ]+PERL_/ {printf "%s=%s\n",$2,$3}' $src/patchlevel.h >>config.sh
echo "PERL_PATCHLEVEL='$perl_patchlevel'" >>config.sh
echo "PERL_CONFIG_SH=true" >>config.sh
```

```
: propagate old symbols
if $test -f UU/config.sh; then
?X: Make sure each symbol is unique in oldconfig.sh
 <UU/config.sh $sort | $uniq >UU/oldconfig.sh
?X:
?X: All the symbols that appear twice come only from config.sh (hence the
?X: two config.sh in the command line). These symbols will be removed by
?X: the uniq -u command. The oldsyms file thus contains all the symbols
?X: that did not appear in the produced config.sh (Larry Wall).
?X:
?X: Do not touch the -u flag of uniq.  This means you too, Jarkko.
?X:
 $sed -n 's/^\([a-zA-Z_0-9]*\)=.*/\1/p' \
  config.sh config.sh UU/oldconfig.sh
 |\
  $sort | $uniq -u >UU/oldsyms
 set X `$cat UU/oldsyms`
 shift
 case $# in
 0) ;;
 *)
  $cat <<EOM
Hmm...You had some extra variables I don't know about...I'll try to keep 'em...
EOM
  echo ": Variables propagated from previous config.sh file." >>config.sh
  for sym in `$cat UU/oldsyms`; do
   echo "    Propagating $hint variable '"$"$sym..."
   eval 'tmp="$"${sym}""""
   echo "$tmp" | \
    sed -e "s/'/'\"'\"'/g" -e "s/^/$sym='/" -e "s/$/'/" >>config.sh
  done
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Oldsym.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Mkdirp.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
```

```
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which can launched to create a
?X: directory path like "mkdir -p" would do.
?X:
?MAKE:Mkdirp:
 eunicefix startsh
?MAKE: -pick add $@ %<
?F:./mkdirp
?T:name create file
: script used to emulate mkdir -p
cat >mkdirp <<EOS
$startsh
EOS
cat >>mkdirp <<'EOS'
name=$1;
create="";
while test $name; do
 if test ! -d "$name"; then
  create="$name $create"
  name=`echo $name | sed -e "s|^[^/]*$||"`
  name=`echo $name | sed -e "s|\(.*\)/.*|\1|"`
 else
  name=""
 fi
done
for file in $create; do
 mkdir $file
done
EOS
chmod +x mkdirp
$eunicefix mkdirp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Mkdirp.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
```

```
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in order
?X: to make quick check on whether the current C compiler is working.
?X:
?MAKE:Checkcc ccname ccversion: Myread Warn startsh cat contains test
?MAKE: -pick add $@ %<
?S:ccname:
?S: This can set either by hints files or by Configure.  If using
?S: gcc, this is gcc, and if not, usually equal to cc, unimpressive, no?
?S: Some platforms, however, make good use of this by storing the
?S: flavor
 of the C compiler being used here.  For example if using
?S: the Sun WorkShop suite, ccname will be 'workshop'.
?S:.
?S:ccversion:
?S: This can set either by hints files or by Configure.  If using
?S: a (non-gcc) vendor cc, this variable may contain a version for
?S: the compiler.
?S:.
?F:./checkcc ./trygcc !checktmp
?V:despair
?T:trygcc
?LINT:extern cc rm ccflags ldflags
?LINT:change cc ccflags
?LINT:usefile checktmp
?INIT:ccname=''
?INIT:ccversion=''
: generate the trygcc script for later perusal
cat <<EOS >trygcc
$startsh
EOS
cat <<'EOSC' >>trygcc
case "$cc" in
') ;;
*)  $rm -f try try.*
   $cat >try.c <<EOM
int main(int argc, char *argv[]) {
```

```
 (void) argc;
 (void) argv;
 return 0;
}
EOM
  if $cc -o try $ccflags $ldflags try.c; then
    :
  else
     echo "Uh-oh, the C compiler '$cc' doesn't seem to be working." >&4
     despair=yes
     trygcc=yes
     case "$cc" in
     *gcc*) trygcc=no ;;
     esac
     case "`$cc -v -c try.c 2>&1`" in

     *gcc*) trygcc=no ;;
     esac
     if $test X"$trygcc" = Xyes; then
        if gcc -o try -c try.c; then
           echo " "
           echo "You seem to have a working gcc, though." >&4
           rp="Would you like to use it?"
           dflt=y
           if $test -f myread; then
              . ./myread
           else
              if $test -f UU/myread; then
                 . ./UU/myread
              else
                 echo "Cannot find myread, sorry.  Aborting." >&2
                 exit 1
              fi
           fi
           case "$ans" in
           [yY]*) cc=gcc; ccname=gcc; ccflags=''; despair=no;
?X: Look whether we have 'call-back units' generated by hints that would
?X: seemingly affect the compiling environment.
                  $cat *.cbu >checktmp 2>/dev/null
                  if $contains ccflags checktmp >/dev/null; then

     ./warn <<EOM
Any previous setting of the C compiler flags has been lost.
It may be necessary to pass -Dcc=gcc to Configure right away.
EOM
                  fi;;
           esac
        fi
```

```
      fi
  fi
  $rm -f try try.*
  ;;
esac
EOSC

: generate the checkcc script for later perusal
cat <<EOS >checkcc
$startsh
EOS
cat <<'EOSC' >>checkcc
case "$cc" in
") ;;
*)  $rm -f try try.*
  $cat >try.c <<EOM
int main(int argc, char *argv[]) {
 (void) argc;
 (void) argv;
 return 0;
}
EOM
  if $cc -o try $ccflags $ldflags try.c; then
    :
  else
    if $test X"$despair" = Xyes; then
      echo "Uh-oh, the C compiler '$cc' doesn't seem to be working." >&4
    fi
    $cat >&4 <<EOM
You need to find a working C compiler.
Either (purchase and) install the C compiler supplied by your OS vendor,
or for a free C compiler try http://gcc.gnu.org/
I cannot continue any further, aborting.
EOM
    exit 1
  fi

 $rm -f try try.*
  ;;
esac
EOSC

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Checkcc.U
No license file was found, but licenses were detected in source scan.

/* $Id: Jmake.rules 18 2006-12-27 10:35:09Z rmanfredi $
*
```

```
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: Jmake.rules,v $
* Revision 3.0.1.7  2004/08/22 08:28:58  ram
* patch71: random cleanup
*
* Revision 3.0.1.6  1997/02/28  14:56:01  ram
* patch61: now handles USRINC for dependencies
* patch61: smarter about dependencies computation
*
* Revision 3.0.1.5  1995/09/25  09:07:19  ram
* patch59: smarter sed command to strip /usr/include dependencies
*
* Revision 3.0.1.4  1995/07/25  13:33:59  ram
* patch56: install of script man pages can now cope with missing files
* patch56: the clobber
 target now removes the .config directory as well
*
* Revision 3.0.1.3  1995/03/21  08:35:28  ram
* patch52: suppressed extra argument to NormalProgramTarget call
*
* Revision 3.0.1.2  1995/01/11  14:49:55  ram
* patch45: new macros ShellScriptTargetExt and SimpleShellScriptTargetExt
* patch45: directory installation is now made via INSTALLDIR (Configure)
*
* Revision 3.0.1.1  1994/10/29  15:46:30  ram
* patch36: added RemoteDependency rule
*
* Revision 3.0  1993/08/18  12:04:14  ram
* Baseline for dist 3.0 netwide release.
*
*/

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/Jmake.rules
No license file was found, but licenses were detected in source scan.

?RCS: $Id: h_sysfile.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
```

?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: h_sysfile.U,v $
?RCS: Revision 3.0 1993/08/18 12:08:13 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:h_sysfile: Nothing
?MAKE: -pick add $@ %<
?S:h_sysfile:
?S: This is variable gets set in various places to tell i_sys_file that
?S: <sys/file.h> should be included.
?S:.
: Initialize h_sysfile
h_sysfile=false

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/h_sysfile.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Rcs.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Rcs.U,v $
?RCS: Revision 3.0 1993/08/18 12:05:15 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This is a unit that helps people who write SH scripts and keep them under
?X: RCS, but don't think to protect the $Log and other $Id keywords from
?X: variable substitution (or people like me who do not like to).
?X:
?MAKE:Author Date Header Id Locker Log RCSfile Revision Source State: Oldconfig
?MAKE: -pick weed $@ %<
?LINT:describe Author
 Date Header Id Locker Log RCSfile Revision Source State
: preserve RCS keywords in files with variable substitution, grrr
?Author:Author='$Author'
?Date:Date='$Date'

```
?Header:Header='$Header'
?Id:Id='$Id'
?$Locker'
?Log:Log='$Log'
?RCSfile:RCSfile='$RCSfile'
?Revision:Revision='$Revision'
?Source:Source='$Source'
?State:State='$State'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Rcs.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Begin.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Begin.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  14:56:35  ram
?RCS: patch61: added Extractall dependency
?RCS:
?RCS: Revision 3.0.1.2  1995/01/30  14:25:08  ram
?RCS: patch49: avoid an empty rmlist: systems might choke on it (WED)
?RCS:
?RCS: Revision 3.0.1.1  1994/10/31  09:32:20  ram
?RCS: patch44: created
?RCS:
?X:
?X: This file comes after option processing had been done and after all
?X: the default values have been set up. It marks the beginning
 of questions.
?X: It is important that Options be listed *after* Myinit to ensure that the
?X: default initializations performed by Init and Myinit will not clobber
?X: any setting done on the command line via -D or -U.
?X:
?MAKE:Begin: Myinit Options package Extractall
?MAKE: -pick add $@ %<
: Eunice requires " " instead of "", can you believe it
echo " "
: Here we go...
echo "Beginning of configuration questions for $package."
```

```
?X: Make sure the rm below is given a non-empty list for some systems.
?X: This is run only when within the UU directory, hence we can safely
?X: attempt to rm a non-existent 'X' file...
trap 'echo " "; test -d ../UU && rm -rf X $rmlist; exit 1' 1 2 3 15
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Begin.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: html1dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html1dir.U,v $
?RCS:
?MAKE:html1dir html1direxp installhtml1dir: cat Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?D:html1dir="
?S:html1dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe whole programs, not libraries or modules.  It
?S: is intended to correspond roughly to section 1 of the Unix
?S: manuals.
?S:.
?D:html1direxp="
?S:html1direxp:
?S: This
 variable is the same as the html1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml1dir="
?S:installhtml1dir:
?S: This variable is really the same as html1direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html1direxp
?LINT:set installhtml1dir
```

```
: determine where html pages for programs go
set html1dir html1dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for programs in $spackage, indicate
the appropriate directory here.  To skip installing html files,
answer "none".
EOM
case "$html1dir" in
"|none|$undef|' ') dflt=none ;;
*) dflt=$html1dir ;;
esac
fn=dn+~
rp="Directory for the main $spackage html pages?"
. ./getfile
prefixvar=html1dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html1dir" = "X" && html1dir=' '

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/html1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: contains.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: contains.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:35  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:contains: Nothing
?MAKE: -pick add $@ %<
?S:contains:
?S: This variable holds the command to do a grep with a proper return
?S: status.  On most sane systems it is simply "grep".  On insane systems
?S: it is a grep followed by a cat followed by a test.  This variable
?S: is primarily for the use of other Configure units.
?S:.
```

```
: Some
 greps do not return status, grrr.
echo "grimblepritz" >grimble
if grep blurfldyick grimble >/dev/null 2>&1 ; then
 contains=contains
elif grep grimblepritz grimble >/dev/null 2>&1 ; then
 contains=grep
else
 contains=contains
fi
rm -f grimble
: the following should work in any shell
case "$contains" in
contains*)
 echo " " >&4
 echo "AGH!  Grep doesn't return a status.  Attempting remedial action." >&4
 cat >contains <<'EOSS'
grep "$1" "$2" >.greptmp && cat .greptmp && test -s .greptmp
EOSS
contains=./contains
chmod +x $contains
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/contains.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Nothing.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Nothing.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: The purpose of this file is to supply an empty target for the private
?X: Makefile built by metaconfig to order the units.
?X:
?MAKE:Nothing: Head
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Nothing.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: perl5.U,v $
?RCS:
?RCS: Copyright (c) 2000 Andrew Dougherty
?RCS:
?RCS:    You may distribute under the terms of either the GNU General Public
?RCS:    License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: perl5.U,v $
?RCS:
?X:
?X: The purpose of this unit is to locate a previously installed
?X: version of perl5 suitable for running inc_version_list.U.
?X: We check for 5.005 and later because inc_version_list is
?X: irrelevant for earlier versions.
?X:
?MAKE:perl5: path_sep binexp test sed exe_ext
?MAKE: -pick add $@ %<
?Y:TOP
?S:perl5:
?S: This variable contains the full path (if any) to a previously
?S: installed perl5.005 or later suitable for running the script
?S: to determine inc_version_list.
?S:.
?T: tdir
: Find perl5.005 or later.
echo "Looking for a previously installed perl5.005 or later... "
case "$perl5" in
'') for tdir in `echo "$binexp$path_sep$PATH" | $sed "s/$path_sep/
 /g"`; do
  : Check if this perl is recent and can load a simple module
  if $test -x $tdir/perl$exe_ext && $tdir/perl -Mless -e 'use 5.005;' >/dev/null 2>&1; then
   perl5=$tdir/perl
   break;
  elif $test -x $tdir/perl5$exe_ext && $tdir/perl5 -Mless -e 'use 5.005;' >/dev/null 2>&1; then
   perl5=$tdir/perl5
   break;
  fi
 done
 ;;
*) perl5="$perl5"
 ;;
esac
case "$perl5" in
'') echo "None found.  That's ok.";;
*) echo "Using $perl5." ;;
```

```
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/perl5.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: package.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: package.U,v $
?RCS: Revision 3.0.1.3  1994/10/29  16:27:21  ram
?RCS: patch36: beware of non-ascii character sets when translating case
?RCS:
?RCS: Revision 3.0.1.2  1993/11/10  17:37:02  ram
?RCS: patch14: skip definition of spackage if not otherwise used
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:11:10  ram
?RCS: patch10: added spackage, suitable for starting sentences
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:28  ram
?RCS: Baseline for dist 3.0
 netwide release.
?RCS:
?MAKE:package spackage: Nothing
?MAKE: -pick wipe $@ %<
?S:package:
?S: This variable contains the name of the package being constructed.
?S: It is primarily intended for the use of later Configure units.
?S:.
?S:spackage:
?S: This variable contains the name of the package being constructed,
?S: with the first letter uppercased, i.e. suitable for starting
?S: sentences.
?S:.
?X: dist-4 has defined PACKAGE: here, which clashes with perly.h
?X:  as package is a reserved keyword in perl
?T:first last
: set package name
package='<PACKAGENAME>'
@if spackage
first=`echo $package | sed -e 's/^\(.\).*/\1/'`
```

```
last=`echo $package | sed -e 's/^.\(.*\)/\1/'`
?X:
?X: So early in the Configure script, we don't have ./tr set up and can't
?X: include Tr in our dependency or that would create a cycle. Therefore,
?X: we have to somehow duplicate the work done in Tr. That's life.
?X:
case "`echo AbyZ | tr '[:lower:]' '[:upper:]' 2>/dev/null`"-"`echo AbyZ | tr '[:upper:]' '[:lower:]'
 2>/dev/null`" in
ABYZ-abyz) spackage=`echo $first | tr '[:lower:]' '[:upper:]'`$last;;
*) spackage=`echo $first | tr '[a-z]' '[A-Z]'`$last;;
esac
@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/package.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: shm_for.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: shm_for.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  16:28:37  ram
?RCS: patch36: call ./Cppsym explicitly instead of relying on PATH
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:46  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:shm_for shm_att shm_lim: Cppsym Myread ipc uname
?MAKE: -pick add $@ %<
?S:shm_for:
?S: This variable tells us the type of machine we're expecting the
?S: shared memory code to run on.  The value is available to C
 programs
?S: in the C_SHM_FOR manifest.
?S:.
?S:shm_att:
?S: This variable tells us where a shared memory segment should be
?S: attached.  Good values are HIGH, LOW, and ZERO.
?S:.
?S:shm_lim:
?S: This variable tells us if shared memory attached HIGH should
```

```
?S: have an upper limit.
?S:.
?X: ------------------------------------------------------
?X: It's a potential lose to define anything beginning with SHM...
?X: At least we can think that S_ stands for "String version of ..." -- HMS
?X: ------------------------------------------------------
?C:S_SHM_FOR ~ %<:
?C: This symbol identifies what we chose for the target system's
?C: default shared memory configuration parameters.
?C:.
?C:S_SHM_ATT ~ %<:
?C: This symbol holds the default "place" to attach shared memory.
?C: Values are "HIGH", "ZERO", and "LOW".
?C:.
?C:S_SHM_LIM ~ %<:
?C: This symbol holds the default upper bound address limit if shared
?C: memory is attached HIGH.  If zero, there is no upper limit.
?C:.
?H:?%<:#ifdef
 SERVE_SHM
?H:?%<:#define S_SHM_FOR "$shm_for"
?H:?%<:#define S_SHM_ATT "$shm_att"
?H:?%<:#define S_SHM_LIM "$shm_lim"
?H:?%<:#endif
?H:.
?W:%<:S_SHM_FOR S_SHM_ATT S_SHM_LIM
: see how to attach shared memory
echo " "
echo "Deciding how to attach shared memory..." >&4

case "$ipc" in
shm)
 shm_for='Default case'
 shm_att='HIGH'
 shm_lim='0x0'
 if ./Cppsym tower32 tower32_600; then
  echo "NCR Towers are usually normal..."
  : echo "Oh, an NCR Tower."
  : This works for the 600
  shm_for='NCR Tower 32'
  shm_att='LOW'
 else
  case "$uname" in
  */uname)
   case "`uname -m`" in
   ACS??68*)
    echo "Oh, an Altos 3068."
    shm_for='Altos 3068:'
```

```
   shm_lim='0x800000'
   ;;
   esac
   ;;
 *)
  echo "Looks normal to me..."
  ;;
 esac
fi

dflt="$shm_for"
rp='Description of shared memory configuration?'
. ./myread
shm_for="$ans"

dflt="$shm_att"
rp='Where should shared memory be attached?'
. ./myread
shm_att="$ans"

case "$shm_att" in
HIGH)
 dflt="$shm_lim"
 rp='What is
the upper address limit for shared memory?'
 . ./myread
 shm_lim="$ans"
 ;;
*)
 shm_lim="
 ;;
esac
;;

*)
 echo "but you aren't using shared memory so I won't bother." >&4
 shm_for='NOT CONFIGURED'
 shm_att='NONE'
 shm_lim='-1'
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/shm_for.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: warnflags.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
```

```
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Orginal Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: warnflags.U,v $
?RCS: Revision 3.0  1993/08/18  12:10:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:warnflags: cat cc contains Myread Guess Oldconfig Findhdr
?MAKE: -pick add $@ %<
?S:warnflags:
?S: This variable contains any additional C compiler flags to generate
?S: warnings from the compiler. It is up to the Makefile to use this.
?S:.
: offer additional
 warning flags for compilation
$cat <<EOH

You may wish to compile with extra compiler warnings enabled.
Note that doing so enhances your chance of receiving your free set of steak
knives, particularly if you find any bugs and report them.
If you don't want extra warnings, answer "none".

EOH
case "$warnflags" in
'') case "$cc" in
 *gcc*)
  dflt="-Wall -Wno-comment"
  if $contains 'fprintf' `./findhdr stdio.h` >/dev/null 2>&1; then
   :
  else
   dflt="$dflt -Wno-implicit"
  fi
  ;;
 *) dflt="none";;
 esac
 ;;
' ') dflt="none";;
*) dflt="$warnflags";;
esac

rp="Any $cc flags to enable warnings?"
```

```
. ./myread
case "$ans" in
none) warnflags=' ';;
*) warnflags="$ans";;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/warnflags.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: html3dir.U,v $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: html3dir.U,v $
?RCS:
?MAKE:html3dir html3direxp installhtml3dir: cat sed Loc Myread \
 spackage test Getfile Setprefixvar Prefixit Prefixup html1dir
?MAKE: -pick add $@ %<
?Y:TOP
?D:html3dir="
?S:html3dir:
?S: This variable contains the name of the directory in which html
?S: source pages are to be put.  This directory is for pages
?S: that describe libraries or modules.  It is intended to
?S: correspond roughly to section 3 of the Unix manuals.
?S:.
?D:html3direxp="
?S:html3direxp:
?S: This variable
 is the same as the html3dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installhtml3dir="
?S:installhtml3dir:
?S: This variable is really the same as html3direxp, unless you are
?S: using a different installprefix.  For extra portability, you
?S: should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set html3direxp
?LINT:set installhtml3dir
```

```
: determine where html pages for libraries and modules go
set html3dir html3dir none
eval $prefixit
$cat <<EOM

If you wish to install html files for modules associated with $spackage,
indicate the appropriate directory here.  To skip installing html files,
answer "none".
EOM
: There is no obvious default.  If they have specified html1dir, then
: try to key off that, possibly changing .../html1 into .../html3.
case "$html3dir" in
") html3dir=`echo "$html1dir" | $sed 's/1$/3$/'` ;;
*) dflt=$html3dir ;;
esac
fn=dn+~
rp="Directory for the $spackage module
 html pages?"
. ./getfile
prefixvar=html3dir
. ./setprefixvar
: Use ' ' for none so value is preserved next time through Configure
$test X"$html3dir" = "X" && html3dir=' '
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/html3dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extract.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  14:58:52  ram
?RCS: patch61: added support for src.U
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  15:51:46  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:52  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?X:
?X: This unit produces a shell script which can be doted in order to extract
?X: .SH files with variable substitutions.
?X:
?X: When running Configure from a remote directory ($src
 is not '.'),
?X: then the files will be created in that directory, so beware!
?X:
?MAKE:Extract: Mkdirp src
?MAKE: -pick add $@ %<
?F:./extract
?T:CONFIG SRC dir file
: script used to extract .SH files with variable substitutions
cat >extract <<EOS
CONFIG=true
SRC="$src"
EOS
cat >>extract <<'EOS'
echo "Doing variable substitutions on .SH files..."
if test -f "$SRC/MANIFEST"; then
 set x `awk '{print $1}' <$SRC/MANIFEST | grep '\.SH'`
else
 echo "(Looking for .SH files under the source directory.)"
 set x `(cd "$SRC"; find . -name "*.SH" -print)`
fi
shift
case $# in
0) set x `(cd "$SRC"; echo *.SH)`; shift;;
esac
if test ! -f "$SRC/$1"; then
 shift
fi
for file in $*; do
 case "$SRC" in
 ".")
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   (cd $dir && . ./$file)
   ;;
  *)
   . ./$file
   ;;
  esac
  ;;
 *)
?X:
```

```
?X: When running Configure remotely ($src is not '.'), we cannot source
?X: the files directly, since that would wrongly cause
 the extraction
?X: where the source lie instead of withing the current directory. Therefore,
?X: we need to 'sh <file' then, which is okay since they will source the
?X: existing config.sh file. It's not possible to use:
?X:  ../src/Configure -S -O -Dsomething
?X: unfortunately since no new config.sh with the -Dsomething override
?X: will be created before running the .SH files. A minor buglet.
?X:
?X: Note that we must create the directory hierarchy ourselves if it does
?X: not exist already, and that is done through a shell emulation of the
?X: 'mkdir -p' command. We don't want to use the $installdir metaconfig
?X: symbol here since that would require too much to be configured for
?X: this simple extraction task that may happen quickly with 'Configure -S'.
?X:  -- RAM, 18/03/96
?X:
  case "$file" in
  */*)
   dir=`expr X$file : 'X\(.*\)/'`
   file=`expr X$file : 'X.*/\(.*\)'`
   ./mkdirp $dir
   sh <"$SRC/$dir/$file"
   ;;
  *)
   sh <"$SRC/$file"
   ;;
  esac
  ;;
 esac
done
if
 test -f "$SRC/config_h.SH"; then
 if test ! -f config.h; then
?X: oops, they left it out of MANIFEST, probably, so do it anyway.
  sh <"$SRC/config_h.SH"
 fi
fi
EOS

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Extract.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: manfmt.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
```

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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: manfmt.U,v $
?RCS: Revision 3.0.1.5 1997/02/28 16:11:57 ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.4 1995/09/25 09:16:52 ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.3 1995/01/30 14:39:20 ram
?RCS: patch49: new installmanfmt and AFS-lookup for formatted man pages
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS:
 Revision 3.0.1.2 1994/08/29 16:30:31 ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
?RCS: Revision 3.0.1.1 1993/09/13 16:09:22 ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:13 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:manfmt manfmtexp installmanfmt: Getfile Loc Oldconfig cat manext \
 spackage Prefixit prefixexp Prefixup afs test
?MAKE: -pick add $@ %<
?Y:TOP
?S:manfmt:
?S: This variable contains the name of the directory in which formatted
?S: manual pages are to be put. It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command. Note
?S: that you may have to do ~name substitution. Use manfmtexp otherwise.
?S:.
?S:manfmtexp:
?S: This is the same as the manfmt variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
?S:installmanfmt:
?S: This variable is really
 the same as manfmtexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.

```
?S:.
?LINT:change manext
?T:lookpath
: determine where manual pages go
set manfmt manfmt
eval $prefixit
$cat <<EOM

$spackage has pre-formatted manual pages.  If you don't want these installed,
answer 'none' to the next question.

EOM
case "$manfmt" in
")
 lookpath="$prefixexp/catman/man1 $prefixexp/man/cat1"
 lookpath="$lookpath $prefixexp/catman/u_man/man1"
 lookpath="$lookpath $prefixexp/catman/l_man/man1"
 lookpath="$lookpath $prefixexp/catman/cat1 /usr/catman/local/man1"
 lookpath="$lookpath /usr/catman/manl /usr/man/cat1"
 lookpath="$lookpath /usr/catman/mann /usr/catman/l_man/man1"
 lookpath="$lookpath /usr/catman/u_man/man1 /usr/catman/man1"
 dflt=`./loc . none $lookpath`
 set dflt
 eval $prefixup
 ;;
*)  dflt="$manfmt"
 ;;
esac
fn=dn~
rp='Where
 do pre-formatted manual pages go?'
. ./getfile
if test "X$manfmtexp" != "X$ansexp"; then
 installmanfmt="
fi
manfmt="$ans"
manfmtexp="$ansexp"
if $afs && $test "$manfmt"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installmanfmt" in
 ") dflt=`echo $manfmtexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmanfmt";;
```

```
 esac
 fn=de~
 rp='Where will pre-formatted man pages be installed?'
 . ./getfile
 installmanfmt="$ans"
else
 installmanfmt="$manfmtexp"
fi

case "$manfmt" in
'') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/manfmt.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: cf_email.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:05:06  ram
?RCS: patch16: created
?RCS:
?RCS:
?MAKE:cf_email: cat cf_by test myhostname mydomain Oldconfig Myread
?MAKE: -pick add $@ %<
?S:cf_email:
?S: Electronic mail address of the person who ran Configure. This can be
?S: used by units that require the user's e-mail, like MailList.U.
?S:.
?T:cont maildomain
?LINT:extern MAILDOMAIN
```

```
: determine the e-mail address of the user who is running us
$cat <<EOM

I need to get your e-mail address
 in Internet format if possible, i.e.
something like user@host.domain. Please answer accurately since I have
no easy means to double check it. The default value provided below
is most probably close to reality but may not be valid from outside
your organization...

EOM
cont=x
while test "$cont"; do
 case "$MAILDOMAIN" in
 '')
  if $test -s /etc/mailname; then
   maildomain=`$cat /etc/mailname`
  else
   maildomain="$myhostname$mydomain"
  fi
  ;;
 *)  maildomain="$MAILDOMAIN";;
 esac
 case "$cf_email" in
 '') dflt="$cf_by@$maildomain";;
 *)  dflt="$cf_email";;
 esac
 rp='What is your e-mail address?'
 . ./myread
 cf_email="$ans"
 case "$cf_email" in
 *@*.*) cont='' ;;
 *)
  rp='Address does not look like an Internet one.  Use it anyway?'
  case "$fastread" in
  yes) dflt=y ;;
  *) dflt=n ;;
  esac
  . ./myread
  case "$ans" in
  y*) cont='' ;;
  *) echo ' ' ;;
  esac
  ;;
 esac
done
```

Found in path(s):

* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/cf_email.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1999 Jarkko Hietaniemi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?MAKE:siteman1dir siteman1direxp installsiteman1dir: Getfile \
 Setprefixvar prefix siteprefix man1dir sed
?MAKE: -pick add $@ %<
?Y:TOP
?D:siteman1dir="
?S:siteman1dir:
?S: This variable contains the name of the directory in which site-specific
?S: manual source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S: The standard distribution will put nothing in this directory.
?S: After perl
 has been installed, users may install their own local
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL
?S: or equivalent.  See INSTALL for details.
?S:.
?D:siteman1direxp="
?S:siteman1direxp:
?S: This variable is the same as the siteman1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installsiteman1dir="
?S:installsiteman1dir:
?S: This variable is really the same as siteman1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installsiteman1dir
?LINT:set siteman1dir
?LINT:set siteman1direxp
: determine where add-on manual pages go
case "$siteman1dir" in
```

") dflt=`echo $man1dir | $sed "s#^$prefix#$siteprefix#"` ;;
*) dflt=$siteman1dir ;;
esac
case "$dflt" in
"|' ') dflt=none ;;
esac
fn=dn+~
rp='Pathname
 where the site-specific manual pages should be installed?'
. ./getfile
prefixvar=siteman1dir
. ./setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/siteman1dir.U
No license file was found, but licenses were detected in source scan.

?RCS: Id
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2 1994/06/20 07:08:43 ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
?RCS: Revision 3.0.1.1 1993/09/13 16:13:50 ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:55 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:sysman: test
 Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.

```
?T:syspath
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
 syspath="$syspath /usr/man/u_man/man1 /usr/share/man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form." >&4
fi

Found
 in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/sysman.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: startsh.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: startsh.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:25:31  ram
?RCS: patch61: avoid needless chatter since this is now done very early
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:startsh: sh sharpbang eunicefix
?MAKE: -pick add $@ %<
?S:startsh:
?S: This variable contains the string to put on the front of a shell
?S: script to make sure (hopefully) that it runs with sh and not some
?S: other
```

```
 shell.
?S:.
?F:!sharp
: figure out how to guarantee sh startup
?X: Avoid needless chatter since this is now done very early.
?X: echo " "
?X: echo "Checking out how to guarantee sh startup..." >&2
case "$startsh" in
") startsh=${sharpbang}${sh} ;;
*)
?X: echo "Let's see if '$startsh' works..." ;;
esac
cat >sharp <<EOSS
$startsh
set abc
test "$?abc" != 1
EOSS

chmod +x sharp
$eunicefix sharp
if ./sharp; then
 : echo "Yup, it does."
else
 echo "Hmm... '$startsh' does not guarantee sh startup..."
 echo "You may have to fix up the shell scripts to make sure $sh runs them."
fi
rm -f sharp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/startsh.U
No license file was found, but licenses were detected in source scan.

```
?RCS: Copyright (c) 2016 Dagfinn Ilmari Mannsker & H.Merijn Brand
?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
?X: To use it, say:
?X: set d_siginfo_si_errno siginfo_t int si_errno $d_sigaction signal.h
?X: eval $hasfield_t;
?X:
?MAKE:Hasfield_t: test Compile rm_try Setvar
```

```
?MAKE: -pick add $@ %<
?LINT:define hasfield_t
?S:hasfield_t:
?S: Internal macro for Configure
?S:.
?V:hasfield_t:
?T:varname struct type field
: Define hasfield_t macro for Configure internal use
hasfield_t='varname=$1; struct=$2; type=$3; field=$4; shift; shift; shift; shift;
while $test $# -ge 2; do
   case
 "$1" in
 $define) echo "#include <$2>";;
   esac ;
   shift 2;
done > try.c;
echo "int main () { $struct foo; $type bar = foo.$field; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/Hasfield_t.U
No license file was found, but licenses were detected in source scan.

```
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*) xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
```

```
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't know where '$file' is, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
done
echo " "
echo "Don't worry if any of the following aren't found..."
say=offhand
for file in $trylist; do
?X: Allow them to -Dmake=pmake on the command line for instance (see above)
eval xxx=\$$file
case "$xxx" in
/*|?:[\\/]*)
if test -f "$xxx"; then
: ok
else
echo "WARNING: no $xxx -- ignoring your setting for $file." >&4
xxx=`./loc $file $file $pth`
fi
;;
") xxx=`./loc $file $file $pth`;;
*)
 xxx=`./loc $xxx $xxx $pth`;;
esac
eval $file=$xxx$_exe
eval _$file=$xxx
case "$xxx" in
/*)
echo $file is in $xxx.
;;
?X: Under OS/2, we have PC-like paths
?:[\\/]*)
echo $file is in $xxx.
;;
*)
echo "I don't see $file out there, $say."
say=either
;;
esac
done
case "$egrep" in
egrep)
```

```
echo "Substituting grep for egrep."
egrep=$grep
_egrep=$grep
;;
esac
@if less
case "$less" in
") ;;
*) if $less -R </dev/null >/dev/null 2>&1; then
echo "Substituting less -R for less."
less="$less -R"
_less=$less
fi
;;
esac
@end
@if ln
case "$ln" in
ln)
echo "Substituting cp for ln."
ln=$cp
_ln=$cp
;;
esac
@end
@if make || gmake
case "$make" in
make)
case "$gmake" in
gmake)
echo "I can't find make or gmake, and my life depends on it." >&4
echo "Go find a public domain implementation or fix your PATH setting!" >&4
exit 1
;;
esac
;;
esac
case "$gmake" in
gmake) ;;
*) # We can't have osname yet.
if test -f "/system/gnu_library/bin/ar.pm"; then # Stratus VOS
# Assume that gmake, if found, is definitely
 GNU make
# and prefer it over the system make.
echo "Substituting gmake for make."
make=$gmake
_make=$gmake
fi
```

```
;;
esac
@end
case "$test" in
test)
echo "Hopefully test is built into your sh."
;;
*)
if `sh -c "PATH= test true" >/dev/null 2>&1`; then
echo "Using the test built into your sh."
?X:
?X: We need to set both test and _test, since Oldconfig.U will use the _test
?X: value to systematically restore computed paths, which may be wrong if
?X: we choose to load an old config.sh generated on another platform.
?X:
test=test
_test=test
fi
;;
esac
?LINT:change n c
case "$echo" in
echo)
echo "Hopefully echo is built into your sh."
;;
?X: For those rare cases where we don't need $echo...
") ;;
*)
echo " "
echo "Checking compatibility between $echo and builtin echo (if any)..." >&4
$echo $n "hi there$c" >foo1
echo $n "hi there$c" >foo2
if cmp foo1 foo2 >/dev/null 2>&1; then
echo "They are compatible.  In fact, they may be identical."
else
case "$n" in
'-n') n='' c='\c';;
*) n='-n' c='';;
esac
cat
 <<FOO
They are not compatible!  You are probably running ksh on a non-USG system.
I'll have to use $echo instead of the builtin, since Bourne shell doesn't
have echo built in and we may have to run some Bourne shell scripts.  That
means I'll have to use '$n$c' to suppress newlines now.  Life is ridiculous.

FOO
$echo $n "The star should be here-->$c"
```

```
$echo "*"
fi
$rm -f foo1 foo2
;;
esac

?X: The next part is irrelevant to the real process
# This question was auctioned at YAPC::Europe-2007 in Vienna
# I never promised you could answer it. I only auctioned the question.
cat <<FOO
The following message is sponsored by

Dresden.pm<--The stars should be here.

Dear Perl user, system administrator or package
maintainer, the Perl community sends greetings to
you. Do you (emblematical) greet back [Y/n]? n

FOO

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Loc.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: Configdir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Configdir.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  14:58:36  ram
?RCS: patch61: have README explicitly mention the package name
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:49  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:Configdir: package
?MAKE: -pick add $@ %<
: create .config dir to save info across Configure sessions
test -d ../.config || mkdir ../.config
cat >../.config/README <<EOF
This directory created by Configure to save
```

```
 information that should
persist across sessions for $package.

You may safely delete it if you wish.
EOF

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Configdir.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: libnlist.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libnlist.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:02  ram
?RCS: patch61: added usrinc and mips on the dependency line
?RCS: patch61: make sure we call ./mips
?RCS: patch61: added a ?LINT: hint
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:00  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnlist: Loc libpth Guess usrinc _a
?MAKE: -pick add $@ %<
?S:libnlist (libmld):
?S: This variable contains the name of the library required to
 get the
?S: definition of the nlist() function.  On a MIPS RISC/OS box, it is -lmld.
?S: Under Sys Vr4, it is -lelf.  Otherwise, its value is empty.
?S:.
?T:xxx
?LINT:use usrinc
: see if we need a special library for 'nlist()'
echo " "
: How about doing this if nlist is not in libc...
if ./mips ; then
 libnlist='-lmld'
else
 xxx=`./loc libelf$_a x $libpth`
 case "$xxx" in
 x)  ;;
```

```
 *)
  libnlist="$xxx"
  ;;
 esac
fi
case "$libnlist" in
") echo "No special library for nlist() seems necessary." >&4
 ;;
*)  echo "nlist() can be found in $libnlist." >&4
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libnlist.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorman1dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: vendorman1dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman1dir vendorman1direxp installvendorman1dir: man1dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman1dir:
?S: This variable contains the name of the directory for man1
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man1 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman1direxp:
?S: This variable is the ~name expanded version of vendorman1dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
```

```
?D:installvendorman1dir="
?S:installvendorman1dir:
?S: This variable is really the same as vendorman1direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman1dir
: Set the vendorman1dir variables
case "$vendorprefix" in
") vendorman1dir="
 vendorman1direxp="
 ;;
*) : determine where vendor-supplied manual pages go.
 case "$vendorman1dir" in
 ") dflt=`echo "$man1dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman1dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname for
 the vendor-supplied manual section 1 pages?'
 . ./getfile
 vendorman1dir="$ans"
 vendorman1direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman1dir" = "X" && vendorman1dir=' '
prefixvar=vendorman1dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorman1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: libnm.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: $Log: libnm.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  16:08:26  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:01  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:libnm: test Loc libpth _a
?MAKE: -pick add $@ %<
?S:libnm:
?S: This variable contains the argument to pass to the loader in order
?S: to get the new math library routines.  If there is no new math
?S: library, it is null.
?S:.
?T:ans
?O:
 use libswanted='-lnm' instead (see libs.U).
: see if we should include -lnm
echo " "
if $test -r /usr/lib/libnm$_a || $test -r /usr/local/lib/libnm$_a ; then
 echo "New math library found." >&4
 libnm='-lnm'
else
 ans=`./loc libnm$_a x $libpth`
 case "$ans" in
 x)
  echo "No nm library found--the normal math library will have to do." >&4
  libnm=''
  ;;
 *)
  echo "New math library found in $ans." >&4
  libnm="$ans"
  ;;
 esac
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libnm.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: maildir.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic Licence,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
```

```
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: maildir.U,v $
?RCS: Revision 3.0.1.1  1993/12/15  08:21:56  ram
?RCS: patch15: now also looks under /var/mail for BSD/386
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:09  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:maildir maildirexp: Getfile Loc Oldconfig
?MAKE: -pick add $@ %<
?S:maildir:
?S: This variable contains the name of the directory in which mail is
?S: spooled. Programs using this variable must be prepared to deal with
?S: ~name
 substitutions.
?S:.
?S:maildirexp:
?S: This is the same as the maildir variable, but is filename expanded
?S: at configuration time, for programs not willing to deal with it at
?S: run-time.
?S:.
: determine where mail is spooled
case "$maildir" in
'') dflt=`./loc . /usr/spool/mail /usr/spool/mail /usr/mail /var/mail`;;
*) dflt="$maildir";;
esac
echo " "
fn=d~
rp='Where is yet-to-be-read mail spooled?'
. ./getfile
maildir="$ans"
maildirexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/maildir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
```

```
?RCS: Original Author: Thomas Neumann <tom@smart.bo.open.de>
?RCS:
?RCS: $Log: Findhdr.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  15:53:08  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:03:56  ram
?RCS: patch23: cppminus must be after other cppflags, not before
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:54  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a findhdr script which is used to locate the header
?X: files
 in $usrinc or other stranger places using cpp capabilities. The
?X: script is given an include file base name, like 'stdio.h' or 'sys/file.h'
?X: and it returns the full path of the include file and a zero status or an
?X: empty string with an error status if the file could not be located.
?X:
?MAKE:Findhdr: grep test tr rm +usrinc awk cat startsh \
 cppstdin cppminus +cppflags eunicefix osname
?MAKE: -pick add $@ %<
?LINT:define fieldn
?S:fieldn:
?S: This variable is used internally by Configure. It contains the position
?S: of the included file name in cpp output. That is to say, when cpp
?S: pre-processes a #include <file> line, it replaces it by a # line which
?S: contains the original position in the input file and the full name of
?S: included file, between "quotes".
?S:.
?V:fieldn
?F:./findhdr !fieldn
?T:cline pos wanted name awkprg cppfilter testaccess status usrincdir
: determine filename position in cpp output
echo " "
echo "Computing filename position in cpp output for #include
 directives..." >&4
echo '#include <stdio.h>' > foo.c
case "$osname" in
vos)
 testaccess=-e
?X: VOS: path component separator is >
 cppfilter="tr '\\\>' '/' |"
 ;;
*)
 testaccess=-r
 cppfilter="
```

```
 ;;
esac
$cat >fieldn <<EOF
$startsh
$cppstdin $cppflags $cppminus <foo.c 2>/dev/null | \
$grep '^[  ]*#.*stdio\.h' | \
while read cline; do
 pos=1
 set \$cline
 while $test \$# -gt 0; do
  if $test $testaccess \`echo \$1 | $tr -d ""\`; then
   echo "\$pos"
   exit 0
  fi
  shift
  pos=\`expr \$pos + 1\`
 done
done
EOF
chmod +x fieldn
fieldn=`./fieldn`
$rm -f foo.c fieldn
case $fieldn in
") pos='???';;
1) pos=first;;
2) pos=second;;
3) pos=third;;
*) pos="${fieldn}th";;
esac
echo "Your cpp writes the filename in the $pos field of the line."

?X: To locate a header file, we cannot simply check for $usrinc/file.h, since
?X: some machine have the headers in weird places and our only hope is that
?X: the C pre-processor will know how to find those headers. Thank you NexT!
: locate header file
$cat
 >findhdr <<EOF
$startsh
wanted=\$1
name="
for usrincdir in $usrinc; do
 if test -f \$usrincdir/\$wanted; then
  echo "\$usrincdir/\$wanted"
  exit 0
 fi
done
awkprg='{ print \$$fieldn }'
echo "#include <\$wanted>" > foo\$\$.c
```

```
$cppstdin $cppminus $cppflags < foo\$\$.c 2>/dev/null | \
$cppfilter $grep "^[  ]*#.*\$wanted" | \
while read cline; do
 name=\`echo \$cline | $awk "\$awkprg" | $tr -d ""\`
 case "\$name" in
 *[/\\\\]\$wanted) echo "\$name"; exit 1;;
 *[\\\\/]\$wanted) echo "\$name"; exit 1;;
 *) exit 2;;
 esac
done
?X: status = 0: grep returned 0 lines, case statement not executed
?X: status = 1: headerfile found
?X: status = 2: while loop executed, no headerfile found
status=\$?
$rm -f foo\$\$.c
if test \$status -eq 1; then
 exit 0
fi
exit 1
EOF
chmod +x findhdr
$eunicefix findhdr
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Findhdr.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:47:29  ram
?RCS: patch44: leading comment states this unit comes before option processing
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end.  This file
?X: is included after variables are initialized but before any old
```

?X: config.sh file is read in and before
 any Configure switch processing.
?X:
?MAKE:Myinit: Init
?MAKE: -pick add $@ %<
?LINT: nocomment

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Myinit.U
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?RCS: Id
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: yacc.U,v $
?RCS: Revision 3.0.1.1 1994/05/13 15:28:48 ram
?RCS: patch27: added byacc as another alternative (ADO)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:10:03 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:yacc yaccflags: Guess Myread Loc Oldconfig byacc bison cat test
?MAKE: -pick add $@ %<
?S:yacc:
?S: This variable holds the name of the compiler compiler we
?S: want to use in the Makefile. It can be yacc, byacc, or bison -y.
?S:.
?S:yaccflags:
?S: This variable contains any
 additional yacc flags desired by the
?S: user. It is up to the Makefile to use this.
?S:.
?T:comp
: determine compiler compiler
echo " "
comp='yacc'
if $test -f "$byacc$_exe"; then
 comp="byacc or $comp"
fi
if $test -f "$bison$_exe"; then
 comp="$comp or bison -y"

```
fi
case "$yacc" in
")
 yacc=`./loc yacc yacc $pth`
 if $test -f "$yacc$_exe"; then
  dflt='yacc'
 elif $test -f "$byacc$_exe"; then
  dflt='byacc'
 elif $test -f "$bison$_exe"; then
  dflt='bison'
 else
  dflt=''
 fi
 ;;
*) dflt="$yacc";;
esac
rp="Which compiler compiler ($comp) shall I use?"
. ./myread
yacc="$ans"
case "$yacc" in
*bis*)
 case "$yacc" in
 *-y*) ;;
 *)
  yacc="$yacc -y"
  echo "(Adding -y option to bison to get yacc-compatible behaviour.)"
  ;;
 esac
 ;;
esac

@if yaccflags
: see if we need extra yacc flags
dflt="$yaccflags"
case "$dflt" in
") dflt=none;;
esac
$cat <<EOH

Your yacc program may need extra flags to normally process the parser sources.
Do NOT specify any -d or -v flags here, since those are
 explicitly known
by the various Makefiles. However, if your machine has strange/undocumented
options (like -Sr# on SCO to specify the maximum number of grammar rules), then
please add them here.  To use no flags, specify the word "none".

EOH
rp="Any additional yacc flags?"
```

```
. ./myread
case "$ans" in
none) yaccflags="";;
*) yaccflags="$ans";;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/yacc.U
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```
?RCS: $Id: inc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: inc.U,v $
?RCS: Revision 3.0  1993/08/18  12:08:51  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:inc incexp: Loc Oldconfig Getfile usrinc
?MAKE: -pick add $@ %<
?S:inc:
?S: This variable holds the name of the directory in which the user wants
?S: to put public header files for the package in question.  It is most
?S: often a local directory such as /usr/local/include.
?S:.
?S:incexp:
?S: This is the same as the inc variable, but is filename
 expaned
?S: at configuration time for convenient use in your makefiles.
?S:.
: determine where public header files go
case "$inc" in
")
 dflt=`./loc . "." /usr/local/include /usr/include/local $usrinc`
 ;;
*)  dflt="$inc"
 ;;
esac
fn=d~
rp='Where do you want to put the public header files?'
```

```
. ./getfile
inc="$ans"
incexp="$ansexp"
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/inc.U
No license file was found, but licenses were detected in source scan.

```
*  You may redistribute only under the terms of the Artistic Licence,
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/files/Jmake.tmpl
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: libs.U,v $
?RCS: Revision 3.0.1.6  1997/02/28  16:09:11  ram
?RCS: patch61: replaced .a with $_a all over the place
?RCS:
?RCS: Revision 3.0.1.5  1995/07/25  14:12:05  ram
?RCS: patch56: now knows about OS/2 platforms
?RCS:
?RCS: Revision 3.0.1.4  1994/10/29  16:24:22  ram
?RCS: patch36: removed old broken thislib/thatlib processing (ADO)
?RCS:
?RCS: Revision 3.0.1.3  1994/06/20  07:05:44  ram
?RCS: patch30: code cleanup with if/elif by ADO and RAM
?RCS: patch30: undone patch23 for libswanted default
 setting
?RCS:
?RCS: Revision 3.0.1.2  1994/05/06  15:08:45  ram
?RCS: patch23: now includes ordered default libswanted variable (ADO)
?RCS: patch23: major cleanup for library lookups (ADO)
?RCS:
?RCS: Revision 3.0.1.1  1993/08/25  14:02:31  ram
?RCS: patch6: added default for libs
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:03  ram
?RCS: Baseline for dist 3.0 netwide release.
```

```
?RCS:
?MAKE:libs libsfound libsfiles libsdirs libspath libscheck: \
 test cat Myread Oldconfig Loc libpth package xlibpth so _a \
 +usesocks sed +cc +ccflags +ldflags rm
?MAKE: -pick add $@ %<
?S:libs:
?S: This variable holds the additional libraries we want to use.
?S: It is up to the Makefile to deal with it.  The list can be empty.
?S:.
?S:libsfound:
?S: This variable holds the full pathnames of the libraries
?S: we found and accepted.
?S:.
?S:libsfiles:
?S: This variable holds the filenames aka basenames of the libraries
?S: we found and accepted.
?S:.
?S:libsdirs:
?S: This variable holds the directory
 names aka dirnames of the libraries
?S: we found and accepted, duplicates are removed.
?S:.
?S:libspath:
?S: This variable holds the directory names probed for libraries.
?S:.
?S:libscheck:
?S: This variable is intended to be set by hint files, if needed.
?S: It should contain shell code that will be eval'ed with $xxx holding
?S: some library file.  It may change $xxx if needed.
?S: For instance, on an Irix platform, you may make sure the right
?S: library file is used depending on the cc command line, so that the
?S: correct library is used depending on the selected ABI (for 32 and
?S: 64-bit compilations).
?S:
?S: Here is an example of code that could be found in a hint file on Irix
?S: when the selected compiler was for 32-bit -- that code is put in the
?S: cc.cbu call-back unit to be invoked AFTER the C compiler and its
?S: flags have been chosen:
?S:
?S:  libscheck='case "$xxx" in
?S:  *.a) /bin/ar p $xxx `/bin/ar t $xxx | sed q` >$$.o;
?S:   case "`/usr/bin/file $$.o`" in
?S:   *N32*)
 rm -f $$.o ;;
?S:   *) rm -f $$.o; xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  *) case "`/usr/bin/file $xxx`" in
?S:   *N32*) ;;
```

```
?S:   *) xxx=/no/n32$xxx ;;
?S:   esac ;;
?S:  esac'
?S:.
?D:libs="
?LINT:extern libswanted
?LINT:change libswanted
?INIT:: default library list
?INIT:libswanted="
?X: This order is chosen so that libraries  -lndir, -ldir, -lucb, -lbsd,
?X: -lBSD, -lPW, and -lx only get used if there are unresolved
?X: routines at link time.  Usually, these are backwards compatability
?X: libraries, and may not be as reliable as the standard c library.
?X:
?X: The -lsocket -linet -lnsl order has been reported to be necessary
?X: for at least one SVR4 implementation.
?X: -lc must proceed -lucb or -lbsd for most Solaris applications.
?X: -lc_s proceeds -lc so we pick up the shared library version, if
?X: it is available.
?X:
?X: The ordering of c, posix, and cposix is a guess and almost
?X: certainly wrong on about half of all systems.
?X:
?X: Set proper libswanted in your private
 Myinit.U if needed.
?X:
?X:: default ordered library list
?X:libswanted='net socket inet bind nsl nm sdbm gdbm ndbm dbm malloc dl'
?X:libswanted="$libswanted dld sun m c_s c posix cposix ndir dir ucb"
?X:libswanted="$libswanted bsd BSD PW x"
?X:
?INIT:: should be set by hint files if needed
?INIT:libscheck="
?T:xxx yyy thislib thisdir libstyle linkmsg
?F:lt.c lt
: Looking for optional libraries
echo " "
echo "Checking for optional libraries..." >&4
case "$libs" in
' '|'') dflt='';;
*) dflt="$libs";;
esac
case "$libswanted" in
'') libswanted='c_s';;
esac
?X: libsocks has nasty naming scheme.
?X: This does not work if somebody wants SOCKS 4.
case "$usesocks" in
```

```
"$define") libswanted="$libswanted socks5 socks5_sh" ;;
esac
?X: Used later for link checks
echo "extern char printf(); int main() { printf(); return 0; }" > lt.c
libsfound="
libsfiles="
libsdirs="
libspath="
for thisdir in $libpth $xlibpth; do
 test -d $thisdir && libspath="$libspath $thisdir"
done
for thislib in $libswanted;
 do
 for thisdir in $libspath; do
    xxx="
    if $test ! -f "$xxx" ; then
  xxx=`ls $thisdir/lib$thislib.$so.[0-9]* 2>/dev/null | $sed -n '1p'`
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib.$so
  $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=shared
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/lib${thislib}_s$_a
       $test -f "$xxx" && eval $libscheck
  $test -f "$xxx" && libstyle=static
  $test -f "$xxx" && thislib=${thislib}_s
    fi
    if test ! -f "$xxx"; then
  xxx=$thisdir/Slib$thislib$_a
       $test -f "$xxx" && eval $libscheck
  $test
 -f "$xxx" && libstyle=static
    fi
    if $test -f "$xxx"; then
```

```
?X:
?X: It is not sufficient to find a .so on the disk.  We must make sure
?X: that we can indeed supply the -lfoo line on the cc line to link against
?X: that library.  On Linux for instance, a versionned .so will not be
?X: implicitly linked against, whereas it will work fine on Solaris 2.6.
?X:  --RAM, 10/10/2003
?X:
  if $cc -o lt $ccflags $ldflags lt.c -l$thislib >/dev/null 2>&1;
  then
   linkmsg=""
  else
   linkmsg=" but I can't link against it"
  fi
  case "$libstyle" in
  shared) echo "Found -l$thislib (shared)$linkmsg." ;;
  static) echo "Found -l$thislib$linkmsg." ;;
  *)      echo "Found -l$thislib ($libstyle)$linkmsg." ;;
  esac
  case " $dflt " in
  *"-l$thislib "*) ;;
  *)
   case "$linkmsg" in
   ")
    dflt="$dflt -l$thislib"
    libsfound="$libsfound $xxx"
    yyy=`basename $xxx`
    libsfiles="$libsfiles $yyy"
    yyy=`echo $xxx|$sed -e "s%/$yyy\\$%%"`
    case " $libsdirs
 " in
    *" $yyy "*) ;;
    *) libsdirs="$libsdirs $yyy" ;;
    esac
     ;;
   esac
   ;;
  esac
  break
    fi
 done
 if $test ! -f "$xxx"; then
    echo "No -l$thislib."
 fi
done
set X $dflt
shift
dflt="$*"
case "$libs" in
```

") dflt="$dflt";;
*) dflt="$libs";;
esac
case "$dflt" in
' '|") dflt='none';;
esac
$rm -f lt.c lt

$cat <<EOM

In order to compile $package on your machine, a number of libraries
are usually needed. Include any other special libraries here as well.
Say "none" for none. The default list is almost always right.
EOM

echo " "
rp="Which libraries to use?"
. ./myread
case "$ans" in
none) libs=' ';;
*) libs="$ans";;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/libs.U
No license file was found, but licenses were detected in source scan.

/* This file was produced by running the config_h.SH script, which
* gets its values from $CONFIG_SH, which is generally produced by
* running Configure.
*
* Feel free to modify any of this as the need arises. Note, however,
* that running config_h.SH again will wipe out any changes you've made.
* For a more permanent change edit $CONFIG_SH and rerun config_h.SH.
*/

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Config_h.U
No license file was found, but licenses were detected in source scan.

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?RCS:
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?RCS:
?RCS: You may distribute under the terms of either the GNU General Public
?RCS: License or the Artistic License, as specified in the README file.
?RCS:
?X: This unit generates a $hasstruct string that is used internally

```
?X: by Configure to check if this system has a field for a
?X: particular struct (of if this system has a particular struct!)
?X:
?X: To use it, say something like:
?X:  set d_statblocks stat i_sysstat sys/stat.h
?X:  eval $hasstruct
?X: Or, for more complicated sets of headers, do something like
?X: hdrs="$define sys/foo.h
?X:  $i_sysbar sys/bar.h
?X:  $i_syszot sys/zot.h
?X:  $i_zappa zappa.h"
?X: set d_statblocks stat $hdrs
?X: eval $hasstruct
?X:
?MAKE:Hasstruct: Setvar rm_try test Compile
?MAKE: -pick add $@ %<
?T:varname struct
?V:hasstruct
: Define hasstruct macro for Configure internal use
hasstruct='varname=$1; struct=$2; shift;
 shift;
while $test $# -ge 2; do
 case "$1" in
 $define) echo "#include <$2>";;
 esac ;
   shift 2;
done > try.c;
echo "int main () { struct $struct foo; }" >> try.c;
set try;
if eval $compile; then
 val="$define";
else
 val="$undef";
fi;
set $varname;
eval $setvar;
$rm_try'

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/protos/Hasstruct.U
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```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Init.U,v $
?RCS: Revision 3.0.1.1  1994/10/31  09:45:59  ram
?RCS: patch44: removed Options from MAKE to prevent Init overrides
?RCS: patch44: option processing now done after Myinit thanks to new Begin.U
?RCS: patch44: moved "Beginning of configuration questions" to Begin.U
?RCS: patch44: moved signal trapping instruction to Begin.U as well
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:02  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This file initializes certain default variables
 used by Configure.  They
?X: may be overridden or added to by definitions in Myinit.U.
?X:
?MAKE:Init eunicefix _exe: Null
?MAKE: -pick add $@ %<
?MAKE: -pick weed $@ ./Init
?S:eunicefix:
?S: When running under Eunice this variable contains a command which will
?S: convert a shell script to the proper form of text file for it to be
?S: executable by the shell.  On other systems it is a no-op.
?S:.
?S:_exe (exe_ext):
?S: This variable defines the extension used for executable files.
?S: For unix it is empty.  Other possible values include '.exe'.
?S: DJGPP, Cygwin and OS/2 use '.exe'.  Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
?S:.
?V:define undef smallmach:rmlist
?X:
?X: Throughout the units, one may make use of $define and $undef to reference
?X: a defined symbol or an undefined one. There is no need to add them in
?X: the dependency line since this unit makes them visible via ?V:, and
?X:
 everyone inherits from those symbols since by convention Init.U is the
?X: root dependency.
?X:
?T: DJGPP
: Initialize wide constants
define='define'
undef='undef'
smallmach='pdp11 i8086 z8000 i80286 iAPX286'
```

```
rmlist="

: We must find out about Eunice early
eunicefix=':'
if test -f /etc/unixtovms; then
 eunicefix=/etc/unixtovms
fi
if test -f /etc/unixtovms.exe; then
 eunicefix=/etc/unixtovms.exe
fi

: Set executable suffix now -- needed before hints available
if test -f "/libs/version.library"; then
 : Amiga OS
  _exe=""
elif test -f "/system/gnu_library/bin/ar.pm"; then
 : Stratus VOS
 _exe=".pm"
elif test -n "$DJGPP"; then
 : DOS DJGPP
  _exe=".exe"
elif test -d c:/. ; then
 : OS/2 or cygwin
 _exe=".exe"
else
 : All other UNIX systems
 _exe=""
fi

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Init.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: man1dir.U,v 3.2 1999/07/08 20:57:21 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1996, 1999 Andy Dougherty
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: man1dir.U,v $
?RCS: Revision 3.2  1999/07/08 20:57:21  doughera
?RCS: Used installprefix.
?RCS:
```

```
?RCS: Revision 3.1  1999/07/08 20:52:19  doughera
?RCS: Updated for perl5.005_5x
?RCS:
?RCS: Revision 3.0.1.1  1997/02/28  16:10:29  ram
?RCS: patch61: created
?RCS:
?X: This was originally specific to perl5.  Since perl5 has man pages that
?X: go in both man1/ and man3/ directories, we need both man1dir
?X: and
 man3dir.  This unit is basically dist's mansrc.U with
?X: man1 used instead of man everywhere.
?X:
?MAKE:man1dir man1direxp man1ext installman1dir: cat nroff Loc Oldconfig \
 spackage test Getfile Setprefixvar Prefixit Prefixup sysman Myread \
 prefixexp
?MAKE: -pick add $@ %<
?Y:TOP
?D:man1dir="
?S:man1dir:
?S: This variable contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?D:man1direxp="
?S:man1direxp:
?S: This variable is the same as the man1dir variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?D:installman1dir="
?S:installman1dir:
?S: This variable is really the same as man1direxp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: man1direxp only points to the read-only access location.
 For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:man1ext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See man1dir.
?S:.
?T:lookpath
?LINT:change prefixvar
?LINT:set man1direxp
: determine where manual pages go
set man1dir man1dir none
eval $prefixit
```

```
$cat <<EOM

$spackage has manual pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$man1dir" in
 '') man1dir="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$man1dir" in
' ') dflt=none
 ;;
'')
 lookpath="$prefixexp/share/man/man1"
 lookpath="$lookpath $prefixexp/man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath $prefixexp/man/p_man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1"
 lookpath="$lookpath $prefixexp/man/man.1"
?X: Experience has shown people
 expect man1dir to be under prefix,
?X: so we now always put it there.  Users who want other behavior
?X: can answer interactively or use a command line option.
?X: Does user have System V-style man paths.
 case "$sysman" in
 */?_man*) dflt=`./loc . $prefixexp/l_man/man1 $lookpath` ;;
 *) dflt=`./loc . $prefixexp/man/man1 $lookpath` ;;
 esac
 set dflt
 eval $prefixup
 ;;
*)  dflt="$man1dir"
 ;;
esac
echo " "
fn=dn+~
rp="Where do the main $spackage manual pages (source) go?"
. ./getfile
if $test "X$man1direxp" != "X$ansexp"; then
 installman1dir=''
fi
prefixvar=man1dir
. ./setprefixvar

case "$man1dir" in
'') man1dir=' '
```

```
 installman1dir='';;
esac

: What suffix to use on installed man pages

case "$man1dir" in
' ')
 man1ext='0'
 ;;
*)
 rp="What suffix should be used for the main $spackage man pages?"
 case "$man1ext" in
 '') case "$man1dir" in
  *1)  dflt=1 ;;
  *1p) dflt=1p ;;
  *1pm) dflt=1pm ;;
  *l) dflt=l;;
  *n) dflt=n;;
  *o) dflt=o;;
  *p) dflt=p;;
  *C) dflt=C;;
  *L) dflt=L;;
  *L1)
 dflt=L1;;
  *) dflt=1;;
  esac
  ;;
 *) dflt="$man1ext";;
 esac
 . ./myread
 man1ext="$ans"
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/man1dir.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: vendorman3dir.U,v 1.1 1999/07/08 18:32:57 doughera Exp doughera $
?RCS:
?RCS: Copyright (c) 1999-2000, Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
```

```
?RCS: $Log: vendorman3dir.U,v $
?RCS: Revision 1.1  1999/07/08 18:32:57  doughera
?RCS: Initial revision
?RCS:
?MAKE:vendorman3dir vendorman3direxp installvendorman3dir: man3dir Getfile \
 Oldconfig Setprefixvar Prefixit test vendorprefix prefix sed
?MAKE: -pick add $@ %<
?Y:TOP
?S:vendorman3dir:
?S: This variable contains the name of the directory for man3
?S: pages.  It may have a ~ on the front.
?S: The standard distribution will put nothing in this directory.
?S: Vendors
 who distribute perl may wish to place their own
?S: man3 pages in this directory with
?S:  MakeMaker Makefile.PL INSTALLDIRS=vendor
?S: or equivalent.  See INSTALL for details.
?S:.
?S:vendorman3direxp:
?S: This variable is the ~name expanded version of vendorman3dir, so that you
?S: may use it directly in Makefiles or shell scripts.
?S:.
?D:installvendorman3dir="
?S:installvendorman3dir:
?S: This variable is really the same as vendorman3direxp but may differ on
?S: those systems using AFS. For extra portability, only this variable
?S: should be used in makefiles.
?S:.
?LINT:change prefixvar
?LINT:set installvendorman3dir
: Set the vendorman3dir variables
case "$vendorprefix" in
") vendorman3dir="
 vendorman3direxp="
 ;;
*) : determine where vendor-supplied module manual pages go.
 case "$vendorman3dir" in
 ") dflt=`echo "$man3dir" | $sed "s#^$prefix#$vendorprefix#"` ;;
 *) dflt=$vendorman3dir ;;
 esac
 case "$dflt" in
 "|' ') dflt=none ;;
 esac
 fn=nd~+
 rp='Pathname
 for the vendor-supplied manual section 3 pages?'
 . ./getfile
 vendorman3dir="$ans"
```

```
 vendorman3direxp="$ansexp"
 ;;
esac
: Use ' ' for none so value is preserved next time through Configure
$test X"$vendorman3dir" = "X" && vendorman3dir=' '
prefixvar=vendorman3dir
. ./installprefix
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/vendorman3dir.U
No license file was found, but licenses were detected in source scan.

```
/*
* $Id: scandir.C,v 3.0.1.1 1994/01/24 13:58:45 ram Exp ram $
*
*  Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
*
*  You may redistribute only under the terms of the Artistic Licence,
*  as specified in the README file that comes with the distribution.
*  You may reuse parts of this distribution only within the terms of
*  that same Artistic Licence; a copy of which may be found at the root
*  of the source tree for dist 4.0.
*
* $Log: scandir.C,v $
* Revision 3.0.1.1  1994/01/24  13:58:45  ram
* patch16: created
*
*/
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/lib/C/fake/scandir.C
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: installstyle.U,v 1.2 1999/07/13 14:56:06 doughera Exp $
?RCS:
?RCS: Copyright (c) 1999 Andy Dougherty
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: installstyle.U,v $
?RCS: Revision 1.2  1999/07/13 14:56:06  doughera
?RCS: Fix dependencies.  Add more comments.
?RCS:
?RCS: Revision 1.1  1999/07/12 17:30:41  doughera
```

```
?RCS: Initial revision
?RCS:
?RCS:
?MAKE:installstyle: prefix Myread
?MAKE: -pick add $@ %<
?X: Myread dependence is for dflt.
?S:installstyle:
?S: This variable describes the "style" of the perl installation.
?S: This is intended to be useful for tools that need to
?S: manipulate entire perl
 distributions.  Perl itself doesn't use
?S: this to find its libraries -- the library directories are
?S: stored directly in Config.pm.  Currently, there are only two
?S: styles:  "lib" and "lib/perl5".  The default library locations
?S: (e.g. privlib, sitelib) are either $prefix/lib or
?S: $prefix/lib/perl5.  The former is useful if $prefix is a
?S: directory dedicated to perl (e.g. /opt/perl), while the latter
?S: is useful if $prefix is shared by many packages, e.g. if
?S: $prefix=/usr/local.
?S:
?S: Unfortunately, while this "style" variable is used to set
?S: defaults for all three directory hierarchies (core, vendor, and
?S: site), there is no guarantee that the same style is actually
?S: appropriate for all those directories.  For example, $prefix
?S: might be /opt/perl, but $siteprefix might be /usr/local.
?S: (Perhaps, in retrospect, the "lib" style should never have been
?S: supported, but it did seem like a nice idea at the time.)
?S:
?S: The situation is even less clear for
 tools such as MakeMaker
?S: that can be used to install additional modules into
?S: non-standard places.  For example, if a user intends to install
?S: a module into a private directory (perhaps by setting PREFIX on
?S: the Makefile.PL command line), then there is no reason to
?S: assume that the Configure-time $installstyle setting will be
?S: relevant for that PREFIX.
?S:
?S: This may later be extended to include other information, so
?S: be careful with pattern-matching on the results.
?S:
?S: For compatibility with perl5.005 and earlier, the default
?S: setting is based on whether or not $prefix contains the string
?S: "perl".
?S:.
: determine installation style
: For now, try to deduce it from prefix unless it is already set.
: Reproduce behavior of 5.005 and earlier, maybe drop that in 5.7.
case "$installstyle" in
```

```
") case "$prefix" in
  *perl*) dflt='lib';;
  *) dflt='lib/perl5' ;;
 esac
 ;;
*) dflt="$installstyle" ;;
esac
: Probably not worth prompting for this since we prompt
 for all
: the directories individually, and the prompt would be too long and
: confusing anyway.
installstyle=$dflt
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/installstyle.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Setprefixvar.U,v 3.0 2006/04/01 17:25:29 hmbrand $
?RCS:
?RCS: Copyright (c) 2006-2006, H.Merijn Brand & Nicholas Clark
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:   You may distribute under the terms of either the GNU General Public
?RCS:   License or the Artistic License, as specified in the README file.
?RCS:
?X:
?X: This unit sets up the scripts installprefix and setprefixvar, so code
?X: in other parts can be more simple and maintainable
?X:
?MAKE:Setprefixvar: Myread Getfile startsh eunicefix test \
 prefix prefixexp installprefix installprefixexp
?MAKE: -pick add $@ %<
?LINT:extern prefixvar
?X: metalint still sees "`\$${prefixvar}exp`" as variable :(
?T:prefixvarexp
?F:./setprefixvar
?F:./installprefix
: Perform
 the prefixexp/installprefixexp correction if necessary
cat <<EOS >installprefix
$startsh
EOS
cat <<'EOSC' >>installprefix
: Change installation prefix, if necessary.
if $test X"$prefix" != X"$installprefix"; then
```

```
  eval "install${prefixvar}=\`echo \$${prefixvar}exp | sed \"s#^\$prefixexp#\$installprefixexp#\"\`"
else
  eval "install${prefixvar}=\"\$${prefixvar}exp\""
fi
EOSC
chmod +x installprefix
$eunicefix installprefix

: Set variables such as privlib and privlibexp from the output of ./getfile
: performing the prefixexp/installprefixexp correction if necessary.
cat <<EOS >setprefixvar
$startsh
EOS
cat <<'EOSC' >>setprefixvar
eval "${prefixvar}=\"\$ans\""
eval "${prefixvar}exp=\"\$ansexp\""
. ./installprefix
EOSC
chmod +x setprefixvar
$eunicefix setprefixvar

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/installdirs/Setprefixvar.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id$
?RCS:
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: nis.U,v $
?RCS: Revision 3.0.1.3  1997/02/28  16:17:38  ram
?RCS: patch61: ensure suitable defaults for hostcat and friends
?RCS:
?RCS: Revision 3.0.1.2  1995/03/21  08:48:34  ram
?RCS: patch52: continued fix for NeXT NIS/NetInfo handling
?RCS:
?RCS: Revision 3.0.1.1  1995/02/15  14:16:23  ram
?RCS: patch51: now correctly handles NeXT using NIS rather than NetInfo
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:24  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?MAKE:passcat groupcat hostcat:
 Myread Oldconfig test contains
?MAKE: -pick add $@ %<
?S:passcat:
?S: This variable contains a command that produces the text of the
?S: /etc/passwd file.  This is normally "cat /etc/passwd", but can be
?S: "ypcat passwd" when NIS is used.
?S:.
?S:groupcat:
?S: This variable contains a command that produces the text of the
?S: /etc/group file.  This is normally "cat /etc/group", but can be
?S: "ypcat group" when NIS is used.
?S:.
?S:hostcat:
?S: This variable contains a command that produces the text of the
?S: /etc/hosts file.  This is normally "cat /etc/hosts", but can be
?S: "ypcat hosts" when NIS is used.
?S:.
: see if we have to deal with yellow pages, now NIS.
?X: NeXT gives us some fun here, as always, by having both NIS (former YP)
?X: and NetInfo. But since it has both, it's ok to put the test inside the if.
?X: Contributed by Thomas Neumann <tom@smart.bo.open.de>.
if $test -d /usr/etc/yp || $test -d /etc/yp || $test -d /usr/lib/yp; then
 if $test -f /usr/etc/nibindd; then
  echo
 " "
  echo "I'm fairly confident you're on a NeXT."
@if passcat || groupcat
  echo " "
  rp='Do you get the passwd file via NetInfo?'
  dflt=y
  case "$passcat" in
  nidump*) ;;
  ") ;;
  *) dflt=n;;
  esac
  . ./myread
  case "$ans" in
  y*) passcat='nidump passwd .'
@if groupcat
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='nidump group .'
@end
   ;;
  *) echo "You told me, so don't blame me."
   case "$passcat" in
   nidump*) passcat="
@if groupcat
```

```
    groupcat=";;
@end
  esac
@if groupcat
  echo "(Assuming /etc/group is handled the same way.)"
@end
  ;;
 esac
@end
@if hostcat
 echo " "
 rp='Do you get the hosts file via NetInfo?'
 dflt=y
 case "$hostcat" in
 nidump*) ;;
 '') ;;
 *) dflt=n;;
 esac
 . ./myread
 case "$ans" in
 y*) hostcat='nidump hosts .';;
 *) case "$hostcat" in
  nidump*) hostcat='';;
  esac
  ;;
 esac
@end
 fi
@if passcat || groupcat
 case "$passcat" in
 nidump*) ;;
 *)
  case "$passcat" in
  *ypcat*) dflt=y;;
  *)
  if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the passwd file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) passcat='ypcat passwd'
@if groupcat
```

```
   echo "(Assuming /etc/group is also distributed.)"
   groupcat='ypcat group'
@end
   ;;
  *) passcat='cat /etc/passwd'
@if groupcat
   echo "(Assuming /etc/group is also local.)"
   groupcat='cat /etc/group'
@end
   ;;
  esac
  ;;
 esac
@end
@if hostcat
 case "$hostcat" in
 nidump*) ;;
 *)
  case "$hostcat" in
  *ypcat*) dflt=y;;
  ") if $contains '^\+' /etc/passwd >/dev/null 2>&1; then
    dflt=y
   else
    dflt=n
   fi;;
  *) dflt=n;;
  esac
  echo " "
  rp='Are you getting the hosts file via yellow pages?'
  . ./myread
  case "$ans" in
  y*) hostcat='ypcat hosts';;
  *) hostcat='cat /etc/hosts';;
  esac
  ;;
 esac
@end
fi
?X: Ensure suitable default -- Manoj Srivastava
case "$hostcat" in
") hostcat=':'
 $test -f /etc/hosts && hostcat='cat
 /etc/hosts';;
esac
case "$groupcat" in
") groupcat=':'
 $test -f /etc/group && groupcat='cat /etc/group';;
esac
```

```
case "$passcat" in
") passcat=':'
 $test -f /etc/passwd && passcat='cat /etc/passwd';;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/nis.U
No license file was found, but licenses were detected in source scan.

```
?RCS:     c) the GNU General Public License as published by the Free
?RCS:     Software Foundation; either version 1, or (at your option) any
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/perl/d_builtin_overflow.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Unix.U,v 3.0.1.1 1997/02/28 15:20:06 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Unix.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:20:06  ram
?RCS: patch61: created
?RCS:
?X:
?X: The purpose of this unit is to define things that are common across all
?X: known UNIX platforms. If Configure is ported/used on a non-UNIX
?X: environment, then some of the following variables can be redefined in hint
?X: files.
?X:
?MAKE:Unix _exe _a _o exe_ext lib_ext obj_ext path_sep \
 firstmakefile archobjs rm_try: Oldconfig rm
?MAKE: -pick add $@ %<
?S:_exe:
?S: This
 variable defines the extension used for executable files.
?S: DJGPP, Cygwin and OS/2 use '.exe'.  Stratus VOS uses '.pm'.
?S: On operating systems which do not require a specific extension
?S: for executable files, this variable is empty.
?S:.
?S:_a:
?S: This variable defines the extension used for ordinary library files.
```

?S: For unix, it is '.a'. The '.' is included. Other possible
?S: values include '.lib'.
?S:.
?S:_o:
?S: This variable defines the extension used for object files.
?S: For unix, it is '.o'. The '.' is included. Other possible
?S: values include '.obj'.
?S:.
?S:firstmakefile:
?S: This variable defines the first file searched by make. On unix,
?S: it is makefile (then Makefile). On case-insensitive systems,
?S: it might be something else. This is only used to deal with
?S: convoluted make depend tricks.
?S:.
?S:archobjs:
?S: This variable defines any additional objects that must be linked
?S: in with the program on this architecture. On unix, it is usually
?S: empty.
  It is typically used to include emulations of unix calls
?S: or other facilities. For perl on OS/2, for example, this would
?S: include os2/os2.obj.
?S:.
?X: Metaconfig's Obsolete symbol stuff is too over-eager. In the
?X: perl sources, it picks up things like "P" and "FLOCK" that are
?X: not used in the way Metaconfig thinks they are. Thus I can't
?X: just declare these obsolete and then run metaconfig -o.
?X: Instead, I'll just handle them here.
?X: Sadly, history has conspired to give us a web of definitions;
?X: this could have been much simpler.
?S:lib_ext:
?S: This is an old synonym for _a.
?S:.
?S:exe_ext:
?S: This is an old synonym for _exe.
?S:.
?S:obj_ext:
?S: This is an old synonym for _o.
?S:.
?S:path_sep:
?S: This is an old synonym for p_ in Head.U, the character
?S: used to separate elements in the command shell search PATH.
?S:.
?S:rm_try:
?S: This is a cleanup variable for try test programs.
?S: Internal Configure use only.
?S:.
?LINT: change p_
?INIT::

```
 Trailing extension.  Override this in a hint file, if needed.
?INIT:: Extra object files, if any, needed on this platform.
?INIT:archobjs="
: Define several unixisms.
: Hints files or command line option can be used to override them.
: The convoluted testing is in case hints files set either the old
: or the new name.
case "$_exe" in
") case "$exe_ext" in
 ") ;;
 *) _exe="$exe_ext" ;;
 esac
 ;;
esac
case "$_a" in
") case "$lib_ext" in
   ") _a='.a';;
 *) _a="$lib_ext" ;;
 esac
 ;;
esac
case "$_o" in
") case "$obj_ext" in
 ") _o='.o';;
 *) _o="$obj_ext";;
 esac
 ;;
esac
case "$p_" in
") case "$path_sep" in
 ") p_=':';;
 *) p_="$path_sep";;
 esac
 ;;
esac
exe_ext=$_exe
lib_ext=$_a
obj_ext=$_o
path_sep=$p_

rm_try="$rm -f try try$_exe a.out .out try.[cho] try.$_o core core.try* try.core*"

@if firstmakefile
: Which makefile gets called first.  This is used by make depend.
case "$firstmakefile" in
") firstmakefile='makefile';;
esac
```

@end

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Unix.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
?RCS:
?RCS: You may redistribute only under the terms of the Artistic License,
?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Andy Dougherty <doughera@lafcol.lafayette.edu>
?RCS:
?RCS: $Log: lns.U,v $
?RCS: Revision 3.0.1.1  1994/06/20  07:05:52  ram
?RCS: patch30: created by ADO
?RCS:
?X:
?X: This unit checks whether symbolic links are really supported.
?X: We can't rely on d_symlink because that may be listed in the
?X: C library but unimplemented.
?X:
?MAKE:lns: ln rm touch test
?MAKE: -pick add $@ %<
?S:lns:
?S: This variable holds the name of the command to make
?S: symbolic links (if they are supported).
  It can be used
?S: in the Makefile. It is either 'ln -s' or 'ln'
?S:.
: determine whether symbolic links are supported
echo " "
$rm -f blurfl sym
$touch blurfl
if $ln -s blurfl sym > /dev/null 2>&1 && $test -f sym; then
 echo "Symbolic links are supported." >&4
 lns="$ln -s"
else
 echo "Symbolic links are NOT supported." >&4
 lns="$ln"
fi
$rm -f blurfl sym
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/lns.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Myinit.U,v 3.0 1993/08/18 12:05:07 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
?RCS: This file is included with or a derivative work of a file included
?RCS: with the metaconfig program of Raphael Manfredi's "dist" distribution.
?RCS: In accordance with clause 7 of dist's modified Artistic License:
?RCS:
?RCS:     You may distribute under the terms of either the GNU General Public
?RCS:     License or the Artistic License, as specified in the README file.
?RCS:
?RCS: $Log: Myinit.U,v $
?RCS: Revision 3.0  1993/08/18  12:05:07  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: If you want to initialize any default values, copy this unit to your
?X: personal U directory and add the assignments to the end.  This file
?X: is included after variables are initialized but before any old
?X: config.sh file is read in and before any Configure switch processing.
?X:
?MAKE:Myinit
 libswanted: Init
?MAKE: -pick add $@ %<
?S:libswanted:
?S: This variable holds a list of all the libraries we want to
?S: search.  The order is chosen to pick up the c library
?S: ahead of ucb or bsd libraries for SVR4.
?S:.
?LINT:extern usevfork glibpth
?LINT:change usevfork glibpth
: List of libraries we want.
?X: Put crypt here, even though I should really fix d_crypt.U to look
?X: for it correctly, including possible shared library versions.
: If anyone needs extra -lxxx, put those in a hint file.
libswanted="cl pthread socket bind inet nsl ndbm gdbm dbm db malloc dl ld"
libswanted="$libswanted sun m crypt sec util c cposix posix ucb bsd BSD"
: We probably want to search /usr/shlib before most other libraries.
: This is only used by the lib/ExtUtils/MakeMaker.pm routine extliblist.
glibpth=`echo " $glibpth " | sed -e 's! /usr/shlib ! !'`
glibpth="/usr/shlib $glibpth"
: Do not use vfork unless overridden by a hint file.
usevfork=false
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Myinit.U
No license file was found, but licenses were detected in source scan.

?RCS: $Id: mansrc.U 1 2006-08-24 12:32:52Z rmanfredi $
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: mansrc.U,v $
?RCS: Revision 3.0.1.9 1997/02/28 16:12:03 ram
?RCS: patch61: don't ask for AFS when they choose to not install pages
?RCS:
?RCS: Revision 3.0.1.8 1995/09/25 09:16:58 ram
?RCS: patch59: unit is now forced to the top of Configure, if possible
?RCS:
?RCS: Revision 3.0.1.7 1995/02/15 14:15:31 ram
?RCS: patch51: was mistakenly duplicating /usr/local/man/man1 (ADO)
?RCS: patch51: added /opt/man/man1 to the lookpath (ADO)
?RCS:
?RCS: Revision
 3.0.1.6 1995/01/30 14:39:34 ram
?RCS: patch49: can now handle installation prefix changes (from WED)
?RCS:
?RCS: Revision 3.0.1.5 1995/01/11 15:32:25 ram
?RCS: patch45: can now use Loc variables since path stripping is deferred
?RCS:
?RCS: Revision 3.0.1.4 1994/08/29 16:30:38 ram
?RCS: patch32: now uses installation prefix for default setting
?RCS:
?RCS: Revision 3.0.1.3 1994/05/06 15:11:10 ram
?RCS: patch23: added lint hint, assuring that nroff is used
?RCS:
?RCS: Revision 3.0.1.2 1994/01/24 14:14:39 ram
?RCS: patch16: now uses _nroff in case user asked for portability
?RCS:
?RCS: Revision 3.0.1.1 1993/09/13 16:09:31 ram
?RCS: patch10: allows for L1 man page extension (WAD)
?RCS:
?RCS: Revision 3.0 1993/08/18 12:09:14 ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?MAKE:mansrc mansrcexp manext installmansrc: afs cat nroff Loc Oldconfig \

```
 sysman spackage test Getfile Prefixit prefixexp Prefixup
?MAKE: -pick add $@ %<
?Y:TOP
?S:mansrc:
?S: This variable
 contains the name of the directory in which manual
?S: source pages are to be put.  It is the responsibility of the
?S: Makefile.SH to get the value of this into the proper command.
?S: You must be prepared to do the ~name expansion yourself.
?S:.
?S:mansrcexp:
?S: This variable is the same as the mansrc variable, but is filename
?S: expanded at configuration time, for convenient use in makefiles.
?S:.
?S:installmansrc:
?S: This variable is really the same as mansrcexp, unless you are using
?S: AFS in which case it points to the read/write location whereas
?S: mansrcexp only points to the read-only access location. For extra
?S: portability, you should only use this variable within your makefiles.
?S:.
?S:manext:
?S: This variable contains the extension that the manual page should
?S: have: one of 'n', 'l', or '1'.  The Makefile must supply the '.'.
?S: See mansrc.
?S:.
?T:lookpath
: determine where manual pages go
set mansrc mansrc none
eval $prefixit
$cat <<EOM

$spackage has manual
 pages available in source form.
EOM
case "$nroff" in
nroff)
 echo "However, you don't have nroff, so they're probably useless to you."
 case "$mansrc" in
 ") mansrc="none";;
 esac;;
esac
echo "If you don't want the manual sources installed, answer 'none'."
case "$mansrc" in
")
 lookpath="$prefixexp/share/man/man1 $prefixexp/man/man1"
 lookpath="$lookpath $prefixexp/man/u_man/man1 $prefixexp/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/man1 /opt/man/man1 /usr/man/manl"
 lookpath="$lookpath /usr/share/man/man1 /usr/local/share/man/man1"
```

```
 lookpath="$lookpath /usr/man/local/man1 /usr/man/l_man/man1"
 lookpath="$lookpath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 lookpath="$lookpath /usr/man/man.L"
 mansrc=`./loc . $prefixexp/man/man1 $lookpath`
 if $test -d "$mansrc"; then
  dflt="$mansrc"
 else
  dflt="$sysman"
 fi
 set dflt
 eval $prefixup
 ;;
' ') dflt=none;;
*)  dflt="$mansrc"
 ;;
esac
echo " "
fn=dn~
rp='Where do the manual pages (source) go?'
. ./getfile
if test
 "X$mansrcexp" != "X$ansexp"; then
 installmansrc="
fi
mansrc="$ans"
mansrcexp="$ansexp"
case "$mansrc" in
") mansrc=' '
 installmansrc=";;
esac
if $afs && $test "$mansrc"; then
 $cat <<EOM

Since you are running AFS, I need to distinguish the directory in which
manual pages reside from the directory in which they are installed (and from
which they are presumably copied to the former directory by occult means).

EOM
 case "$installmansrc" in
 ") dflt=`echo $mansrcexp | sed 's#^/afs/#/afs/.#'`;;
 *) dflt="$installmansrc";;
 esac
 fn=de~
 rp='Where will man pages be installed?'
 . ./getfile
 installmansrc="$ans"
else
 installmansrc="$mansrcexp"
```

```
fi

case "$mansrc" in
' ') manext='0';;
*l) manext=l;;
*n) manext=n;;
*o) manext=l;;
*p) manext=n;;
*C) manext=C;;
*L) manext=L;;
*L1) manext=L1;;
*) manext=1;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/mansrc.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Copyright (c) 2000, Jarkko Hietaniemi
?RCS:
?X:
?X: This unit allows the duplication of the source tree to the current
?X: directory via symbolic links.  This must be requested explicitly
?X: by them issuing a -Dmksymlinks on the command line.
?X:
?MAKE:Mksymlinks: Mkdirp lns issymlink src rsrc pkgsrc
?MAKE: -pick add $@ %<
?F:!UU
?T: dir filename tmppwd filelist
?LINT:extern mksymlinks
@if {test -f ../MANIFEST}
: Duplicate the tree with symbolic links if -Dmksymlinks was supplied
case "$mksymlinks"
 in
$define|true|[yY]*)
 echo " "
 case "$src" in
 "|'.') echo "Cannot create symlinks in the original directory." >&4
```

```
 exit 1
 ;;
*) case "$lns:$issymlink" in
 *"ln"*" -s:"*"test -"?)
  echo "Creating the symbolic links..." >&4
  echo "(First creating the subdirectories...)" >&4
  cd ..
  awk '{print $1}' $src/MANIFEST | grep / | sed 's:/[^/]*$::' | \
   sort -u | while true
  do
   read dir
   test -z "$dir" && break
   ./UU/mkdirp $dir 2>/dev/null
   if test -d $dir; then
    : ok
   else
    echo "Failed to create '$dir'.  Aborting." >&4
    exit 1
   fi
  done
  echo "(Now creating the symlinks...)" >&4
  awk '{print $1}' $src/MANIFEST | while true; do
   read filename
   test -z "$filename" && break
   if test -f $filename; then
    if $issymlink $filename; then
     rm -f $filename
    fi
   fi
   if test -f $filename; then
    echo "$filename already exists, not symlinking."
   else
?X: Note that the following works because "$pkgsrc" is absolute
    ln
 -s $pkgsrc/$filename $filename
   fi
  done
?X: Check that everything was correctly copied
  echo "(Checking current directory...)" >&4
  cd UU
  awk '$1 !~ /PACK[A-Z]+/ {print $1}' "$rsrc/MANIFEST" | \
   (split -l 50 2>/dev/null || split -50)
  rm -f missing
  tmppwd=`pwd`
  for filelist in x??; do
   (cd ..; ls `cat "$tmppwd/$filelist"` \
    >/dev/null 2>>"$tmppwd/missing")
  done
```

```
  if test -s missing; then
   echo "Failed duplication of source tree.  Aborting." >&4
   exit 1
  fi
  ;;
 *) echo "(I cannot figure out how to do symbolic links, ignoring!)" >&4
  ;;
 esac
 ;;
esac
;;
esac

@end
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Mksymlinks.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: sysman.U,v 3.0.1.2 1994/06/20 07:08:43 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: sysman.U,v $
?RCS: Revision 3.0.1.2  1994/06/20  07:08:43  ram
?RCS: patch30: now explicitly states that /usr/man/man1 is the default
?RCS: patch30: added /usr/local/man/man1 to the search list
?RCS:
?RCS: Revision 3.0.1.1  1993/09/13  16:13:50  ram
?RCS: patch10: added support for /local/man/man1 (WAD)
?RCS: patch10: added temporary syspath variable to cut down on line length
?RCS:
?RCS: Revision 3.0  1993/08/18  12:09:55  ram
?RCS: Baseline for dist 3.0 netwide
 release.
?RCS:
?MAKE:sysman: test Loc Oldconfig
?MAKE: -pick add $@ %<
?S:sysman:
?S: This variable holds the place where the manual is located on this
?S: system. It is not the place where the user wants to put his manual
?S: pages. Rather it is the place where Configure may look to find manual
```

```
?S: for unix commands (section 1 of the manual usually). See mansrc.
?S:.
?T:syspath
: determine where manual pages are on this system
echo " "
case "$sysman" in
")
 syspath='/usr/share/man/man1 /usr/man/man1'
 syspath="$syspath /usr/man/mann /usr/man/manl /usr/man/local/man1"
 syspath="$syspath /usr/man/u_man/man1"
 syspath="$syspath /usr/catman/u_man/man1 /usr/man/l_man/man1"
 syspath="$syspath /usr/local/man/u_man/man1 /usr/local/man/l_man/man1"
 syspath="$syspath /usr/man/man.L /local/man/man1 /usr/local/man/man1"
 sysman=`./loc . /usr/man/man1 $syspath`
 ;;
esac
if $test -d "$sysman"; then
 echo "System manual is in $sysman." >&4
else
 echo "Could not find manual pages in source form."
 >&4
fi
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/sysman.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Whoa.U,v 3.0.1.2 1997/02/28 15:21:21 ram Exp $
?RCS:
?RCS: Copyright (c) 1991-1993, Raphael Manfredi
?RCS:
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?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 3.0.
?RCS:
?RCS: $Log: Whoa.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
```

```
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable
 is noticed.
?X:
?X: To use this unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was td tu hintfile
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
case "$hint" in
  recommended)
 case "$hintfile" in
 ") echo "The $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 *) echo "Hmm.  Based on the hints in hints/$hintfile.sh, " >&4
  echo "the $hint value for \$$var on this machine was \"$was\"!" >&4
  ;;
 esac
 ;;
  *) echo " "
 echo "*** WHOA THERE!!! ***" >&4
 echo "    The $hint value for \$$var on this machine was
 \"$was\"!" >&4
 ;;
esac
rp="    Keep the $hint value?"
. ./myread
case "$ans" in
y) td=$was; tu=$was;;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Whoa.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id: Extractall.U 1 2006-08-24 12:32:52Z rmanfredi $
```

```
?RCS:
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?RCS: that same Artistic Licence; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Extractall.U,v $
?RCS: Revision 3.0.1.1  1997/02/28  15:00:43  ram
?RCS: patch61: created
?RCS:
?X:
?X: If extraction has been requested, load the configuration file, perform
?X: the extraction and exit.
?X:
?X: This unit was originally a part of Options.U. It had to be removed from
?X: it to prevent a dependency cycle: Extract -> src -> Options -> Extract
?X: The Begin.U unit now requires us before beginning to do anything
?X: interesting, to ensure
 proper semantics. -- RAM, 15/03/96
?X:
?MAKE:Extractall: Extract Options
?MAKE: -pick wipe $@ %<
: extract files and exit if asked to do so
case "$extractsh" in
true)
?X: Undo the forced silent=true when -S was supplied, by probing realsilent
?X: which was set iff -s was also given. See Options.U for details.
 case "$realsilent" in
 true) ;;
 *) exec 1>&4;;
 esac
 case "$config_sh" in
 '') config_sh='config.sh';;
 esac
 echo " "
 echo "Fetching answers from $config_sh..."
 cd ..
 . $config_sh
?X: extract has to be run from the top directory, not within UU.
 . UU/optdef.sh
 echo " "
?X: extract has to be run from the top directory, not within UU.
 . UU/extract
 rm -rf UU
 echo "Extraction done."
```

```
 exit 0
 ;;
esac
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/U/modified/Extractall.U
No license file was found, but licenses were detected in source scan.

```
?RCS: $Id$
?RCS:
?RCS: Copyright (c) 1991-1997, 2004-2006, Raphael Manfredi
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?RCS: as specified in the README file that comes with the distribution.
?RCS: You may reuse parts of this distribution only within the terms of
?RCS: that same Artistic License; a copy of which may be found at the root
?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Options.U,v $
?RCS: Revision 3.0.1.7  1997/02/28  15:08:15  ram
?RCS: patch61: optdef.sh now starts with a "startsh"
?RCS: patch61: moved some code from Head.U
?RCS:
?RCS: Revision 3.0.1.6  1995/09/25  09:14:46  ram
?RCS: patch59: protected option parsing code against 'echo -*' option failure
?RCS:
?RCS: Revision 3.0.1.5  1995/05/12  12:04:52  ram
?RCS: patch54: added -K option for experts
?RCS:
?RCS: Revision 3.0.1.4  1995/01/30  14:27:52  ram
?RCS: patch49: this unit now exports file optdef.sh,
 not a variable
?RCS:
?RCS: Revision 3.0.1.3  1995/01/11  15:19:00  ram
?RCS: patch45: new -O option allowing -D and -U to override config.sh settings
?RCS: patch45: file optdef.sh is no longer removed after sourcing
?RCS:
?RCS: Revision 3.0.1.2  1994/10/29  15:58:06  ram
?RCS: patch36: ensure option definition file is removed before appending
?RCS: patch36: protect variable definitions with spaces in them
?RCS:
?RCS: Revision 3.0.1.1  1994/06/20  06:55:44  ram
?RCS: patch30: now uses new me symbol to tag error messages
?RCS: patch30: new -D and -U options to define/undef symbols (JHI)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:14  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
```

```
?X:
?X: Command line parsing. It is really important that the variables used here
?X: be not listed in the MAKE line, or they will be saved in config.sh and
?X: loading this file to fetch default answers would clobber the values set
?X: herein.
?X:
?MAKE:Options: startsh
?MAKE: -pick wipe $@ %<
?V:reuseval
 alldone error realsilent silent extractsh fastread \
 override knowitall: config_sh
?T:arg argn symbol config_arg0 config_args config_argc xxx yyy zzz uuu
?T:args_exp args_sep arg_exp
?F:!Configure
?F:./optdef.sh ./cmdline.opt ./posthint.sh ./cmdl.opt
: Save command line options in file UU/cmdline.opt for later use in
: generating config.sh.
?X: This temporary file will be read by Oldsym.U.  I used a temporary
?X: file to preserve all sorts of potential command line quotes and
?X: also because we don't know in advance how many variables we'll
?X: need, so I can't actually declare them on the MAKE line.
?X: The config_args variable won't be quite correct if Configure is
?X: fed something like     ./Configure -Dcc="gcc -B/usr/ccs/bin/"
?X: since the quotes are gone by the time we see them.  You'd have to
?X: reconstruct the command line from the config_arg? lines, but since
?X: I don't imagine anyone actually having to do that, I'm not going
?X: to worry too much.
cat > cmdline.opt
 <<EOSH
: Configure command line arguments.
config_arg0='$0'
config_args='$*'
config_argc=$#
EOSH
argn=1
args_exp="
args_sep="
for arg in "$@"; do
 cat >>cmdline.opt <<EOSH
config_arg$argn='$arg'
EOSH
?X: Extreme backslashitis: replace each ' by '"'"'
 cat <<EOC | sed -e "s/'/'"'"'"'"'"'"'"'"'"'"'/g" > cmdl.opt
$arg
EOC
 arg_exp=`cat cmdl.opt`
 args_exp="$args_exp$args_sep'$arg_exp'"
 argn=`expr $argn + 1`
```

```
 args_sep=' '
done
?X: args_exp is good for restarting self: eval "set X $args_exp"; shift; $0 "$@"
?X: used by hints/os2.sh in Perl, for instance
rm -f cmdl.opt

: produce awk script to parse command line options
cat >options.awk <<'EOF'
BEGIN {
 optstr = "A:dD:eEf:hKOrsSU:V"; # getopt-style specification

 len = length(optstr);
 for (i = 1; i <= len; i++) {
  c = substr(optstr, i, 1);
?X: some older awk's do not have the C ?: construct
  if (i < len) a = substr(optstr, i + 1, 1); else a = "";
  if (a == ":") {
   arg[c] = 1;
   i++;
  }
  opt[c] = 1;
 }
}
{
 expect = 0;
 str = $0;
 if (substr(str,
 1, 1) != "-") {
  printf("'%s'\n", str);
  next;
 }
 len = length($0);
 for (i = 2; i <= len; i++) {
  c = substr(str, i, 1);
  if (!opt[c]) {
   printf("-%s\n", substr(str, i));
   next;
  }
  printf("-%s\n", c);
  if (arg[c]) {
   if (i < len)
    printf("'%s'\n", substr(str, i + 1));
   else
    expect = 1;
   next;
  }
 }
}
```

```
END {
 if (expect)
  print "?";
}
EOF

: process the command line options
?X: Use "$@" to keep arguments with spaces in them from being split apart.
?X: For the same reason, awk will output quoted arguments and the final eval
?X: removes them and sets a proper $* array. An 'X' is prependend to each
?X: argument before being fed to echo to guard against 'echo -x', where -x
?X: would be understood as an echo option! It is removed before feeding awk.
set X `for arg in "$@"; do echo "X$arg"; done |
 sed -e s/X// | awk -f options.awk`
eval "set $*"
shift
rm -f options.awk

: set up default values
fastread="
reuseval=false
config_sh="
alldone="
error="
silent="
extractsh="
override="
knowitall="
rm
 -f optdef.sh posthint.sh
cat >optdef.sh <<EOS
$startsh
EOS

?X:
?X: Given that we now have the possibility to execute Configure remotely
?X: thanks to the new src.U support, we have to face the possibility
?X: of having to ask where the source lie, which means we need the Myread.U
?X: stuff and possibly other things that might echo something on the
?X: screen...
?X:
?X: That's not pretty, and might be confusing in 99% of the time. So...
?X: We introduce a new realsilent variable which is set when -s is given,
?X: and we force silent=true if -S is supplied. The Extractall.U unit
?X: will then undo the >&4 redirection based on the value of the
?X: realsilent variable... -- RAM, 18/93/96
?X:
```

```
: option parsing
while test $# -gt 0; do
 case "$1" in
 -d) shift; fastread=yes;;
 -e) shift; alldone=cont;;
 -f)
  shift
  cd ..
  if test -r "$1"; then
   config_sh="$1"
  else
   echo "$me: cannot read config file $1." >&2
   error=true
  fi
  cd UU
  shift;;
 -h)
 shift; error=true;;
 -r) shift; reuseval=true;;
 -s) shift; silent=true; realsilent=true;;
 -E) shift; alldone=exit;;
 -K) shift; knowitall=true;;
 -O) shift; override=true;;
 -S) shift; silent=true; extractsh=true;;
 -D)
  shift
  case "$1" in
  *=)
   echo "$me: use '-U symbol=', not '-D symbol='." >&2
   echo "$me: ignoring -D $1" >&2
   ;;
  *=*) echo "$1" | \
    sed -e "s/'/'\"'\"'/g" -e "s/=\(.*\)/='\1'/" >> optdef.sh;;
  *) echo "$1='define'" >> optdef.sh;;
  esac
  shift
  ;;
 -U)
  shift
  case "$1" in
  *=) echo "$1" >> optdef.sh;;
  *=*)
   echo "$me: use '-D symbol=val', not '-U symbol=val'." >&2
   echo "$me: ignoring -U $1" >&2
   ;;
  *) echo "$1='undef'" >> optdef.sh;;
  esac
  shift
```

```
 ;;
-A)
   shift
   xxx="
   yyy="$1"
   zzz="
   uuu=undef
   case "$yyy" in
       *=*) zzz=`echo "$yyy"|sed 's!=.*!!'`
           case "$zzz" in
           *:*) zzz=" ;;
           *)   xxx=append
               zzz=" "`echo
"$yyy"|sed 's!^[^=]*=!!'`
               yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
           esac
           ;;
       esac
       case "$xxx" in
       ")  case "$yyy" in
           *:*) xxx=`echo "$yyy"|sed 's!:.*!!'`
               yyy=`echo "$yyy"|sed 's!^[^:]*:!!'`
               zzz=`echo "$yyy"|sed 's!^[^=]*=!!'`
               yyy=`echo "$yyy"|sed 's!=.*!!'` ;;
           *)   xxx=`echo "$yyy"|sed 's!:.*!!'`
               yyy=`echo "$yyy"|sed 's!^[^:]*:!!'` ;;
           esac
           ;;
       esac
   case "$xxx" in
   append)
 echo "$yyy=\"\${$yyy}$zzz\"" >> posthint.sh ;;
   clear)
 echo "$yyy=""   >> posthint.sh ;;
   define)
       case "$zzz" in
 ") zzz=define ;;
 esac
 echo "$yyy='$zzz'"  >> posthint.sh ;;
   eval)
 echo "eval \"$yyy=$zzz\"" >> posthint.sh ;;
   prepend)
 echo "$yyy=\"$zzz\${$yyy}\"" >> posthint.sh ;;
   undef)
       case "$zzz" in
 ")
zzz="$uuu" ;;
 esac
```

```
 echo "$yyy=$zzz"  >> posthint.sh ;;
        *)  echo "$me: unknown -A command '$xxx', ignoring -A $1" >&2 ;;
    esac
    shift
    ;;
 -V) echo "$me generated by metaconfig <VERSION> PL<PATCHLEVEL>." >&2
    exit 0;;
 --) break;;
 -*) echo "$me: unknown option $1" >&2; shift; error=true;;
 *) break;;
 esac
done

case "$error" in
true)
 cat >&2 <<EOM
Usage: $me [-dehrsEKOSV] [-f config.sh] [-D symbol] [-D symbol=value]
            [-U symbol] [-U symbol=] [-A command:symbol...]
 -d : use defaults for all answers.
 -e : go on without questioning past the production of config.sh.
 -f : specify an alternate default configuration file.
 -h : print this help message and exit (with an error status).
 -r : reuse C symbols value if possible (skips costly nm extraction).
 -s : silent mode, only echoes questions and essential information.
 -D : define symbol to have some value:
      -D symbol         symbol gets the value 'define'
      -D symbol=value
  symbol gets the value 'value'
 -E : stop at the end of questions, after having produced config.sh.
 -K : do not use unless you know what you are doing.
 -O : let -D and -U override definitions from loaded configuration file.
 -S : perform variable substitutions on all .SH files (can mix with -f)
 -U : undefine symbol:
      -U symbol    symbol gets the value 'undef'
      -U symbol=   symbol gets completely empty
 -A : manipulate symbol after the platform specific hints have been applied:
  -A symbol=value  append " "value to symbol
  -A append:symbol=value  append value to symbol
  -A define:symbol=value  define symbol to have value
      -A clear:symbol  define symbol to be "
  -A define:symbol  define symbol to be 'define'
  -A eval:symbol=value  define symbol to be eval of value
  -A prepend:symbol=value prepend value to symbol
  -A undef:symbol  define symbol to be 'undef'
  -A undef:symbol=  define symbol to be "
 -V : print version number and exit (with
 a zero status).
EOM
```

```
 exit 1
 ;;
esac

?X:
?X: Unless they specified either -S or both -d and -e/E, make sure we're
?X: running interactively, i.e. attached to a terminal. Moved from Head.U to
?X: be able to handle batch configurations...
?X:
?X: We have to hardwire the Configure name and cannot use $me, since if they
?X: said 'sh <Configure', then $me is 'sh'...
?X:
: Sanity checks
case "$fastread$alldone" in
yescont|yesexit) ;;
*)
 case "$extractsh" in
 true) ;;
 *)
  if test ! -t 0; then
   echo "Say 'sh Configure', not 'sh <Configure'"
   exit 1
  fi
  ;;
 esac
 ;;
esac

?X: In silent mode, the standard output is closed. Questions are asked by
?X: outputing on file descriptor #4, which is the original stdout descriptor.
?X: This filters out all the "junk", since all the needed information is written
?X: on #4. Note that ksh will not let us redirect output if the file descriptor
?X: has not be defined yet, unlike sh, hence the following line...--RAM.
exec 4>&1
case "$silent" in
true)
 exec 1>/dev/null;;
esac

: run the defines and the undefines, if any, but leave the file out there...
touch optdef.sh
. ./optdef.sh
: create the posthint manipulation script and leave the file out there...
?X: this file will be perused by Oldconfig.U
touch posthint.sh
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Options.U

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```
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?RCS:
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Filexp.U,v $
?RCS: Revision 3.0.1.2  1994/10/29  15:52:53  ram
?RCS: patch36: added ?F: line for metalint file checking
?RCS: patch36: added HOME to the ?T: line since metalint now checks ${HOME}
?RCS:
?RCS: Revision 3.0.1.1  1994/05/06  14:03:00  ram
?RCS: patch23: made sure error status from csh is propagated (WED)
?RCS:
?RCS: Revision 3.0  1993/08/18  12:04:53  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a shell script which will expand filenames beginning
?X:
 with tildes.  The script is deleted at the end of Configure.
?X:
?MAKE:Filexp: startsh sed test expr eunicefix
?MAKE: -pick add $@ %<
?F:./filexp
?T:HOME LOGDIR dir me name failed
: set up shell script to do ~ expansion
cat >filexp <<EOSS
$startsh
: expand filename
?X:
?X: The case entries below escape the ~ as some shells have shown expansion
?X: of the ~ during here-doc processing.
?X:
case "\$1" in
\~/*|\~)
 echo \$1 | $sed "s|~|\${HOME-\$LOGDIR}|"
 ;;
\~*)
 if $test -f /bin/csh; then
  /bin/csh -f -c "glob \$1"
  failed=\$?
```

```
 echo ""
 exit \$failed
else
 name=\`$expr x\$1 : '..\([^/]*\)'\`
 dir=\`$sed -n -e "/^\${name}:/{s/^[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:[^:]*:\([^:]*\).*"'\$'"/\1/" -e p -e q -e '}' </etc/passwd\`
 if $test ! -d "\$dir"; then
  me=\`basename \$0\`
  echo "\$me: can't locate home directory for: \$name" >&2
  exit 1
 fi
 case "\$1" in
 */*)
  echo \$dir/\`$expr x\$1 : '..[^/]*/\(.*\)'\`
  ;;
 *)
  echo \$dir
  ;;
 esac
fi
;;
*)
 echo \$1
 ;;
esac
EOSS
chmod
 +x filexp
$eunicefix filexp
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Filexp.U
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```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Whoa.U,v $
?RCS: Revision 3.0.1.2  1997/02/28  15:21:21  ram
?RCS: patch61: whoa script now starts with leading "startsh"
?RCS:
?RCS: Revision 3.0.1.1  1994/10/29  16:02:01  ram
```

```
?RCS: patch36: added ?F: line for metalint file checking
?RCS:
?RCS: Revision 3.0  1993/08/18  12:05:19  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a bit of shell code that must be dotted in in order
?X: to warn the user in case a change into a variable is noticed.
?X:
?X: To use this
 unit, $was must hold the old value that has changed. Upon
?X: exit, the two variables $td and $tu are set to the correct value for
?X: respectively defining or undefining a variable. For instance, if $vas was
?X: $undef, but now $var is $define, after calling . whoa, you should use
?X: eval "$var=\$tu" to finally set $var to the correct value. See unit Inlibc.
?X:
?MAKE:Whoa: Myread startsh hint
?MAKE: -pick add $@ %<
?F:./whoa
?T:var was
?LINT:change td tu
: set up the script used to warn in case of inconsistency
cat <<EOS >whoa
$startsh
EOS
cat <<'EOSC' >>whoa
dflt=y
echo " "
echo "*** WHOA THERE!!! ***" >&4
echo "    The $hint value for \$$var on this machine was \"$was\"!" >&4
rp="    Keep the $hint value?"
. ./myread
case "$ans" in
y) td=$was; tu=$was;;
esac
EOSC
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Whoa.U
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```
?RCS: $Id: MailList.U 1 2006-08-24 12:32:52Z rmanfredi $
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```

```
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: Original Author: Graham Stoney <greyham@research.canon.oz.au>
?RCS:
?RCS: $Log: MailList.U,v $
?RCS: Revision 3.0.1.1  1994/01/24  14:01:49  ram
?RCS: patch16: created
?RCS:
?RCS:
?X:
?X: This unit offers the user the option of subscribing to the mailing
?X: list. To force inclusion of this unit, you must add it's name to the
?X: dependancies on the MAKE line in your private copy of End.U.
?X: The address of the mailing list server must be set via a "list_request=..."
?X:
 entry in the .package file. This is usually done by running packinit and
?X: answering the proper questions.
?X:
?MAKE:MailList: cat mailer package Myread cf_name cf_email
?MAKE: -pick wipe $@ %<
?T:list_request list_sub list_unsub list_name
?X:
?X: The cf_name dependency is used through list_sub when the mailing list
?X: manager happens to be listserv, whereas cf_email is used whith majordomo
?X: or when the mailing list request address is scanned by a human. Since
?X: they do not appear within the unit itself, we need a lint hint.
?X:
?LINT:use cf_name cf_email
: offer to join the mailing list
list_request='<$list_request>'
list_sub="<$list_sub>"
list_unsub="<$list_unsub>"
list_name="<$list_name>"
$cat <<EOM

There is a mailing list for discussion about $package and related issues.
This is the preferred place to ask questions about the program and discuss
modifications and additions with the author and other users.  If you are able
to send mail to the Internet, you
 are encouraged to subscribe.  You need only
ever subscribe once, and you can unsubscribe automatically at any time in the
future.  If you have already subscribed and you wish to unsubscribe now, you
may do so by answering "unsubscribe".  Answer "subscribe" to subscribe to the
list.

EOM
rp="Subscribe to or unsubscribe from the $list_name mailing list?"
```

```
dflt=neither
. ./myread
case "$ans" in
[sS]*) $cat <<EOM

You will be sent a message from the list server to let you know when your
subscription has been successful and telling you how to submit articles and
how to unsubscribe again when necessary. You may also unsubscribe by running
this script again and asking it to do so for you.

EOM
 echo "Sending mail to subscribe you to the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To: $list_request

$list_sub
EOM
 ;;
[uU]*) echo "Sending mail to unsubscribe you from the $list_name list..." >&4
 $mailer $list_request <<EOM >/dev/null 2>&1
Precedence: junk
To:
 $list_request

$list_unsub
EOM
 ;;
esac

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/MailList.U
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?RCS: $Id: Setvar.U 1 2006-08-24 12:32:52Z rmanfredi $
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?RCS: of the source tree for dist 4.0.
?RCS:
?RCS: $Log: Setvar.U,v $
?RCS: Revision 3.0.1.1  1994/10/29  15:58:28  ram
?RCS: patch36: call ./whoa explicitly instead of relying on PATH
?RCS:
```

```
?RCS: Revision 3.0  1993/08/18  12:05:16  ram
?RCS: Baseline for dist 3.0 netwide release.
?RCS:
?X:
?X: This unit produces a variable that is intended to be eval'ed in
?X: order to define/undefine a symbol. A consistency check is made
?X: regarding any previous value and a warning is issued if there
?X: is any discrepancy.
?X:
?X:
 To use it, say:
?X: val=<value>
?X: set d_variable
?X: eval $setvar
?X:
?MAKE:Setvar: Whoa
?MAKE: -pick add $@ %<
?LINT:define setvar
?S:setvar:
?S: This shell variable is used internally by Configure to set a value
?S: to a given symbol that is defined or not. A typical use is:
?S: val=<value computed>
?S:  set d_variable
?S:  eval $setvar
?S: That will print a message in case the $val value is not the same
?S: as the previous value of $d_variable.
?S:.
?V:setvar:val
?T:var was td tu
: function used to set '$1' to '$val'
setvar='var=$1; eval "was=\$$1"; td=$define; tu=$undef;
case "$val$was" in
$define$undef) . ./whoa; eval "$var=\$td";;
$undef$define) . ./whoa; eval "$var=\$tu";;
*) eval "$var=$val";;
esac'
```

Found in path(s):
* /perl-5-36-0-orig-regen-configure-1-tar-xz/metaconfig-5.36.0/dist/U/Setvar.U

1.271 curl 7.88.1-10

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1.272 tensorflow 2.15.0

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 ICU uses the public domain data and code derived from Time Zone
Database for its time zone support. The ownership of the TZ database
is explained in BCP 175: Procedure for Maintaining the Time Zone
Database section 7.

7. Database Ownership
#
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path: "tensorflow.errors.PermissionDeniedError"
tf_class {
is_instance: "<class \'tensorflow.python.framework.errors_impl.PermissionDeniedError\'>"
is_instance: "<class \'tensorflow.python.framework.errors_impl.OpError\'>"
is_instance: "<type \'exceptions.Exception\'>"
member {
name: "args"
mtype: "<type \'getset_descriptor\'>"
}
member {
name: "error_code"
mtype: "<type \'property\'>"
}
member {
name: "experimental_payloads"
mtype: "<type \'property\'>"
}
member {
name: "message"
mtype: "<type \'property\'>"
}
member {
name: "node_def"
mtype: "<type \'property\'>"
}
member {
name: "op"
mtype: "<type \'property\'>"
}
member_method {
name: "__init__"
argspec: "args=[\'self\', \'node_def\', \'op\', \'message\'], varargs=args, keywords=None, defaults=None"
}
}
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./test/smallvectors.cpp
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./test/resize.cpp
./test/mixingtypes.cpp
./test/product_trmv.cpp
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./test/miscmatrices.cpp
./test/stddeque.cpp
./test/integer_types.cpp
./test/product_large.cpp
./test/eigensolver_generic.cpp
./test/householder.cpp
./test/geo_orthomethods.cpp
./test/array_for_matrix.cpp
./test/sparseLM.cpp
./test/upperbidiagonalization.cpp
./test/nomalloc.cpp
./test/packetmath.cpp
./test/jacobisvd.cpp
./test/geo_transformations.cpp
./test/swap.cpp
./test/eigensolver_selfadjoint.cpp
./test/inverse.cpp
./test/product_selfadjoint.cpp
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./test/product_extra.cpp
./test/sparse_solver.h
./test/mapstride.cpp
./test/mapped_matrix.cpp
./test/geo_eulerangles.cpp
./test/eigen2support.cpp
./test/denseLM.cpp
./test/stdvector.cpp
./test/nesting_ops.cpp
./test/sparse_permutations.cpp
./test/zerosized.cpp
./test/exceptions.cpp
./test/vectorwiseop.cpp

./test/cwiseop.cpp
./test/basicstuff.cpp
./test/product_trmm.cpp
./test/linearstructure.cpp
./test/sparse_product.cpp
./test/stdvector_overload.cpp
./test/stable_norm.cpp
./test/umeyama.cpp
./test/unalignedcount.cpp
./test/triangular.cpp
./test/product_mmtr.cpp
./test/sparse_basic.cpp
./test/sparse_vector.cpp
./test/meta.cpp
./test/real_qz.cpp
./test/ref.cpp
./test/eigensolver_complex.cpp
./test/cholmod_support.cpp
./test/conjugate_gradient.cpp
./test/sparse.h
./test/simplicial_cholesky.cpp
./test/bicgstab.cpp
./test/dynalloc.cpp
./test/product_notemporary.cpp
./test/geo_hyperplane.cpp
./test/lu.cpp
./test/qr.cpp
./test/hessenberg.cpp
./test/sizeof.cpp
./test/main.h
./test/selfadjoint.cpp
./test/permutationmatrices.cpp
./test/superlu_support.cpp
./test/qtvector.cpp
./test/geo_homogeneous.cpp
./test/determinant.cpp
./test/array_reverse.cpp
./test/unalignedassert.cpp
./test/stdlist.cpp
./test/product_symm.cpp
./test/corners.cpp
./test/dontalign.cpp
./test/visitor.cpp
./test/geo_alignedbox.cpp
./test/diagonalmatrices.cpp
./test/product_small.cpp
./test/eigensolver_generalized_real.cpp
./test/umfpack_support.cpp

./test/first_aligned.cpp
./test/qr_fullpivoting.cpp
./test/array_replicate.cpp
./test/geo_parametrizedline.cpp
./test/eigen2/eigen2_unalignedassert.cpp
./test/eigen2/eigen2_prec_inverse_4x4.cpp
./test/eigen2/eigen2_alignedbox.cpp
./test/eigen2/eigen2_sparse_product.cpp
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./test/eigen2/eigen2_product_large.cpp
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./test/eigen2/eigen2_cholesky.cpp
./test/eigen2/eigen2_determinant.cpp
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./test/eigen2/eigen2_regression.cpp

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./test/eigen2/product.h
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./test/product_syrk.cpp
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./test/qr_colpivoting.cpp
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./test/bandmatrix.cpp
./test/pastix_support.cpp
./test/product.h
./test/block.cpp
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./test/jacobi.cpp
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./test/schur_complex.cpp
./test/sizeoverflow.cpp
./bench/BenchTimer.h
./bench/benchFFT.cpp
./bench/eig33.cpp
./bench/spbench/spbenchsolver.h
./bench/spbench/spbenchstyle.h
./lapack/complex_double.cpp
./lapack/cholesky.cpp
./lapack/lapack_common.h
./lapack/eigenvalues.cpp
./lapack/single.cpp
./lapack/lu.cpp
./lapack/complex_single.cpp
./lapack/double.cpp
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./demos/opengl/camera.h
./demos/opengl/trackball.h
./demos/opengl/gpuhelper.h
./demos/opengl/trackball.cpp
./demos/opengl/gpuhelper.cpp

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./unsupported/test/bdcsvd.cpp
./unsupported/test/matrix_exponential.cpp
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./Eigen/src/plugins/MatrixCwiseBinaryOps.h
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./Eigen/src/Core/NestByValue.h
./Eigen/src/Core/CwiseUnaryOp.h
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./Eigen/src/Core/Fuzzy.h
./Eigen/src/Core/Visitor.h
./Eigen/src/Core/Map.h
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./Eigen/src/Core/Redux.h
./Eigen/src/Core/ForceAlignedAccess.h
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./Eigen/src/Core/Functors.h
./Eigen/src/Core/PermutationMatrix.h
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./Eigen/src/Core/MatrixBase.h
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./blas/complex_single.cpp
./blas/PackedTriangularSolverVector.h
./blas/double.cpp
./blas/common.h
./blas/level2_impl.h
./blas/GeneralRank1Update.h

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path: "tensorflow.errors.PermissionDeniedError"
tf_class {
is_instance: "<class \'tensorflow.python.framework.errors_impl.PermissionDeniedError\'>"
is_instance: "<class \'tensorflow.python.framework.errors_impl.OpError\'>"
is_instance: "<type \'exceptions.Exception\'>"
member {
name: "args"
mtype: "<type \'getset_descriptor\'>"
}
member {
name: "error_code"
mtype: "<type \'property\'>"
}
member {
name: "experimental_payloads"
mtype: "<type \'property\'>"
}
member {
name: "message"
mtype: "<type \'property\'>"
}
member {
name: "node_def"
mtype: "<type \'property\'>"
}
member {

```
  name: "op"
  mtype: "<type \'property\'>"
 }
 member_method {
  name: "__init__"
  argspec: "args=[\'self\', \'node_def\', \'op\', \'message\'], varargs=args, keywords=None, defaults=None"
 }
}
```

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Following applies to:
./test/mapstaticmethods.cpp
./test/schur_real.cpp
./test/prec_inverse_4x4.cpp
./test/smallvectors.cpp
./test/redux.cpp
./test/special_numbers.cpp
./test/adjoint.cpp
./test/resize.cpp
./test/mixingtypes.cpp
./test/product_trmv.cpp
./test/sparse_solvers.cpp
./test/cholesky.cpp
./test/geo_quaternion.cpp
./test/miscmatrices.cpp
./test/stddeque.cpp
./test/integer_types.cpp
./test/product_large.cpp
./test/eigensolver_generic.cpp
./test/householder.cpp
./test/geo_orthomethods.cpp
./test/array_for_matrix.cpp
./test/sparseLM.cpp
./test/upperbidiagonalization.cpp
./test/nomalloc.cpp
./test/packetmath.cpp
./test/jacobisvd.cpp
./test/geo_transformations.cpp
./test/swap.cpp
./test/eigensolver_selfadjoint.cpp
./test/inverse.cpp
./test/product_selfadjoint.cpp
./test/product_trsolve.cpp
./test/product_extra.cpp
./test/sparse_solver.h
./test/mapstride.cpp
./test/mapped_matrix.cpp

./test/geo_eulerangles.cpp
./test/eigen2support.cpp
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./test/sparse_permutations.cpp
./test/zerosized.cpp
./test/exceptions.cpp
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./test/cwiseop.cpp
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./test/linearstructure.cpp
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./test/stable_norm.cpp
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./test/triangular.cpp
./test/product_mmtr.cpp
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./test/meta.cpp
./test/real_qz.cpp
./test/ref.cpp
./test/eigensolver_complex.cpp
./test/cholmod_support.cpp
./test/conjugate_gradient.cpp
./test/sparse.h
./test/simplicial_cholesky.cpp
./test/bicgstab.cpp
./test/dynalloc.cpp
./test/product_notemporary.cpp
./test/geo_hyperplane.cpp
./test/lu.cpp
./test/qr.cpp
./test/hessenberg.cpp
./test/sizeof.cpp
./test/main.h
./test/selfadjoint.cpp
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./test/stdlist.cpp

./test/product_symm.cpp
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./test/product_small.cpp
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./test/eigen2/eigen2_array.cpp
./test/eigen2/eigen2_map.cpp

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./test/eigen2/eigen2_miscmatrices.cpp
./test/eigen2/eigen2_product_large.cpp
./test/eigen2/eigen2_first_aligned.cpp
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./test/eigen2/eigen2_determinant.cpp
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./test/array.cpp
./test/product_syrk.cpp
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./test/conservative_resize.cpp
./test/qr_colpivoting.cpp
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./test/product.h
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./lapack/lapack_common.h
./lapack/eigenvalues.cpp
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./lapack/lu.cpp
./lapack/complex_single.cpp
./lapack/double.cpp
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./demos/mix_eigen_and_c/example.c
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./demos/mandelbrot/mandelbrot.h

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./unsupported/Eigen/NumericalDiff
./unsupported/Eigen/Skyline
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./Eigen/Eigen2Support
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./Eigen/src/Eigen2Support/Cwise.h
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./Eigen/src/Core/NestByValue.h
./Eigen/src/Core/CwiseUnaryOp.h
./Eigen/src/Core/SolveTriangular.h
./Eigen/src/Core/Fuzzy.h
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./Eigen/src/Core/Map.h
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./Eigen/src/Core/Dot.h
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./Eigen/src/Core/PermutationMatrix.h
./Eigen/src/Core/NumTraits.h
./Eigen/src/Core/MatrixBase.h

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./Eigen/src/Core/util/BlasUtil.h
./Eigen/src/Core/util/MatrixMapper.h
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./Eigen/src/Core/util/Constants.h
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./Eigen/src/Core/GeneralProduct.h
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./Eigen/src/Core/Stride.h
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./Eigen/src/IterativeLinearSolvers/BasicPreconditioners.h
./Eigen/src/IterativeLinearSolvers/IterativeSolverBase.h
./Eigen/src/IterativeLinearSolvers/ConjugateGradient.h
./Eigen/src/IterativeLinearSolvers/BiCGSTAB.h
./Eigen/src/SparseCholesky/SimplicialCholesky.h
./Eigen/src/Cholesky/LDLT.h
./Eigen/src/Cholesky/LLT.h
./Eigen/src/CholmodSupport/CholmodSupport.h
./Eigen/src/PaStiXSupport/PaStiXSupport.h
./Eigen/src/MetisSupport/MetisSupport.h
./Eigen/StdVector
./Eigen/Core
./Eigen/OrderingMethods

./Eigen/SparseLU
./Eigen/StdList
./Eigen/StdDeque
./Eigen/SparseCholesky
./Eigen/SparseCore
./scripts/relicense.py
./scripts/relicense.py
./blas/BandTriangularSolver.h
./blas/PackedTriangularMatrixVector.h
./blas/complex_double.cpp
./blas/level2_real_impl.h
./blas/level1_cplx_impl.h
./blas/level1_impl.h
./blas/level1_real_impl.h
./blas/level3_impl.h
./blas/single.cpp
./blas/level2_cplx_impl.h
./blas/PackedSelfadjointProduct.h
./blas/Rank2Update.h
./blas/complex_single.cpp
./blas/PackedTriangularSolverVector.h
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1.275 protobuf 1.36.6

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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions
for copying, distribution and
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Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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

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uses the facility, other than as an argument passed when the
facility is invoked, then you must make a good faith effort
to ensure that, in the event an application does not supply
such function or table, the facility still operates, and

performs whatever part of its purpose remains meaningful.

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

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

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

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a.

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

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

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<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF

  <li class="release">
   12_HREF


```
  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
    licences can be found on the
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

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1.277 golang 1.24.3

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```
package copyright

import (
 "bytes"
 "internal/testenv"
 "io"
```

```
 "io/fs"
 "os"
 "path/filepath"
 "testing"
)

var copyright = []byte("Copyright")

var permitted = [][]byte{
 []byte("// Code generated by "),
 []byte("// Code generated from "),
 []byte("// Created by cgo -cdefs"),
 []byte("// DO NOT EDIT\n// generated by:"),
 []byte("// Empty assembly file"),
 []byte("// Generated using cgo"),
 []byte("// Original source:\n//\thttp://www.zorinaq.com/papers/md5-amd64.html"), // public domain crypto/md5
 []byte("// created by cgo -cdefs"),
 []byte("// go run mkasm.go"),
 []byte("// mkerrors"),
 []byte("// mksys"),
 []byte("// run\n// Code generated by"), // cmd/compile/internal/test/constFold_test.go
}

func TestCopyright(t *testing.T) {
 buf := make([]byte, 2048)
 filepath.WalkDir(filepath.Join(testenv.GOROOT(t), "src"), func(path string,
 d fs.DirEntry, err error) error {
  if d.IsDir() && (d.Name() == "testdata" || d.Name() == "vendor") {
   return filepath.SkipDir
  }
  switch filepath.Ext(d.Name()) {
  default:
   return nil
  case ".s", ".go":
   // check
  }

  f, err := os.Open(path)
  if err != nil {
   t.Error(err)
   return nil
  }
  defer f.Close()
  n, err := f.Read(buf)
  if err != nil && err != io.EOF {
   t.Error(err)
   return nil
  }
```

```
 b := buf[:n]
 if bytes.Contains(b, copyright) {
  return nil
 }
 for _, ok := range permitted {
  if bytes.HasPrefix(b, ok) {
   return nil
  }
 }
 t.Errorf("%s: missing copyright notice", path)
 return nil
})
}
```

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1.278 stdlib go1.24.3

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package copyright

import (
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 "internal/testenv"
 "io"
 "io/fs"
 "os"
 "path/filepath"
 "testing"
)

var copyright = []byte("Copyright")

var permitted = [][]byte{
 []byte("// Code generated by "),
 []byte("// Code generated from "),
 []byte("// Created by cgo -cdefs"),
 []byte("// DO NOT EDIT\n// generated by:"),
```

```
 []byte("// Empty assembly file"),
 []byte("// Generated using cgo"),
 []byte("// Original source:\n//\thttp://www.zorinaq.com/papers/md5-amd64.html"), // public domain crypto/md5
 []byte("// created by cgo -cdefs"),
 []byte("// go run mkasm.go"),
 []byte("// mkerrors"),
 []byte("// mksys"),
 []byte("// run\n// Code generated by"), // cmd/compile/internal/test/constFold_test.go
}

func TestCopyright(t *testing.T) {
 buf := make([]byte, 2048)
 filepath.WalkDir(filepath.Join(testenv.GOROOT(t), "src"), func(path string,
 d fs.DirEntry, err error) error {
  if d.IsDir() && (d.Name() == "testdata" || d.Name() == "vendor") {
   return filepath.SkipDir
  }
  switch filepath.Ext(d.Name()) {
  default:
   return nil
  case ".s", ".go":
   // check
  }

  f, err := os.Open(path)
  if err != nil {
   t.Error(err)
   return nil
  }
  defer f.Close()
  n, err := f.Read(buf)
  if err != nil && err != io.EOF {
   t.Error(err)
   return nil
  }
  b := buf[:n]
  if bytes.Contains(b, copyright) {
   return nil
  }
  for _, ok := range permitted {
   if bytes.HasPrefix(b, ok) {
    return nil
   }
  }
  t.Errorf("%s: missing copyright notice", path)
  return nil
 })
}
```

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

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

Source code for a work means the preferred form of the work for making modifications to it. For an executable file, complete source code means all the source code for all modules it contains; but, as a special exception, it need not include source code for modules which are standard libraries that accompany the operating system on which the executable file runs, or for standard header files or definitions files that accompany that operating system.

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END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

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

terms.

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

<one line to give the program's name and a brief idea of what it does.>
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Also add information on how to contact you by electronic and paper mail.

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

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Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

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

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

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program `Gnomovision' (a program to direct compilers to make passes
at assemblers) written by James Hacker.

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

That's all there is to it!

The "Artistic License"

Preamble

The intent of this document is to state the conditions under which a Package may be copied, such that the Copyright Holder maintains some semblance of artistic control over the development of the package, while giving the users of the package the right to use and distribute the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

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c) rename any non-standard executables so the names do not conflict with standard executables, which must also be provided, and provide a separate manual page for each non-standard executable that clearly documents how it differs from the Standard Version.

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The End

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Version 2, June 1991

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[This is the first released version of the library GPL. It is
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Preamble

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can relink them
with the library, after making changes to the library and recompiling
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Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we
have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary
General Public License
treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification
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Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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

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its contents constitute a work based
on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

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

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

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

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Thus, it is not the intent of this section to claim rights or contest
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exercise the right to control the distribution of
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collective works based on the Library.

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 This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

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

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

 5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses

the Library". Such a
work, in isolation, is not a derivative work of the Library, and
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However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

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

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

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

6. As an exception to the Sections above, you may also compile or
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b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

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

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

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b) Give prominent notice with the combined
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/* nicstar.c v0.22 Jawaid Bazyar (bazyar@hypermall.com)
* nicstar.c, M. Welsh (matt.welsh@cl.cam.ac.uk)
*
* Hacked October, 1997 by Jawaid Bazyar, Interlink Advertising Services Inc.
* http://www.hypermall.com/
* 10/1/97 - commented out CFG_PHYIE bit - we don't care when the PHY
* interrupts us (except possibly for removal/insertion of the cable?)
* 10/4/97 - began heavy inline documentation of the code. Corrected typos
* and spelling mistakes.
* 10/5/97 - added code to handle PHY interrupts, disable PHY on
* loss of link, and correctly re-enable PHY when link is
* re-established. (put back CFG_PHYIE)
*
*   Modified to work with the IDT7721 nicstar -- AAL5 (tested) only.
*
* R. D. Rechenmacher <ron@fnal.gov>, Aug. 6, 1997
*
* Linux driver for the IDT77201 NICStAR PCI ATM controller.
* PHY component is expected to be 155 Mbps S/UNI-Lite or IDT 77155;
* see init_nicstar() for PHY initialization to change this. This driver
* expects the Linux ATM stack to support scatter-gather
 lists
* (skb->atm.iovcnt != 0) for Rx skb's passed to vcc->push.
*
* Implementing minimal-copy of received data:
*   IDT always receives data into a small buffer, then large buffers
*   as needed. This means that data must always be copied to create
*   the linear buffer needed by most non-ATM protocol stacks (e.g. IP)
*   Fix is simple: make large buffers large enough to hold entire
*   SDU, and leave <small_buffer_data> bytes empty at the start. Then
*   copy small buffer contents to head of large buffer.
*   Trick is to avoid fragmenting Linux, due to need for a lot of large
*   buffers. This is done by 2 things:
*   1) skb->destructor / skb->atm.recycle_buffer
*   combined, allow nicstar_free_rx_skb to be called to
*   recycle large data buffers
*   2) skb_clone of received buffers
*   See nicstar_free_rx_skb and linearize_buffer for implementation
*   details.
*
*
*

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*
* M. Welsh, 6 July 1996
*
*
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  || strcmp(license, "GPL v2") == 0
  || strcmp(license, "GPL and additional rights") == 0
  || strcmp(license, "Dual BSD/GPL") == 0
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}

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Version 2, June 1991

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Preamble
========

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```
<!-- Creator     : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF
  </li>
  <li class="release">
   12_HREF
  </li>

  <li>
   <a href="news.html" title="News">News</a>
  </li>
  <li>
   <a href="development.html" title="Development">Development</a>
  </li>
  <li>
   <a href="community.html" title="Community">Community</a>
  </li>
 </ul>
```

```
<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
   licences can be found on the
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

1.285 libstdc++-12-dev 12.2.0-14+deb12u1

1.285.1 Available under license :

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

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 02110-1301, USA. */

#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
 difficult for the compiler to generate a call to this. These are
 used as arguments to the function __VLTChangePermission, declared
 below. */
#define __VLTP_READ_ONLY 0
#define __VLTP_READ_WRITE 1

#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

```
#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
```

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Version 3.1, 31 March 2009

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/* Definitions for BSD assembler syntax for Intel 386
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/* Use the Sequent Symmetry assembler syntax. */

/* Define the syntax of pseudo-ops, labels and comments. */

```
/* Prefix for internally generated assembler
 labels.  If we aren't using
  underscores, we are using prefix `.'s to identify labels that should
  be ignored, as in `i386/gas.h' --karl@cs.umb.edu  */

#define LPREFIX "L"

/* Assembler pseudos to introduce constants of various size.  */

#define ASM_BYTE "\t.byte\t"
#define ASM_SHORT "\t.word\t"
#define ASM_LONG "\t.long\t"
#define ASM_QUAD "\t.quad\t"  /* Should not be used for 32bit compilation.  */

/* This was suggested, but it shouldn't be right for DBX output. -- RMS
  #define ASM_OUTPUT_SOURCE_FILENAME(FILE, NAME) */


/* Define the syntax of labels and symbol definitions/declarations.  */

/* This is how to output an assembler line
  that says to advance the location counter by SIZE bytes.  */

#define ASM_OUTPUT_SKIP(FILE,SIZE)  \
 fprintf (FILE, "\t.space " HOST_WIDE_INT_PRINT_UNSIGNED"\n", (SIZE))

/* Define the syntax of labels and symbol definitions/declarations.  */

/* This says how to output an assembler line
  to define a global common symbol.  */

#define
 ASM_OUTPUT_COMMON(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".comm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

/* This says how to output an assembler line
  to define a local common symbol.  */

#define ASM_OUTPUT_LOCAL(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

#ifdef HAVE_GAS_LCOMM_WITH_ALIGNMENT
#define ASM_OUTPUT_ALIGNED_LOCAL(FILE, NAME, SIZE, ALIGNMENT)  \
```

```
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u,%u\n", (int)(SIZE), (int)(ALIGNMENT) / BITS_PER_UNIT))
#endif

/* This is how to output an assembler line
  that says to advance the location counter
  to a multiple of 2**LOG bytes.  */

#define ASM_OUTPUT_ALIGN(FILE,LOG) \
 if ((LOG)!=0) fprintf ((FILE), "\t.align %d\n", (LOG))

/* This is how to store into the string BUF
  the symbol_ref name of an internal numbered label
 where
  PREFIX is the class of label and NUM is the number within the class.
  This is suitable for output with `assemble_name'.  */

#define ASM_GENERATE_INTERNAL_LABEL(BUF,PREFIX,NUMBER) \
   sprintf ((BUF), "*%s%ld", (PREFIX), (long)(NUMBER))

/* The prefix to add to user-visible assembler symbols.  */

#define USER_LABEL_PREFIX "_"

/* Sequent has some changes in the format of DBX symbols.  */
#define DBX_NO_XREFS 1

/* Don't split DBX symbols into continuations.  */
#define DBX_CONTIN_LENGTH 0
```


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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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(28) Artem Bityuckiy (--enable-newlib-iconv)

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c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

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Version 2, June 1991

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[This is the first released version of the library GPL. It is
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========

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However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

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such function or table, the facility still operates, and

performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots
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application. Therefore, Subsection 2d requires that any
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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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

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machine-readable "work that uses the Library", as object code
and/or source code, so that the user can modify the Library
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<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF

  <li class="release">
   12_HREF


```
  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
    licences can be found on the
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

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Foundation, Inc., 51 Franklin Street - Fifth Floor, Boston, MA
02110-1301, USA. */

#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
  difficult for the compiler to generate a call to this. These are
  used as arguments to the function __VLTChangePermission, declared
  below. */
#define __VLTP_READ_ONLY 0
#define __VLTP_READ_WRITE 1

```
#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
```

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Version 2.1, February 1999

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  Foundation, Inc., 51 Franklin Street - Fifth Floor, Boston, MA
  02110-1301, USA.  */


#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
  difficult for the compiler to generate a call to this.  These are
  used as arguments to the function __VLTChangePermission, declared
  below.  */
#define __VLTP_READ_ONLY  0
#define __VLTP_READ_WRITE 1

#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
```

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/* Definitions for BSD assembler syntax for Intel 386
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<http://www.gnu.org/licenses/>. */

/* Use the Sequent Symmetry assembler syntax. */

/* Define the syntax of pseudo-ops, labels and comments. */

/* Prefix for internally generated assembler

```
 labels.  If we aren't using
  underscores, we are using prefix `.'s to identify labels that should
  be ignored, as in `i386/gas.h' --karl@cs.umb.edu  */

#define LPREFIX "L"

/* Assembler pseudos to introduce constants of various size.  */

#define ASM_BYTE "\t.byte\t"
#define ASM_SHORT "\t.word\t"
#define ASM_LONG "\t.long\t"
#define ASM_QUAD "\t.quad\t"  /* Should not be used for 32bit compilation.  */

/* This was suggested, but it shouldn't be right for DBX output. -- RMS
  #define ASM_OUTPUT_SOURCE_FILENAME(FILE, NAME) */


/* Define the syntax of labels and symbol definitions/declarations.  */

/* This is how to output an assembler line
  that says to advance the location counter by SIZE bytes.  */

#define ASM_OUTPUT_SKIP(FILE,SIZE)  \
 fprintf (FILE, "\t.space " HOST_WIDE_INT_PRINT_UNSIGNED"\n", (SIZE))

/* Define the syntax of labels and symbol definitions/declarations.  */

/* This says how to output an assembler line
  to define a global common symbol.  */

#define
 ASM_OUTPUT_COMMON(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".comm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

/* This says how to output an assembler line
  to define a local common symbol.  */

#define ASM_OUTPUT_LOCAL(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

#ifdef HAVE_GAS_LCOMM_WITH_ALIGNMENT
#define ASM_OUTPUT_ALIGNED_LOCAL(FILE, NAME, SIZE, ALIGNMENT)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
```

```
 fprintf ((FILE), ",%u,%u\n", (int)(SIZE), (int)(ALIGNMENT) / BITS_PER_UNIT))
#endif

/* This is how to output an assembler line
  that says to advance the location counter
  to a multiple of 2**LOG bytes.  */

#define ASM_OUTPUT_ALIGN(FILE,LOG) \
 if ((LOG)!=0) fprintf ((FILE), "\t.align %d\n", (LOG))

/* This is how to store into the string BUF
  the symbol_ref name of an internal numbered label
 where
  PREFIX is the class of label and NUM is the number within the class.
  This is suitable for output with `assemble_name'.  */

#define ASM_GENERATE_INTERNAL_LABEL(BUF,PREFIX,NUMBER) \
   sprintf ((BUF), "*%s%ld", (PREFIX), (long)(NUMBER))

/* The prefix to add to user-visible assembler symbols.  */

#define USER_LABEL_PREFIX "_"

/* Sequent has some changes in the format of DBX symbols.  */
#define DBX_NO_XREFS 1

/* Don't split DBX symbols into continuations.  */
#define DBX_CONTIN_LENGTH 0
```

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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Packaging is done by the Debian GCC Maintainers
<debian-gcc@lists.debian.org>, with sources obtained from:

 ftp://gcc.gnu.org/pub/gcc/releases/ (for full releases)
 svn://gcc.gnu.org/svn/gcc/   (for prereleases)
 ftp://sourceware.org/pub/newlib/   (for newlib)
 git://git.savannah.gnu.org/gm2.git   (for Modula-2)

The current gcc-12 source package is taken from the git gcc-12-branch.

Changes: See changelog.Debian.gz

Debian splits the GNU Compiler Collection into packages for each language,
library, and documentation as follows:

Language	Compiler package	Library package	Documentation
Ada	gnat-12	libgnat-12	gnat-12-doc
C	gcc-12		gcc-12-doc
C++	g++-12	libstdc++6	libstdc++6-12-doc
D	gdc-12		
Fortran 95	gfortran-12	libgfortran5	gfortran-12-doc
Go	gccgo-12	libgo0	
Objective C	gobjc-12	libobjc4	
Objective C++	gobjc++-12		
Modula-2	gm2-12	libgm2	

For some language run-time libraries, Debian provides source files,
development files, debugging symbols and libraries containing position-
independent code in separate packages:

Language	Sources	Development	Debugging	Position-Independent
C++			libstdc++6-12-dbg	libstdc++6-12-pic
D	libphobos-12-dev			

Additional packages include:

All languages:
libgcc1, libgcc2, libgcc4   GCC intrinsics (platform-dependent)

gcc-12-base
Base files common to all compilers
gcc-12-soft-float Software floating point (ARM only)
gcc-12-source The sources with patches

Ada:
libgnat-util12-dev, libgnat-util12 GNAT version library

C:
cpp-12, cpp-12-doc GNU C Preprocessor
libssp0-dev, libssp0 GCC stack smashing protection library
libquadmath0 Math routines for the __float128 type
fixincludes Fix non-ANSI header files

C, C++ and Fortran 95:
libgomp1-dev, libgomp1 GCC OpenMP (GOMP) support library
libitm1-dev, libitm1 GNU Transactional Memory Library

Biarch support: On some 64-bit platforms which can also run 32-bit code, Debian provides additional packages containing 32-bit versions of some libraries. These packages have names beginning with 'lib32' instead of 'lib', for example lib32stdc++6. Similarly, on some 32-bit platforms which can also run 64-bit code, Debian provides additional
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  gcc/emults.c, gcc/gbl-ctors.h, gcc/gcov-io.h, gcc/libgcov.c,
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- libgomp
- libitm
- libssp
- libstdc++-v3
- libobjc
- libgfortran
- The libgnat-12 Ada support library and libgnat-util12 library.
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libquadmath/math:

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  * Conversion to long double by Ulrich Drepper,

* Cygnus Support, drepper@cygnus.com.

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D:
gdc-12 GNU D Compiler
libphobos-12-dev D standard runtime library

The D source package is made up of the following components.

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- d/*

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The DMD Compiler implementation of the D programming language:
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The Zlib data compression library:
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The Phobos standard runtime library:
- d/phobos/*

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gcc/m2/mc-boot/:

gcc/m2/mc-boot-ch/:
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customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years
and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in
the same way through the same place at no
further charge. You need not require recipients to copy the
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copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the

Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

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Version 2, June 1991

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[This is the first released version of the library GPL. It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble
========

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Most GNU software, including some libraries, is covered by the

ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

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Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License,
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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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

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

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library. The threshold for this to be true is not precisely defined by law.

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

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

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

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

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<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
<!-- site wide top running header menu -->

```
<ul id="overview">
  <li class="home">
    HOME_HREF
  </li>
  <li class="release">
    12_HREF
  </li>

  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
```

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</body>
</html>

1.288 libgomp 12.2.0-14+deb12u1

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Ty Coon, President of Vice

That's all there is to it!
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Foundation, Inc., 51 Franklin Street - Fifth Floor, Boston, MA
02110-1301, USA. */

```
#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
  difficult for the compiler to generate a call to this.  These are
  used as arguments to the function __VLTChangePermission, declared
  below.  */
#define __VLTP_READ_ONLY  0
#define __VLTP_READ_WRITE 1

#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif
```

#endif /* __VTV_H__ */
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Version 2.1, February 1999

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"Source code" for a work means the preferred form of the work for

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02110-1301, USA. */

#ifndef __VTV_H__

```
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
  difficult for the compiler to generate a call to this.  These are
  used as arguments to the function __VLTChangePermission, declared
  below.  */
#define __VLTP_READ_ONLY  0
#define __VLTP_READ_WRITE 1

#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
```

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/* Definitions for BSD assembler syntax for Intel 386
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<http://www.gnu.org/licenses/>.  */

/* Use the Sequent Symmetry assembler syntax.  */

/* Define the syntax of pseudo-ops, labels and comments.  */

/* Prefix for internally generated assembler
 labels.  If we aren't using
  underscores, we are using prefix `.'s to identify labels that should
  be ignored, as in `i386/gas.h' --karl@cs.umb.edu  */

#define LPREFIX "L"

/* Assembler pseudos to introduce constants of various size.  */

#define ASM_BYTE "\t.byte\t"
#define ASM_SHORT "\t.word\t"
#define ASM_LONG "\t.long\t"
#define ASM_QUAD "\t.quad\t"  /* Should not be used for 32bit compilation.  */

/* This was suggested, but it shouldn't be right for DBX output. -- RMS
  #define ASM_OUTPUT_SOURCE_FILENAME(FILE, NAME) */


/* Define the syntax of labels and symbol definitions/declarations.  */
```

```
/* This is how to output an assembler line
  that says to advance the location counter by SIZE bytes.  */

#define ASM_OUTPUT_SKIP(FILE,SIZE)  \
 fprintf (FILE, "\t.space " HOST_WIDE_INT_PRINT_UNSIGNED"\n", (SIZE))

/* Define the syntax of labels and symbol definitions/declarations.  */

/* This says how to output an assembler line
  to define a global common symbol.  */

#define
 ASM_OUTPUT_COMMON(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".comm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

/* This says how to output an assembler line
  to define a local common symbol.  */

#define ASM_OUTPUT_LOCAL(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

#ifdef HAVE_GAS_LCOMM_WITH_ALIGNMENT
#define ASM_OUTPUT_ALIGNED_LOCAL(FILE, NAME, SIZE, ALIGNMENT)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u,%u\n", (int)(SIZE), (int)(ALIGNMENT) / BITS_PER_UNIT))
#endif

/* This is how to output an assembler line
  that says to advance the location counter
  to a multiple of 2**LOG bytes.  */

#define ASM_OUTPUT_ALIGN(FILE,LOG) \
 if ((LOG)!=0) fprintf ((FILE), "\t.align %d\n", (LOG))

/* This is how to store into the string BUF
  the symbol_ref name of an internal numbered label
 where
  PREFIX is the class of label and NUM is the number within the class.
  This is suitable for output with `assemble_name'.  */

#define ASM_GENERATE_INTERNAL_LABEL(BUF,PREFIX,NUMBER) \
   sprintf ((BUF), "*%s%ld", (PREFIX), (long)(NUMBER))
```

/* The prefix to add to user-visible assembler symbols. */

#define USER_LABEL_PREFIX "_"

/* Sequent has some changes in the format of DBX symbols. */
#define DBX_NO_XREFS 1

/* Don't split DBX symbols into continuations. */
#define DBX_CONTIN_LENGTH 0
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libraries. In addition, Debian provides the gm2 compiler, either in
the same source package, or built from a separate same source package.
Packaging is done by the Debian GCC Maintainers
<debian-gcc@lists.debian.org>, with sources obtained from:

ftp://gcc.gnu.org/pub/gcc/releases/ (for full releases)
svn://gcc.gnu.org/svn/gcc/ (for prereleases)
ftp://sourceware.org/pub/newlib/ (for newlib)
git://git.savannah.gnu.org/gm2.git (for Modula-2)

The current gcc-12 source package is taken from the git gcc-12-branch.

Changes: See changelog.Debian.gz

Debian splits the GNU Compiler Collection into packages for each language,

library, and documentation as follows:

Language	Compiler package	Library package	Documentation
Ada	gnat-12	libgnat-12	gnat-12-doc
C	gcc-12		gcc-12-doc
C++	g++-12	libstdc++6	libstdc++6-12-doc
D	gdc-12		
Fortran 95	gfortran-12	libgfortran5	gfortran-12-doc
Go	gccgo-12	libgo0	
Objective C	gobjc-12	libobjc4	
Objective C++	gobjc++-12		
Modula-2	gm2-12	libgm2	

For some language run-time libraries, Debian provides source files, development files, debugging symbols and libraries containing position-independent code in separate packages:

Language	Sources	Development	Debugging	Position-Independent
C++		libstdc++6-12-dbg		libstdc++6-12-pic
D	libphobos-12-dev			

Additional packages include:

All languages:

libgcc1, libgcc2, libgcc4	GCC intrinsics (platform-dependent)
gcc-12-base	Base files common to all compilers
gcc-12-soft-float	Software floating point (ARM only)
gcc-12-source	The sources with patches

Ada:

libgnat-util12-dev, libgnat-util12	GNAT version library

C:

cpp-12, cpp-12-doc	GNU C Preprocessor
libssp0-dev, libssp0	GCC stack smashing protection library
libquadmath0	Math routines for the __float128 type
fixincludes	Fix non-ANSI header files

C, C++ and Fortran 95:

libgomp1-dev, libgomp1	GCC OpenMP (GOMP) support library
libitm1-dev, libitm1	GNU Transactional Memory Library

Biarch support: On some 64-bit platforms which can also run 32-bit code, Debian provides additional packages containing 32-bit versions of some

libraries. These packages have names beginning with 'lib32' instead of
'lib', for example lib32stdc++6. Similarly, on some 32-bit platforms which
can also run 64-bit code, Debian provides additional
 packages with names
beginning with 'lib64' instead of 'lib'. These packages contain 64-bit
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  gcc/emults.c, gcc/gbl-ctors.h, gcc/gcov-io.h, gcc/libgcov.c,
  gcc/tsystem.h, gcc/typeclass.h).
- libatomic
- libdecnumber
- libgomp

- libitm
- libssp
- libstdc++-v3
- libobjc
- libgfortran
- The libgnat-12 Ada support library and libgnat-util12 library.
- Various config files in gcc/config/
 used in runtime libraries.
- libvtv

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Written by Tobias Burnus <burnus@net-b.de>

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* Conversion to long double by Ulrich Drepper,
* Cygnus Support, drepper@cygnus.com.

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D:
gdc-12 GNU D Compiler
libphobos-12-dev D standard runtime library

The D source package is made up of the following components.

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- d/*

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The DMD Compiler implementation of the D programming language:
- d/dmd/*

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The Zlib data compression library:
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The Phobos standard runtime library:
- d/phobos/*

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file that has been changed a "Modified by Foo Bar" line
underneath the "Written by" line would be adequate.

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gcc/m2/gm2-libiberty:
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gcc/m2/mc-boot-ch/:
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 module defined by the International Standard
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BS ISO/IEC 10514-1:1996E Part 1: Modula-2, Base Language.

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a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium

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c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

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Version 2, June 1991

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[This is the first released version of the library GPL. It is
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Preamble
========

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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative
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and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General

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However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

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performs whatever part of its purpose remains meaningful.

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

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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

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

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any
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6. As an exception to the Sections above, you may also compile or

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<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF

  <li class="release">
   12_HREF

   News

   Development

   Community

```
  </li>
 </ul>

 <div id="header">
  <h1>
   <span style="display:inline-block; vertical-align:middle">
 <img
 src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
   </span>
   <span style="display:inline-block; vertical-align:middle; font-size: 50px">
 GNU Modula-2
   </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
   <ul id="tab">
 <li><a href="about.html"><span>About</span></a></li>
 <li><a href="download.html"><span>Download</span></a></li>
 <li><a href="release.html"><span>Latest Release</span></a></li>
 <li class="selected"><a href="license.html"><span>License</span></a></li>
 <li><a href="platforms.html"><span>Platforms</span></a></li>
 <li><a href="users.html"><span>Users</span></a></li>
   </ul>
  </div>
 </div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
   licences can be found on the
   <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

1.289 libgfortran5 12.2.0-14+deb12u1

1.289.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the GNU compiler
collection, containing Ada, C, C++, D, Fortran 95, Go, Objective-C,
Objective-C++, and Modula-2 compilers, documentation, and support

libraries. In addition, Debian provides the gm2 compiler, either in
the same source package, or built from a separate same source package.
Packaging is done by the Debian GCC Maintainers
<debian-gcc@lists.debian.org>, with sources obtained from:

 ftp://gcc.gnu.org/pub/gcc/releases/ (for full releases)
 svn://gcc.gnu.org/svn/gcc/   (for prerereleases)
 ftp://sourceware.org/pub/newlib/   (for newlib)
 git://git.savannah.gnu.org/gm2.git   (for Modula-2)

The current gcc-12 source package is taken from the git gcc-12-branch.

Changes: See changelog.Debian.gz

Debian splits the GNU Compiler Collection into packages for each language,
library, and documentation as follows:

Language   Compiler package Library package   Documentation

Ada
          gnat-12   libgnat-12   gnat-12-doc
C   gcc-12   gcc-12-doc
C++   g++-12   libstdc++6   libstdc++6-12-doc
D   gdc-12
Fortran 95   gfortran-12   libgfortran5   gfortran-12-doc
Go   gccgo-12   libgo0
Objective C   gobjc-12   libobjc4
Objective C++ gobjc++-12
Modula-2   gm2-12   libgm2

For some language run-time libraries, Debian provides source files,
development files, debugging symbols and libraries containing position-
independent code in separate packages:

Language Sources   Development   Debugging   Position-Independent
----
C++   libstdc++6-12-dbg libstdc++6-12-pic
D   libphobos-12-dev

Additional packages include:

All languages:
libgcc1, libgcc2, libgcc4   GCC intrinsics (platform-dependent)
gcc-12-base
                Base files common to all compilers
gcc-12-soft-float   Software floating point (ARM only)
gcc-12-source   The sources with patches

Ada:
libgnat-util12-dev, libgnat-util12 GNAT version library

C:
cpp-12, cpp-12-doc GNU C Preprocessor
libssp0-dev, libssp0 GCC stack smashing protection library
libquadmath0 Math routines for the __float128 type
fixincludes Fix non-ANSI header files

C, C++ and Fortran 95:
libgomp1-dev, libgomp1 GCC OpenMP (GOMP) support library
libitm1-dev, libitm1 GNU Transactional Memory Library

Biarch support: On some 64-bit platforms which can also run 32-bit code, Debian provides additional packages containing 32-bit versions of some libraries. These packages have names beginning with 'lib32' instead of 'lib', for example lib32stdc++6. Similarly, on some 32-bit platforms which can also run 64-bit code, Debian provides additional packages with names beginning with 'lib64' instead of 'lib'. These packages contain 64-bit versions of the libraries. (At this time, not all platforms and not all libraries support biarch.) The license terms for these lib32 or lib64 packages are identical to the ones for the lib packages.

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  gcc/emults.c, gcc/gbl-ctors.h, gcc/gcov-io.h, gcc/libgcov.c,
  gcc/tsystem.h, gcc/typeclass.h).
- libatomic
- libdecnumber
- libgomp
- libitm
- libssp
- libstdc++-v3
- libobjc
- libgfortran
- The libgnat-12 Ada support library and libgnat-util12 library.
- Various config files in gcc/config/
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- libvtv

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Developed by:

LLVM Team

University of Illinois at Urbana-Champaign

http://llvm.org

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D:
gdc-12 GNU D Compiler
libphobos-12-dev D standard runtime library

The D source package is made up of the following components.

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The DMD Compiler implementation of the D programming language:
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The Phobos standard runtime library:
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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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Version 2, June 1991

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========

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```
<!-- Creator     : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF
  </li>
  <li class="release">
   12_HREF
  </li>

  <li>
   <a href="news.html" title="News">News</a>
  </li>
  <li>
   <a href="development.html" title="Development">Development</a>
  </li>
  <li>
   <a href="community.html" title="Community">Community</a>
  </li>
 </ul>

 <div id="header">
  <h1>
   <span style="display:inline-block; vertical-align:middle">
 <img
 src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
   </span>
   <span style="display:inline-block; vertical-align:middle; font-size: 50px">
 GNU Modula-2
   </span>
  </h1>

  <!-- homepage tab menu -->
```

```
  <div id="tabmenu">
    <ul id="tab">
 <li><a href="about.html"><span>About</span></a></li>
 <li><a href="download.html"><span>Download</span></a></li>
 <li><a href="release.html"><span>Latest Release</span></a></li>
 <li class="selected"><a href="license.html"><span>License</span></a></li>
 <li><a href="platforms.html"><span>Platforms</span></a></li>
 <li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
 </div>

<div id="page">
 <div class="plain">
   <h2>The home of the GNU Modula-2 compiler</h2>
   <p>The compiler is held under the GNU Public Licence v3.</p>
   <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
     licences can be found on the
     <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

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1.291 python3.11 3.11.2-6+deb12u6

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see https://www.cwi.nl) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see https://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations, which became Zope Corporation. In 2001, the Python Software Foundation (PSF, see https://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation was a sponsoring member of the PSF.

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0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2 and above	2.1.1	2001-now	PSF	yes

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1.292 libpython3.11-stdlib 3.11.2-6+deb12u6

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see https://www.cwi.nl) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see https://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations, which became Zope Corporation. In 2001, the Python Software Foundation (PSF, see https://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation was a sponsoring member of the PSF.

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Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2 and above	2.1.1	2001-now	PSF	yes

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In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see https://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

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1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
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adding to a program and simply using it. Linking a program with a
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the library, and is analogous to running a utility program or
application program. However, in a textual and legal sense, the linked
executable is a combined work, a derivative
of the original library,
and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General
Public License for libraries did not effectively promote software
sharing, because most developers did not use the libraries. We
concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the
users of those programs of all benefit from the free status of the
libraries themselves. This Library General Public License is intended
to permit developers of non-free programs to use free libraries, while
preserving your freedom as a user of such programs to change the free
libraries that are incorporated in them. (We have not seen how to
achieve this as regards changes in header files, but we have achieved
it as regards changes in the actual functions of the Library.) The
hope is that this will lead to faster development of free libraries.

The precise terms and conditions
for copying, distribution and
modification follow. Pay close attention to the difference between a
"work based on the library" and a "work that uses the library". The
former contains code derived from the library, while the latter only
works together with the library.

Note that it is possible for a library to be covered by the ordinary
General Public License rather than by this special one.

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prepared so as to be conveniently linked with application programs
(which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work
which has been distributed under these terms. A "work based on the
Library" means either the Library or any derivative work under
copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or
translated straightforwardly into another language. (Hereinafter,
translation is included without limitation in the term
"modification".)

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

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

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above, provided that you also meet all of these conditions:

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

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

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

performs whatever part of its purpose remains meaningful.

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

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the
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and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or
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intent is to exercise the right to control the distribution of
derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the
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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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

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

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

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

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

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

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

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

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

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

the modified definitions.)

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

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

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

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

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

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

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

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SIGNATURE OF TY COON, 1 April 1990
Ty Coon, President of Vice

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A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

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The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

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a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

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The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated

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layouts and accessors, or small macros, inline functions and templates
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b) Accompany the object code with a copy of the GNU GPL and this license
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notices during
execution, include the copyright notice for the Library among
these notices, as well as a reference directing the user to the
copies of the GNU GPL and this license document.

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the Linked Version to produce a modified Combined Work, in the
manner specified by section 6 of the GNU GPL for conveying
Corresponding Source.

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Library. A suitable mechanism is one that (a) uses at run time
a copy of the Library already present on the user's computer
system, and (b) will operate properly with a modified version
of the Library that is interface-compatible

with the Linked
Version.

e) Provide Installation Information, but only if you would otherwise
be required to provide such information under section 6 of the
GNU GPL, and only to the extent that such information is
necessary to install and execute a modified version of the
Combined Work produced by recombining or relinking the
Application with a modified version of the Linked Version. (If
you use option 4d0, the Installation Information must accompany
the Minimal Corresponding Source and Corresponding Application
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Information in the manner specified by section 6 of the GNU GPL
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5. Combined Libraries.

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Library side by side in a single library together with other library
facilities that are not Applications and are not covered by this
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terms of your
choice, if you do both of the following:

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on the Library, uncombined with any other library facilities,
conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it
is a work based on the Library, and explaining where to find the
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```
<!-- Creator     : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
```

```
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF
  </li>
  <li class="release">
   12_HREF
  </li>

  <li>
   <a href="news.html" title="News">News</a>
  </li>
  <li>
   <a href="development.html" title="Development">Development</a>
  </li>
  <li>
   <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
   <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
   </span>
   <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
   </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
   <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
   </ul>
```

```
  </div>
 </div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
   licences can be found on the
   <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

1.296 libasan8 12.2.0-14+deb12u1

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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========

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```
<!-- Creator     : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
   <li class="home">
     HOME_HREF
   </li>
   <li class="release">
     12_HREF
   </li>

   <li>
     <a href="news.html" title="News">News</a>
   </li>
   <li>
     <a href="development.html" title="Development">Development</a>
   </li>
   <li>
     <a href="community.html" title="Community">Community</a>
   </li>
 </ul>

 <div id="header">
   <h1>
     <span style="display:inline-block; vertical-align:middle">
 <img
 src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
     </span>
     <span style="display:inline-block; vertical-align:middle; font-size: 50px">
 GNU Modula-2
     </span>
```

```
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
 <li><a href="about.html"><span>About</span></a></li>
 <li><a href="download.html"><span>Download</span></a></li>
 <li><a href="release.html"><span>Latest Release</span></a></li>
 <li class="selected"><a href="license.html"><span>License</span></a></li>
 <li><a href="platforms.html"><span>Platforms</span></a></li>
 <li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
 </div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
    licences can be found on the
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

1.297 gcc-12-base 12.2.0-14+deb12u1

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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Version 2, June 1991

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========

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<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

```
<ul id="overview">
  <li class="home">
    HOME_HREF
  </li>
  <li class="release">
    12_HREF
  </li>

  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
```

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</body>
</html>
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1.298 g++-12 12.2.0-14+deb12u1

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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========

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<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
  <li class="home">
   HOME_HREF

  <li class="release">
   12_HREF


```
  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
    licences can be found on the
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

1.299 libtsan2 12.2.0-14+deb12u1

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Version 3, 29 June 2007

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Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

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

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a program using the Library is not restricted, and
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uses the facility, other than as an argument passed when the
facility is invoked, then you must make a good faith effort
to ensure that, in the event an application does not supply
such function or table, the facility still operates, and

performs whatever part of its purpose remains meaningful.

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

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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

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

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

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

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

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SIGNATURE OF TY COON, 1 April 1990
Ty Coon, President of Vice

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deemed a mode
of using an interface provided by the Library.

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structure
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e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the

Combined Work produced by recombining or relinking the
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you use option 4d0, the Installation Information must accompany
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terms of your
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```
<!-- Creator     : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
   <li class="home">
     HOME_HREF
   </li>
   <li class="release">
     12_HREF
   </li>

   <li>
     <a href="news.html" title="News">News</a>
   </li>
   <li>
     <a href="development.html" title="Development">Development</a>
   </li>
   <li>
     <a href="community.html" title="Community">Community</a>
   </li>
 </ul>

 <div id="header">
   <h1>
     <span style="display:inline-block; vertical-align:middle">
 <img
 src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
     </span>
     <span style="display:inline-block; vertical-align:middle; font-size: 50px">
 GNU Modula-2
     </span>
```

```
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
 <li><a href="about.html"><span>About</span></a></li>
 <li><a href="download.html"><span>Download</span></a></li>
 <li><a href="release.html"><span>Latest Release</span></a></li>
 <li class="selected"><a href="license.html"><span>License</span></a></li>
 <li><a href="platforms.html"><span>Platforms</span></a></li>
 <li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
 </div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
    licences can be found on the
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

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1.300 kerberos 1.20.1-2+deb12u3

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cmd/krb5/kproplog/kproplog.c
cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h

lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
lib/libgss/g_acquire_cred.c
lib/libgss/g_canon_name.c
lib/libgss/g_compare_name.c
lib/libgss/g_context_time.c
lib/libgss/g_delete_sec_context.c
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lib/libgss/g_unseal.c
lib/libgss/g_userok.c
lib/libgss/g_utils.c
lib/libgss/g_verify.c
lib/libgss/gssd_pname_to_uid.c
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lib/gssapi/mechglue/g_acquire_cred.c

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lib/gssapi/mechglue/g_compare_name.c
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lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
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lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
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lib/gssapi/mechglue/g_sign.c
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lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including
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include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
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lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c

lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation,
including
the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in
"src/lib/gssapi", including the following files:

lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c

lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
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lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including
the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
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lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

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include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in
"src/lib/gssapi", including the following files:

  lib/gssapi/generic/gssapi_err_generic.et
  lib/gssapi/mechglue/g_accept_sec_context.c
  lib/gssapi/mechglue/g_acquire_cred.c
  lib/gssapi/mechglue/g_canon_name.c
  lib/gssapi/mechglue/g_compare_name.c
  lib/gssapi/mechglue/g_context_time.c
  lib/gssapi/mechglue/g_delete_sec_context.c
  lib/gssapi/mechglue/g_dsp_name.c
  lib/gssapi/mechglue/g_dsp_status.c
  lib/gssapi/mechglue/g_dup_name.c
  lib/gssapi/mechglue/g_exp_sec_context.c
  lib/gssapi/mechglue/g_export_name.c
  lib/gssapi/mechglue/g_glue.c
  lib/gssapi/mechglue/g_imp_name.c
  lib/gssapi/mechglue/g_imp_sec_context.c
  lib/gssapi/mechglue/g_init_sec_context.c
  lib/gssapi/mechglue/g_initialize.c
  lib/gssapi/mechglue/g_inquire_context.c
   lib/gssapi/mechglue/g_inquire_cred.c
  lib/gssapi/mechglue/g_inquire_names.c
  lib/gssapi/mechglue/g_process_context.c
  lib/gssapi/mechglue/g_rel_buffer.c
  lib/gssapi/mechglue/g_rel_cred.c
  lib/gssapi/mechglue/g_rel_name.c
  lib/gssapi/mechglue/g_rel_oid_set.c
  lib/gssapi/mechglue/g_seal.c
  lib/gssapi/mechglue/g_sign.c
  lib/gssapi/mechglue/g_store_cred.c
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  lib/gssapi/mechglue/g_utils.c
  lib/gssapi/mechglue/g_verify.c
  lib/gssapi/mechglue/gssd_pname_to_uid.c
  lib/gssapi/mechglue/mglueP.h
  lib/gssapi/mechglue/oid_ops.c
  lib/gssapi/spnego/gssapiP_spnego.h
  lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including
the following new or changed files:

  include/iprop_hdr.h

kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
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lib/gssapi/spnego/gssapiP_spnego.h
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lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
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lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h

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lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
lib/libgss/g_acquire_cred.c
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lib/libgss/g_utils.c
lib/libgss/g_verify.c
lib/libgss/gssd_pname_to_uid.c
uts/common/gssapi/include/gssapi_err_generic.h
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lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c

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lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
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lib/gssapi/mechglue/g_imp_name.c
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lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
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lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

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include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
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lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
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lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
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lib/gssapi/mechglue/g_imp_sec_context.c
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lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
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lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

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kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
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lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
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lib/kdb/iprop.x
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lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
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lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
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lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
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lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation,
including
the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
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1.310 openssh-client 9.2p1-2+deb12u6

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Foundation, Inc., 51 Franklin Street - Fifth Floor, Boston, MA
02110-1301, USA. */

#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
difficult for the compiler to generate a call to this. These are
used as arguments to the function __VLTChangePermission, declared
below. */
#define __VLTP_READ_ONLY 0
#define __VLTP_READ_WRITE 1

```
#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
```

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Version 2.1, February 1999

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  Foundation, Inc., 51 Franklin Street - Fifth Floor, Boston, MA
  02110-1301, USA.  */


#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
  difficult for the compiler to generate a call to this.  These are
  used as arguments to the function __VLTChangePermission, declared
  below.  */
#define __VLTP_READ_ONLY  0
#define __VLTP_READ_WRITE 1

#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
```

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/* Definitions for BSD assembler syntax for Intel 386
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/* Use the Sequent Symmetry assembler syntax. */

/* Define the syntax of pseudo-ops, labels and comments. */

/* Prefix for internally generated assembler

```
 labels.  If we aren't using
  underscores, we are using prefix `.'s to identify labels that should
  be ignored, as in `i386/gas.h' --karl@cs.umb.edu  */

#define LPREFIX "L"

/* Assembler pseudos to introduce constants of various size.  */

#define ASM_BYTE "\t.byte\t"
#define ASM_SHORT "\t.word\t"
#define ASM_LONG "\t.long\t"
#define ASM_QUAD "\t.quad\t"  /* Should not be used for 32bit compilation.  */

/* This was suggested, but it shouldn't be right for DBX output. -- RMS
  #define ASM_OUTPUT_SOURCE_FILENAME(FILE, NAME) */


/* Define the syntax of labels and symbol definitions/declarations.  */

/* This is how to output an assembler line
  that says to advance the location counter by SIZE bytes.  */

#define ASM_OUTPUT_SKIP(FILE,SIZE)  \
 fprintf (FILE, "\t.space " HOST_WIDE_INT_PRINT_UNSIGNED"\n", (SIZE))

/* Define the syntax of labels and symbol definitions/declarations.  */

/* This says how to output an assembler line
  to define a global common symbol.  */

#define
 ASM_OUTPUT_COMMON(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".comm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

/* This says how to output an assembler line
  to define a local common symbol.  */

#define ASM_OUTPUT_LOCAL(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

#ifdef HAVE_GAS_LCOMM_WITH_ALIGNMENT
#define ASM_OUTPUT_ALIGNED_LOCAL(FILE, NAME, SIZE, ALIGNMENT)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
```

```
 fprintf ((FILE), ",%u,%u\n", (int)(SIZE), (int)(ALIGNMENT) / BITS_PER_UNIT))
#endif

/* This is how to output an assembler line
  that says to advance the location counter
  to a multiple of 2**LOG bytes.  */

#define ASM_OUTPUT_ALIGN(FILE,LOG) \
 if ((LOG)!=0) fprintf ((FILE), "\t.align %d\n", (LOG))

/* This is how to store into the string BUF
  the symbol_ref name of an internal numbered label
 where
  PREFIX is the class of label and NUM is the number within the class.
  This is suitable for output with `assemble_name'.  */

#define ASM_GENERATE_INTERNAL_LABEL(BUF,PREFIX,NUMBER) \
   sprintf ((BUF), "*%s%ld", (PREFIX), (long)(NUMBER))

/* The prefix to add to user-visible assembler symbols.  */

#define USER_LABEL_PREFIX "_"

/* Sequent has some changes in the format of DBX symbols.  */
#define DBX_NO_XREFS 1

/* Don't split DBX symbols into continuations.  */
#define DBX_CONTIN_LENGTH 0
```

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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Version 3.1, 31 March 2009

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the same source package, or built from a separate same source package.
Packaging is done by the Debian GCC Maintainers
<debian-gcc@lists.debian.org>, with sources obtained from:

 ftp://gcc.gnu.org/pub/gcc/releases/ (for full releases)
 svn://gcc.gnu.org/svn/gcc/   (for prereleases)
 ftp://sourceware.org/pub/newlib/   (for newlib)
 git://git.savannah.gnu.org/gm2.git   (for Modula-2)

The current gcc-12 source package is taken from the git gcc-12-branch.

Changes: See changelog.Debian.gz

Debian splits the GNU Compiler Collection into packages for each language,
library, and documentation as follows:

Language	Compiler package	Library package	Documentation
Ada	gnat-12	libgnat-12	gnat-12-doc
C	gcc-12		gcc-12-doc
C++	g++-12	libstdc++6	libstdc++6-12-doc
D	gdc-12		
Fortran 95	gfortran-12	libgfortran5	gfortran-12-doc
Go	gccgo-12	libgo0	
Objective C	gobjc-12	libobjc4	
Objective C++	gobjc++-12		
Modula-2	gm2-12	libgm2	

For some language run-time libraries, Debian provides source files,
development files, debugging symbols and libraries containing position-
independent code in separate packages:

Language	Sources	Development	Debugging	Position-Independent
C++			libstdc++6-12-dbg	libstdc++6-12-pic
D	libphobos-12-dev			

Additional packages include:

All languages:
libgcc1, libgcc2, libgcc4   GCC intrinsics (platform-dependent)

gcc-12-base
Base files common to all compilers
gcc-12-soft-float Software floating point (ARM only)
gcc-12-source The sources with patches

Ada:
libgnat-util12-dev, libgnat-util12 GNAT version library

C:
cpp-12, cpp-12-doc GNU C Preprocessor
libssp0-dev, libssp0 GCC stack smashing protection library
libquadmath0 Math routines for the __float128 type
fixincludes Fix non-ANSI header files

C, C++ and Fortran 95:
libgomp1-dev, libgomp1 GCC OpenMP (GOMP) support library
libitm1-dev, libitm1 GNU Transactional Memory Library

Biarch support: On some 64-bit platforms which can also run 32-bit code, Debian provides additional packages containing 32-bit versions of some libraries. These packages have names beginning with 'lib32' instead of 'lib', for example lib32stdc++6. Similarly, on some 32-bit platforms which can also run 64-bit code, Debian provides additional
packages with names
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- libatomic
- libdecnumber
- libgomp
- libitm
- libssp
- libstdc++-v3
- libobjc
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- The libgnat-12 Ada support library and libgnat-util12 library.
- Various config files in gcc/config/ used in runtime libraries.
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Written by Tobias Burnus <burnus@net-b.de>

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libquadmath/math:

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* Cygnus Support, drepper@cygnus.com.

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gcc/go/gofrontend,
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D:
gdc-12 GNU D Compiler
libphobos-12-dev D standard runtime library

The D source package is made up of the following components.

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- d/*

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The DMD Compiler implementation of the D programming language:
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The Zlib data compression library:
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The Phobos standard runtime library:
- d/phobos/*

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gcc/m2/mc-boot/:

gcc/m2/mc-boot-ch/:
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Version 2, June 1991

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[This is the first released version of the library GPL. It is
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========

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<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
<!-- site wide top running header menu -->

```
<ul id="overview">
  <li class="home">
    HOME_HREF
  </li>
  <li class="release">
    12_HREF
  </li>

  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
```

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</body>
</html>

1.313 pcre2 10.42-1

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Written by: Philip Hazel
Email local part: Philip.Hazel
Email domain: gmail.com

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1.314 pcre2 10.32

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Written by: Philip Hazel
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Email domain: cam.ac.uk

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1.315 python 3.11.2-6+deb12u6

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==============

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==========================

Python was created in the early 1990s by Guido van Rossum at Stichting
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as a successor of a language called
ABC. Guido remains Python's
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for
National Research Initiatives (CNRI, see http://www.cnri.reston.va.us)
in Reston, Virginia where he released several versions of the
software.

In May 2000, Guido and the Python core development team moved to
BeOpen.com to form the BeOpen PythonLabs team. In October of the same
year, the PythonLabs team moved to Digital Creations (now Zope
Corporation, see http://www.zope.com). In 2001, the Python Software
Foundation (PSF, see http://www.python.org/psf/) was formed, a
non-profit organization created specifically to own Python-related
Intellectual Property. Zope Corporation is a sponsoring member of
the PSF.

All Python releases are Open Source (see http://www.opensource.org for
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the
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Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no

2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2 and above	2.1.1	2001-now	PSF	yes

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(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike the GPL, let you distribute a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

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Mersenne Twister

The `_random' module includes code based on a download from
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A C-program for MT19937, with initialization improved 2002/1/26.
Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using init_genrand(seed)
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Any feedback is very welcome.
http://www.math.keio.ac.jp/matumoto/emt.html
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Sockets

The `socket' module uses the functions, `getaddrinfo', and
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which are coded in separate source files from the WIDE
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Modified by Jack Jansen, CWI, July 1995:
- Use binascii module to do the actual line-by-line conversion
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We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less

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

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Otherwise, if the work is a derivative of the Library, you may

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Any executables containing that work also fall under Section 6,
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with a modified version of the library, if
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  02110-1301, USA.  */


#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
  difficult for the compiler to generate a call to this.  These are
  used as arguments to the function __VLTChangePermission, declared
  below.  */
#define __VLTP_READ_ONLY  0
#define __VLTP_READ_WRITE 1

#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
```

```
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
```

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 02110-1301, USA.  */


#ifndef __VTV_H__
#define __VTV_H__

/* We could have used an enumeration here but it just makes it more
  difficult for the compiler to generate a call to this.  These are
  used as arguments to the function __VLTChangePermission, declared
  below.  */
#define __VLTP_READ_ONLY  0
#define __VLTP_READ_WRITE 1

#ifdef __cplusplus
extern "C" void __VLTChangePermission (int);
#else
extern void __VLTChangePermission (int);
#endif

#ifdef BIG_PAGE_SIZE
/* TODO - Replace '4096' below with correct big page size.  */
#define VTV_PAGE_SIZE 4096
#else
#if defined(__sun__) && defined(__svr4__) && defined(__sparc__)
#define VTV_PAGE_SIZE 8192
#else
#define VTV_PAGE_SIZE 4096
#endif
#endif



#endif /* __VTV_H__ */
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/* Definitions for BSD assembler syntax for Intel 386
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/* Use the Sequent Symmetry assembler syntax. */

/* Define the syntax of pseudo-ops, labels and comments. */

/* Prefix for internally generated assembler
 labels. If we aren't using
  underscores, we are using prefix `.'s to identify labels that should
  be ignored, as in `i386/gas.h' --karl@cs.umb.edu */

#define LPREFIX "L"

/* Assembler pseudos to introduce constants of various size. */

```
#define ASM_BYTE "\t.byte\t"
#define ASM_SHORT "\t.word\t"
#define ASM_LONG "\t.long\t"
#define ASM_QUAD "\t.quad\t"  /* Should not be used for 32bit compilation.  */

/* This was suggested, but it shouldn't be right for DBX output. -- RMS
  #define ASM_OUTPUT_SOURCE_FILENAME(FILE, NAME) */


/* Define the syntax of labels and symbol definitions/declarations.  */

/* This is how to output an assembler line
  that says to advance the location counter by SIZE bytes.  */

#define ASM_OUTPUT_SKIP(FILE,SIZE)  \
 fprintf (FILE, "\t.space " HOST_WIDE_INT_PRINT_UNSIGNED"\n", (SIZE))

/* Define the syntax of labels and symbol definitions/declarations.  */

/* This says how to output an assembler line
  to define a global common symbol.  */

#define
 ASM_OUTPUT_COMMON(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".comm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

/* This says how to output an assembler line
  to define a local common symbol.  */

#define ASM_OUTPUT_LOCAL(FILE, NAME, SIZE, ROUNDED)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u\n", (int)(ROUNDED)))

#ifdef HAVE_GAS_LCOMM_WITH_ALIGNMENT
#define ASM_OUTPUT_ALIGNED_LOCAL(FILE, NAME, SIZE, ALIGNMENT)  \
( fputs (".lcomm ", (FILE)),   \
 assemble_name ((FILE), (NAME)),  \
 fprintf ((FILE), ",%u,%u\n", (int)(SIZE), (int)(ALIGNMENT) / BITS_PER_UNIT))
#endif

/* This is how to output an assembler line
  that says to advance the location counter
  to a multiple of 2**LOG bytes.  */

#define ASM_OUTPUT_ALIGN(FILE,LOG) \
```

```
 if ((LOG)!=0) fprintf ((FILE), "\t.align %d\n", (LOG))

/* This is how to store into the string BUF
  the symbol_ref name of an internal numbered label
 where
  PREFIX is the class of label and NUM is the number within the class.
  This is suitable for output with `assemble_name'.  */

#define ASM_GENERATE_INTERNAL_LABEL(BUF,PREFIX,NUMBER) \
   sprintf ((BUF), "*%s%ld", (PREFIX), (long)(NUMBER))

/* The prefix to add to user-visible assembler symbols.  */

#define USER_LABEL_PREFIX "_"

/* Sequent has some changes in the format of DBX symbols.  */
#define DBX_NO_XREFS 1

/* Don't split DBX symbols into continuations.  */
#define DBX_CONTIN_LENGTH 0
```

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

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Packaging is done by the Debian GCC Maintainers
<debian-gcc@lists.debian.org>, with sources obtained from:

ftp://gcc.gnu.org/pub/gcc/releases/ (for full releases)
svn://gcc.gnu.org/svn/gcc/ (for prereleases)
ftp://sourceware.org/pub/newlib/ (for newlib)
git://git.savannah.gnu.org/gm2.git (for Modula-2)

The current gcc-12 source package is taken from the git gcc-12-branch.

Changes: See changelog.Debian.gz

Debian splits the GNU Compiler Collection into packages for each language, library, and documentation as follows:

Language	Compiler package	Library package	Documentation
Ada	gnat-12	libgnat-12	gnat-12-doc
C	gcc-12		gcc-12-doc
C++	g++-12	libstdc++6	libstdc++6-12-doc
D	gdc-12		
Fortran 95	gfortran-12	libgfortran5	gfortran-12-doc
Go	gccgo-12	libgo0	
Objective C	gobjc-12	libobjc4	
Objective C++	gobjc++-12		
Modula-2	gm2-12	libgm2	

For some language run-time libraries, Debian provides source files, development files, debugging symbols and libraries containing position-independent code in separate packages:

Language	Sources	Development	Debugging	Position-Independent
C++			libstdc++6-12-dbg	libstdc++6-12-pic
D	libphobos-12-dev			

Additional packages include:

All languages:
libgcc1, libgcc2, libgcc4 GCC intrinsics (platform-dependent)
gcc-12-base
Base files common to all compilers
gcc-12-soft-float Software floating point (ARM only)
gcc-12-source The sources with patches

Ada:
libgnat-util12-dev, libgnat-util12 GNAT version library

C:
cpp-12, cpp-12-doc GNU C Preprocessor
libssp0-dev, libssp0 GCC stack smashing protection library
libquadmath0 Math routines for the __float128 type
fixincludes Fix non-ANSI header files

C, C++ and Fortran 95:
libgomp1-dev, libgomp1 GCC OpenMP (GOMP) support library
libitm1-dev, libitm1 GNU Transactional Memory Library

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gdc-12 GNU D Compiler
libphobos-12-dev D standard runtime library

The D source package is made up of the following components.

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The Phobos standard runtime library:
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========

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<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
 <!-- site wide top running header menu -->

 <ul id="overview">
   <li class="home">

```
   HOME_HREF
  </li>
  <li class="release">
   12_HREF
  </li>

  <li>
   <a href="news.html" title="News">News</a>
  </li>
  <li>
   <a href="development.html" title="Development">Development</a>
  </li>
  <li>
   <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
   <span style="display:inline-block; vertical-align:middle">
<img
src="200px-Heckert_GNU_white.png" alt="Heckert_GNU_white.png">
   </span>
   <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
   </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
   <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
   </ul>
  </div>
</div>

<div id="page">
 <div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions.  Copies of the
   licences can be found on the
```

```
    <a href="http://www.gnu.org/licenses">GNU</a>
 web site.</p>
 </div>
</div>
</body>
</html>
```

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