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1.4 mpfr 3.1.1-4.amzn2.0.2

1.4.1 Available under license :

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Version 3, 29 June 2007

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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 state 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) <year> <name of author>
```

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

```
<program> Copyright (C) <year> <name of author>  
This program 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.
```

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1.5 which 2.20-7.amzn2.0.2

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Version 3, 29 June 2007

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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.

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The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A

"Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

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4 to

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under certain conditions; type `show c' for details.
```

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1.6 audit 2.8.1-3.amzn2.1

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```
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1.7 libcap-ng 0.7.5-4.amzn2.0.4

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1.11 elfutils 0.176-2.amzn2

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1.12 tcp-wrappers 7.6-77.amzn2.0.2

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1.13 perl-srpm-macros 1-8.amzn2.0.1

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# purpose is to enable bootstrapping perl.

# Perl bootstrap For rebuild of Perl and all related packages is needed
# switch, which enable only vital build requires. This could help cyclic
# dependencies, for example: perl-Test-Minimum-Version <->
# perl-Perl-Minimum-Version Defined for bootstrapping, undefined otherwise.
# Usage: %%if !%% {defined perl_bootstrap} ... %%endif
%%perl_bootstrap 1
```

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1.14 nghttp2 1.41.0-1.amzn2

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set yrange [0:]

set terminal pngcairo font 'Sans, 8' lw 1 size 1400,1024

set xtics rotate by -45

set style histogram errorbars gap 2 lw 1

set style fill solid border -1

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1.15 python-pip 20.2.2

1.15.1 Available under license :

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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.

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Release	Derived from	Year	Owner	GPL-compatible? (1)
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1.1	2010	PSF	yes
3.1.3	3.1.2	2010	PSF	yes
3.1.4	3.1.3	2011	PSF	yes
3.2	3.1	2011	PSF	yes
3.2.1	3.2	2011	PSF	yes
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3.3	3.2			
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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.

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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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes

2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
2.7	2.6	2010	PSF	yes

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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 (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.

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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	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes

2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1	2010	PSF	yes
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ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov 3 19:04:19 2011#

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<http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#>

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1.18 iniparse 0.4

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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 (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.

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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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2			
2002	PSF	yes		
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
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1.24 yum-metadata-parser 1.1.4

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1.25 packaging 19.2

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1.26 python-setuptools 41.2.0

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1.27 nose 1.3.7

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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!

1.28 coverage 3.7.1

1.28.1 Available under license :

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```
/**
 * QUnit - A JavaScript Unit Testing Framework
 *
 * http://docs.jquery.com/QUnit
 *
 * Copyright (c) 2011 John Resig, Jörn Zaefferer
 * Dual licensed under the MIT (MIT-LICENSE.txt)
 * or GPL (GPL-LICENSE.txt) licenses.
 */
/**
 * jsDump
 * Copyright (c) 2008 Ariel Flesler - aflesler(at)gmail(dot)com | http://flesler.blogspot.com
```

```

* Licensed under BSD (http://www.opensource.org/licenses/bsd-license.php)
* Date: 5/15/2008
* @projectDescription Advanced and extensible data dumping for Javascript.
* @version 1.0.0
* @author Ariel Flesler
* @link {http://flesler.blogspot.com/2008/05/jsdump-pretty-dump-of-any-javascript.html}
*/
/*
* Javascript Diff Algorithm
* By John Resig (http://ejohn.org/)
* Modified by Chu Alan "sprite"
*
* Released under the MIT license.
*
* More Info:
* http://ejohn.org/projects/javascript-diff-algorithm/
*
* Usage: QUnit.diff(expected, actual)
*
* QUnit.diff("the quick brown
fox jumped over", "the quick fox jumps over") == "the quick <del>brown </del> fox <del>jumped
</del><ins>jumps </ins> over"
*/

```

Found in path(s):

```
* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/tests/qunit/qunit.js
```

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

Metadata-Version: 1.0

Name: coverage

Version: 3.7.1

Summary: Code coverage measurement for Python

Home-page: <http://nedbatchelder.com/code/coverage>

Author: Ned Batchelder and others

Author-email: ned@nedbatchelder.com

License: BSD

Description: Coverage.py measures code coverage, typically during test execution. It uses the code analysis tools and tracing hooks provided in the Python standard library to determine which lines are executable, and which have been executed.

Coverage.py runs on Pythons 2.3 through 3.3, and PyPy 1.9.

Documentation is at nedbatchelder.com <<http://nedbatchelder.com/code/coverage>>`_. Code repository and issue

tracker are on [Bitbucket](http://bitbucket.org/ned/coveragepy) <<http://bitbucket.org/ned/coveragepy>>`_, with a mirrored repo on [Github](https://github.com/nedbat/coveragepy) <<https://github.com/nedbat/coveragepy>>`_.

New in 3.7: ``--debug``, and 12 bugs closed.

New
in 3.6: ``--fail-under``, and >20 bugs closed.

New in 3.5: Branch coverage exclusions, keyboard shortcuts in HTML report.

New in 3.4: Better control over source to measure, and unexecuted files
can be reported.

New in 3.3: .coveragerc files.

New in 3.2: Branch coverage!

Keywords: code coverage testing

Platform: UNKNOWN

Classifier: Environment :: Console

Classifier: Intended Audience :: Developers

Classifier: License :: OSI Approved :: BSD License

Classifier: Operating System :: OS Independent

Classifier: Programming Language :: Python :: 2

Classifier: Programming Language :: Python :: 3

Classifier: Topic :: Software Development :: Quality Assurance

Classifier: Topic :: Software Development :: Testing

Classifier: Development Status :: 5 - Production/Stable

Found in path(s):

* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/coverage.egg-info/PKG-
INFO

* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/PKG-INFO

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/**

* QUnit - A JavaScript Unit Testing Framework

*

* <http://docs.jquery.com/QUnit>

*

* Copyright (c) 2011 John Resig, Jörn Zaefferer

* Dual licensed under the MIT (MIT-LICENSE.txt)

* or GPL (GPL-LICENSE.txt) licenses.

*/

Found in path(s):

* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/tests/qunit/qunit.css

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/* Copyright (c) 2010

* @author Laurence Wheway

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* and GPL (<http://www.opensource.org/licenses/gpl-license.php>) licenses.

*
* @version 1.2.0
*/

Found in path(s):

* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/tests/farm/html/src/htmlcov/jquery.isonscreen.js
* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/coverage/htmlfiles/jquery.isonscreen.js
No license file was found, but licenses were detected in source scan.

/*!
* jQuery JavaScript Library v1.4.3
* <http://jquery.com/>
*
* Copyright 2010, John Resig
* Dual licensed under the MIT or GPL Version 2 licenses.
* <http://jquery.org/license>
*
* Includes Sizzle.js
* <http://sizzlejs.com/>
* Copyright 2010, The Dojo Foundation
* Released under the MIT, BSD, and GPL Licenses.
*
* Date: Thu Oct 14 23:10:06 2010 -0400
*/

Found in path(s):

* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/coverage/htmlfiles/jquery.min.js
* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/tests/farm/html/src/htmlcov/jquery-1.4.3.min.js
No license file was found, but licenses were detected in source scan.

/*
* jQuery Hotkeys Plugin
* Copyright 2010, John Resig
* Dual licensed under the MIT or GPL Version 2 licenses.
*
* Based upon the plugin by Tzury Bar Yochay:
* <http://github.com/tzuryby/hotkeys>
*
* Original idea by:
* Binny V A, http://www.openjs.com/scripts/events/keyboard_shortcuts/
*/

Found in path(s):

* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-

3.7.1/tests/farm/html/src/htmlcov/jquery.hotkeys.js
* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/coverage/htmlfiles/jquery.hotkeys.js
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```

Found in path(s):
* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/coverage/__init__.py
No license file was found, but licenses were detected in source scan.

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Found in path(s):
* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/setup.py
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```
/*  
* jQuery Templates Plugin 1.0.0pre  
* http://github.com/jquery/jquery-tmpl  
* Requires jQuery 1.4.2  
*  
* Copyright Software Freedom Conservancy, Inc.  
* Dual licensed under the MIT or GPL Version 2 licenses.  
* http://jquery.org/license  
*/
```

Found in path(s):
* /opt/cola/permits/1120566857_1627551379.43/0/coverage-3-7-1-1-tar-gz/coverage-3.7.1/tests/qunit/jquery.templ.min.js

1.29 python 2.7.18

1.29.1 Available under license :

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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.

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

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1.30 lua 5.1.4-15.amzn2.0.2

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ASM: a very small and fast Java bytecode manipulation framework

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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.)

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,

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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.

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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 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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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.

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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.)

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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.

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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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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) 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 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.

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to most

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These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library,

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

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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!

1.46 iconv 2.26

1.46.1 Available under license :

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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.]

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To protect your rights, we need to make restrictions that forbid

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For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

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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.

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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"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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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.

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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.

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END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Libraries

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everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

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

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

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Ty Coon, President of Vice

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Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of

protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand

ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

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.

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

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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.

The

"System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

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such as by intimate data communication or control flow between those subprograms and other parts of the work.

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A compilation of a covered work with other separate and independent

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6. Conveying Non-Source Forms.

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1.48 coreutils 8.22-24.amzn2

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```
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1.50 pam 1.1.8-23.amzn2.0.1

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```
@smallexample
@var{one line to give the program's name and a brief idea of what it does.}
Copyright
(C) @var{year} @var{name of author}
```

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@end smallexample

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

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

```
@smallexample
@var{program} Copyright (C) @var{year} @var{name of author}
This program comes with ABSOLUTELY NO WARRANTY;
for details type @samp{show w}.
This is free software, and you are welcome to redistribute it
under certain conditions; type @samp{show c} for details.
@end smallexample
```

The hypothetical commands `@samp{show w}` and `@samp{show c}` should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an ```about box"`.

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1.53 libassuan 2.1.0-3.amzn2.0.2

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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.

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.

^L

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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.

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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 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.

^L

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.
^L

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.

^L

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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END OF TERMS AND CONDITIONS

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everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

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.

<one line to give the library's name and a brief idea of what it does.>

Copyright (C) <year> <name of author>

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

This library 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 Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; 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.

You should also get your employer (if you work as a programmer) or your

school, if any, to sign a "copyright disclaimer" for the library, if 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!

EFFECTIVE OCT 2008, LICENSE IS BEING CHANGED TO LGPL-2.1 (though not reflected
in released code until Nov 2009 - slow release cycle...)

Discussion thread from mailing list archive, with approval from everyone actively
involved or holding original licensing rights included.

[Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:16

Attachments: Message as HTML

looks like 2.8.11 is out and marked as "GPL-2" ... releasing libraries unde=
r=20

GPL-2 is not desirable at all ... this is why the LGPL-2.1 exists
=2Dmike

Re: [Cracklib-devel] cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:18

I understand that, and you're welcome to bring it up with Alec directly
and see if he wants to relicense his code as LGPL... but at this point,
it was enough to just get it consistent and documented as to what it was
released under. This wasn't actually a license change, just a
clarification of the licensing that was already in place.=20

-- Nathan

=20

Nathan Neulinger EMail: nneul@um...

University of Missouri - Rolla Phone: (573) 341-6679

UMR Information Technology Fax: (573) 341-4216

> -----Original Message-----

> From: cracklib-devel-bounces@li...

> [mailto:cracklib-devel-bounces@li...] On Behalf Of

> Mike Frysinger

> Sent: Monday, October 01, 2007 8:15 PM

> To: cracklib-devel@li...

> Subject: [Cracklib-devel] cracklib license

>=20

> looks like 2.8.11 is out and marked as "GPL-2" ... releasing

> libraries under

> GPL-2 is not desirable at all ... this is why the LGPL-2.1 exists

> -mike

Re: [Cracklib-devel] cracklib license
From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:33

Attachments: Message as HTML
On Monday 01 October 2007, Neulinger, Nathan

wrote:

> I understand that, and you're welcome to bring it up with Alec directly
> and see if he wants to relicense his code as LGPL... but at this point,
> it was enough to just get it consistent and documented as to what it was
> released under. This wasn't actually a license change, just a
> clarification of the licensing that was already in place.

the original license (before moving to sourceforge -- aka, 2.7) was not=20
GPL-2 ... it was a modified artistic license ... i didnt notice the license=
=20
change until it was mentioned in the latest notes.

unlike the old license, GPL-2 prevents people from using cracklib unless th=
eir=20
applications are also GPL-2 which imo is just wrong. it isnt the place of =
a=20
library to dictact to application writes what license they should be using.=
=20
thus LGPL-2.1 enters to fill this void.
=20
=20mike

Re: [Cracklib-devel]
cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:46
Seems like the ideal thing here would be for you and the other distro
maintainers to get together with Alec in a conversation and come to a
decision as to what licensing scheme y'all want. I haven't really done
much other than cleaning up the packaging and patches and a small bit of
additional code, so whatever licensing y'all come up with is fine by me.

-- Nathan
=20

Nathan Neulinger EMail: nneul@um...
University of Missouri - Rolla Phone: (573) 341-6679
UMR Information Technology Fax: (573) 341-4216

> -----Original Message-----
> From: cracklib-devel-bounces@li...
> [mailto:cracklib-devel-bounces@li...] On Behalf Of
> Mike Frysinger

> Sent: Monday, October 01, 2007 8:33 PM
> To: Neulinger, Nathan
> Cc: cracklib-devel@li...; Alec Muffett
> Subject: Re: [Cracklib-devel] cracklib license

>=20

> On Monday 01 October 2007, Neulinger, Nathan wrote:
>> I understand that, and you're welcome to bring it up with Alec
> directly
>> and see if he wants to relicense his code as LGPL... but at this
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>> it was enough to just get it consistent and documented as to what
> it was
>> released under. This wasn't actually a license change, just a
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> GPL-2 ... it was a modified artistic license ... i didnt notice the
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> unlike the old license, GPL-2 prevents people from using cracklib
> unless their
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> place of a
> library

to dictact to application writes what license they should

> be using.
> thus LGPL-2.1 enters to fill this void.
> -mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2007-10-02 08:57

> Seems like the ideal thing here would be for you and the other distro
> maintainers to get together with Alec in a conversation and come to a
> decision as to what licensing scheme y'all want. I haven't really done
> much other than cleaning up the packaging and patches and a small
> bit of
> additional code, so whatever licensing y'all come up with is fine
> by me.

I am sympathetic. Guys, what do you reckon?

What I am hearing so far is that LGPL makes sense, since it can be
linked with any code, not just GPL...

-a

Re: [Cracklib-devel] cracklib license

From: Devin Reade <gdr@gn...> - 2007-10-02 15:04

I would like to see it under LGPL as well. I

think it is in everyone's

best interests to have as secure systems as possible, and I think tainting it via GPL will just make it less likely that the library gets used, and will not usually cause companies/developers to GPL the dependent code (where it is not already GPL).

I like GPL, I use it when I can, but I don't think that it's the correct license in this situation.

Devin

--

If it's sinful, it's more fun.

Re: [Cracklib-devel] cracklib license

From: Nalin Dahyabhai <nalin@re...> - 2008-01-28 16:32

On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:

>> Seems like the ideal thing here would be for you and the other distro
>> maintainers to get together with Alec in a conversation and come to a
>> decision as to what licensing scheme y'all want. I haven't really done
>> much other than cleaning up the packaging and patches and a small
>> bit of
>> additional

code, so whatever licensing y'all come up with is fine

>> by me.

>

> I am sympathetic. Guys, what do you reckon?

>

> What I am hearing so far is that LGPL makes sense, since it can be

> linked with any code, not just GPL...

My apologies for not chiming in in anything resembling a reasonable timeframe.

I'd also suggest the LGPL, for the reason you noted above. Alternately, GPLv2 with the option of using the library under a later version of the GPL would permit applications which were released under version 3 of the GPL to use the library, too, which would be sufficient for the packages which are included in Fedora. FWIW, I'd personally lean toward LGPL.

In any case, I thank you both for working on sorting this out.

Cheers,

Nalin

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-05 21:27

Attachments: Message as HTML

On Monday 28 January 2008, Nalin Dahyabhai wrote:

> On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:

>>> Seems like the ideal thing here would be for you and the other distro
>>> maintainers to get together with Alec in a conversation and come to a
>>> decision as to what licensing scheme y'all want. I haven't really done
>>> much other than cleaning up the packaging and patches and a small
>>> bit of
>>> additional code, so whatever licensing y'all come up with is fine
>>> by me.

>>

>> I am sympathetic. Guys, what do you reckon?

>>

>> What I am hearing so far is that LGPL makes sense, since it can be
>> linked with any code, not just GPL...

>

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> timeframe.

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> I'd also suggest the LGPL, for the reason you noted above. Alternately,
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> GPL would permit applications which were released under version 3 of the
> GPL to use the library, too, which would be sufficient for the packages
> which are included in Fedora. FWIW, I'd personally lean toward LGPL.

>

> In any case, I thank you both for working on sorting this out.

looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make
the change now ?

-mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2008-10-05 23:18

>> In any case, I thank you both for working on sorting this out.

>

> looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make
> the change now ?

yes. go for it. thanks++

-a

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-25 22:34

Attachments: Message as HTML

On Sunday 05 October

2008, Alec Muffett wrote:

> >> In any case, I thank you both for working on sorting this out.

> >

> > looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we

> > make the change now ?

>

> yes. go for it. thanks++

Nathan Neulinger is the only one who can actually make said change ...

-mike

BELOW IS ORIGINAL LICENSING DISCUSSION RE CHANGING TO GPL from Artistic.

CrackLib was originally licensed with a variant of the Artistic license. In the interests of wider acceptance and more modern licensing, it was switched with the original author's blessing to GPL v2.

This approval was carried out in email discussions in 2005, and has been reconfirmed as of 2007-10-01 with the following email from Alec Muffett.

The below email references nneul@umr.edu address, as that is the address that was used at the time. For any future emails regarding this, please use nneul@neulinger.org.

From

alecm@crypticide.com Mon Oct 1 12:26:03 2007

Received: from umr-exproto2.cc.umr.edu ([131.151.0.192]) by UMR-CMAIL1.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);

Mon, 1 Oct 2007 12:26:03 -0500

Received: from scansrv2.srv.mst.edu ([131.151.1.114]) by umr-exproto2.cc.umr.edu with Microsoft

SMTPSVC(6.0.3790.3959);
Mon, 1 Oct 2007 12:26:02 -0500
Received: (qmail 8022 invoked from network); 1 Oct 2007 16:59:55 -0000
Received: from smtp1.srv.mst.edu (131.151.1.43)
by scanin-ipvs.cc.umn.edu with SMTP; 1 Oct 2007 16:59:55 -0000
Received: from spunkymail-mx8.g.dreamhost.com (mx1.spunky.mail.dreamhost.com [208.97.132.47])
by smtp1.srv.mst.edu (8.13.1/8.13.1) with ESMTP id 191Gxtpr020623
for <nneul@umn.edu>; Mon, 1 Oct 2007 11:59:55 -0500
Received: from rutherford.zen.co.uk (rutherford.zen.co.uk [212.23.3.142])
by spunkymail-mx8.g.dreamhost.com (Postfix) with ESMTP id 2C7734D311
for <nneul@neulinger.org>; Mon, 1 Oct 2007 09:59:50 -0700 (PDT)
Received: from
[82.68.43.14] (helo=[192.168.1.3])
by rutherford.zen.co.uk with esmtp (Exim 4.50)
id 1IcOcX-0004Qt-6L
for nneul@neulinger.org; Mon, 01 Oct 2007 16:59:49 +0000
Mime-Version: 1.0 (Apple Message framework v752.2)
In-Reply-To: <1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>
References: <1190922867.3457.147.camel@localhost.localdomain>
<EC90713277D2BE41B7110CCD74E235CEF44F38@UMR-CMAIL1.umn.edu>
<1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>
Content-Type: text/plain; charset=US-ASCII; delsp=yes; format=flowed
Message-Id: <117A1264-F6DC-4E25-B0DD-56FBFE6E9F@crypticide.com>
Content-Transfer-Encoding: 7bit
From: Alec Muffett <alecm@crypticide.com>
Subject: Re: cracklib license
Date: Mon, 1 Oct 2007 17:59:46 +0100
To: Nathan Neulinger <nneul@neulinger.org>
X-Mailer: Apple Mail (2.752.2)
X-Originating-Rutherford-IP: [82.68.43.14]
Return-Path: alecm@crypticide.com
X-OriginalArrivalTime: 01 Oct 2007 17:26:03.0008 (UTC) FILETIME=[2420C000:01C80450]
Status: RO
Content-Length:
585
Lines: 21

>
> ----- Forwarded message -----
> From: Neulinger, Nathan <nneul@umn.edu>
> Date: Sep 27, 2007 2:58 PM
> Subject: RE: cracklib license
> To: alecm@crypto.dircon.co.uk
>
> Any chance you could write me a self-contained email stating clearly
> that the license is being changed to GPL, so I could include that
> email
> in the repository and clean up the repository/tarballs? I have all the

- > original discussion, but something succinct and self contained
- > would be
- > ideal.

The license for my code in the Cracklib distribution is henceforth GPL.

Happy now? :-)

-a

1.55 findutils 4.5.11-6.amzn2

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Version 3, 29 June 2007

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```

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```

```
<signature of Ty Coon>, 1 April 1989
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1.65 pth 2.0.7-23.amzn2.0.2

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```
-----
| _ \| | | | _      ``Ian Fleming was a UNIX fan!
| | ) | | | ' \      How do I know? Well, James Bond
| _ / | | | | |      had the (license to kill) number 007,
| | \ | | | | |      i.e., he could execute anyone!"
```

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%% winjs version 4.4.0 (<https://github.com/winjs/winjs>)

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WinJS

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1. Seti UI - A subtle dark colored UI theme for Atom. (<https://github.com/jesseweed/seti-ui>)

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. The `grn' preprocessor, written by Barry Roitblat <barry@rentonww.com> and David Slattengren <slatteng@Xinet.COM>. These files have been part of the original Berkeley ditroff distribution, without AT&T code, and are in the public domain.

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<http://ftp.cs.wisc.edu/pub/misc/grn.tar.Z> .

```
src/preproc/grn/gprint.h
src/preproc/grn/hdb.cpp
src/preproc/grn/hgraph.cpp
src/preproc/grn/hpoint.cpp
src/preproc/grn/main.cpp
```

. The `gxditview' output device. It is based on X11's `xditview' program and thus has the X license.

```
src/devices/xditview/DESC.in
src/devices/xditview/Dvi.c
src/devices/xditview/Dvi.h
src/devices/xditview/DviP.h
src/devices/xditview/FontMap
src/devices/xditview/GXditview.ad
src/devices/xditview/Menu.h
src/devices/xditview/ad2c
src/devices/xditview/device.c
src/devices/xditview/device.h
src/devices/xditview/draw.c
src/devices/xditview/font.c
src/devices/xditview/gray1.bm
src/devices/xditview/gray2.bm
src/devices/xditview/gray3.bm
src/devices/xditview/gray4.bm
src/devices/xditview/gray5.bm
src/devices/xditview/gray6.bm
src/devices/xditview/gray7.bm
src/devices/xditview/gray8.bm
src/devices/xditview/gxditview.man
```

src/devices/xditview/lex.c
src/devices/xditview/page.c
src/devices/xditview/parse.c
src/devices/xditview/xdit.bm
src/devices/xditview/xdit_mask.bm
src/devices/xditview/xditview.c

src/include/DviChar.h
src/include/XFontName.h

src/libs/libxutil/DviChar.c
src/libs/libxutil/XFontName.c

Macro Packages

. The -mdoc macro set, using the BSD license.

tmac/doc.tmac
tmac/doc-old.tmac
tmac/doc-common
tmac/doc-ditroff
tmac/doc-nroff
tmac/doc-syms
tmac/groff_mdoc.man

. The -me macro set, using the BSD license.

tmac/e.tmac
tmac/groff_me.man
doc/meintro.me
doc/meintro_fr.me
doc/meref.me

Hyphenation Patterns

. The file `tmac/hyphen.us' is identical to the file `hyphen.tex', part of the TeX system written by Donald E. Knuth; the master file can be found at

<ftp://labrea.stanford.edu/pub/tex/dist/lib/hyphen.tex> .

It has been renamed for consistency, i.e., to make patterns available under the filenames `hyphen.<language>', e.g. `hyphen.de' or `hyphen.uk'.

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. The file ``tmac/hyphen.fr'` contains the same patterns as the file ``frhyph.tex'` (for TeX), which can be found at

<http://dante.ctan.org/CTAN/language/hyphenation/frhyph.tex> .

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. The file ``tmac/hyphen.sv'` is identical to the file ``svhyph.tex'`, which can be found at

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. The files ``tmac/hyphen.det'` and ``tmac/hyphen.den'` contain the same patterns as the files ``dehypht-x-2017-03-31.pat'` and ``dehyphn-x-2017-03-31.pat'` (for TeX), respectively, which can be found at

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. The file ``tmac/hyphen.cs'` contains the same patterns as the file ``czyhyphen.tex'` (for TeX), which can be found in the archive

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Version 2, June 1991

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Version 3, 29 June 2007

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Less

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1.75 zlib 1.2.11

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Version 2, June 1991

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1.78 perl-threads 1.87-4.amzn2.0.2

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=head1 NAME

threads - Perl interpreter-based threads

=head1 VERSION

This document describes threads version 1.87

=head1 SYNOPSIS

```
use threads ('yield',
            'stack_size' => 64*4096,
            'exit' => 'threads_only',
            'stringify');
```

```

sub start_thread {
    my @args = @_ ;
    print("Thread started: ', join(' ', @args), "\n");
}
my $thr = threads->create('start_thread', 'argument');
$thr->join();

threads->create(sub { print("I am a thread\n"); }->join());

my $thr2 = async { foreach (@files) { ... } };
$thr2->join();
if (my $err = $thr2->error()) {
    warn("Thread error: $err\n");
}

# Invoke thread in list context (implicit) so it can return a list
my ($thr) = threads->create(sub { return (qw/a b c/); });
# or specify list context explicitly
my $thr = threads->create({'context' => 'list'},

    sub { return (qw/a b c/); });
my @results = $thr->join();

$thr->detach();

# Get a thread's object
$thr = threads->self();
$thr = threads->object($tid);

# Get a thread's ID
$tid = threads->tid();
$tid = $thr->tid();
$tid = "$thr";

# Give other threads a chance to run
threads->yield();
yield();

# Lists of non-detached threads
my @threads = threads->list();
my $thread_count = threads->list();

my @running = threads->list(threads::running);
my @joinable = threads->list(threads::joinable);

# Test thread objects
if ($thr1 == $thr2) {
    ...

```

```

}

# Manage thread stack size
$stack_size = threads->get_stack_size();
$old_size = threads->set_stack_size(32*4096);

# Create a thread with a specific context and stack size
my $thr = threads->create({ 'context' => 'list',
                          'stack_size' => 32*4096,
                          'exit' => 'thread_only'
},
                        \&foo);

# Get thread's context
my $wantarray = $thr->wantarray();

# Check thread's state
if ($thr->is_running()) {
    sleep(1);
}
if ($thr->is_joinable()) {
    $thr->join();
}

# Send a signal to a thread
$thr->kill('SIGUSR1');

# Exit a thread
threads->exit();

```

=head1 DESCRIPTION

Since Perl 5.8, thread programming has been available using a model called I<interpreter threads> which provides a new Perl interpreter for each thread, and, by default, results in no data or state information being shared between threads.

(Prior to Perl 5.8, I<5005threads> was available through the C<Thread.pm> API. This threading model has been deprecated, and was removed as of Perl 5.10.0.)

As just mentioned, all variables are, by default, thread local. To use shared variables, you need to also load L<threads::shared>:

```

use threads;
use threads::shared;

```

When loading L<threads::shared>, you must C<use

threads> before you

C<use threads::shared>. (C<threads> will emit a warning if you do it the other way around.)

It is strongly recommended that you enable threads via C<use threads> as early as possible in your script.

If needed, scripts can be written so as to run on both threaded and non-threaded Perls:

```
my $can_use_threads = eval 'use threads; 1';
if ($can_use_threads) {
    # Do processing using threads
    ...
} else {
    # Do it without using threads
    ...
}
```

=over

=item \$thr = threads->create(FUNCTION, ARGS)

This will create a new thread that will begin execution with the specified entry point function, and give it the I<ARGS> list as parameters. It will return the corresponding threads object, or C<undef> if thread creation failed.

I<FUNCTION> may either be the name of a function, an anonymous subroutine, or a code ref.

```
my $thr = threads->create('func_name', ...);
# or
my $thr = threads->create(sub { ... }, ...);

# or
my $thr = threads->create(\&func, ...);
```

The C<-E<gt>new()> method is an alias for C<-E<gt>create()>.

=item \$thr->join()

This will wait for the corresponding thread to complete its execution. When the thread finishes, C<-E<gt>join()> will return the return value(s) of the entry point function.

The context (void, scalar or list) for the return value(s) for C<-E<gt>join()> is determined at the time of thread creation.

```

# Create thread in list context (implicit)
my $thr1 = threads->create(sub {
    my @results = qw(a b c);
    return (@results);
});

# or (explicit)
my $thr1 = threads->create({'context' => 'list'},
    sub {
        my @results = qw(a b c);
        return (@results);
    });

# Retrieve list results from thread
my @res1 = $thr1->join();

# Create thread in scalar context (implicit)
my $thr2 = threads->create(sub {
    my $result = 42;
    return ($result);
});

# Retrieve scalar result from thread
my $res2 = $thr2->join();

# Create a thread in void context (explicit)
my $thr3 = threads->create({'void' => 1},
    sub { print("Hello, world\n"); });
# Join the thread in void context (i.e., no return value)
$thr3->join();

```

See [L</"THREAD CONTEXT">](#) for more details.

If the program exits without all threads having either been joined or detached, then a warning will be issued.

Calling `C<-E<gt>join()` or `C<-E<gt>detach()` on an already joined thread will cause an error to be thrown.

```
=item $thr->detach()
```

Makes the thread unjoinable, and causes any eventual return value to be discarded. When the program exits, any detached threads that are still running are silently terminated.

If the program exits without all threads having either been joined or detached, then a warning will be issued.

Calling `C<-E<gt>join()` or `C<-E<gt>detach()` on an already detached thread will cause an error to be thrown.

=item threads->detach()

Class method that allows a thread to detach itself.

=item threads->self()

Class method that allows a thread to obtain its own I<threads> object.

=item \$thr->tid()

Returns the ID of the thread. Thread IDs are unique integers with the main thread in a program being 0, and incrementing by 1 for every thread created.

=item threads->tid()

Class method that allows a thread to obtain its own ID.

=item "\$thr"

If you add the C<stringify> import option to your C<use threads> declaration, then using a threads object in a string or a string context (e.g., as a hash key) will cause its ID to be used as the value:

```
use threads qw(stringify);

my $thr = threads->create(...);
print("Thread $thr started...\n"); # Prints
out: Thread 1 started...
```

=item threads->object(\$tid)

This will return the I<threads> object for the I<active> thread associated with the specified thread ID. If C<\$tid> is the value for the current thread, then this call works the same as C<-E<gt>self()>. Otherwise, returns C<undef> if there is no thread associated with the TID, if the thread is joined or detached, if no TID is specified or if the specified TID is undef.

=item threads->yield()

This is a suggestion to the OS to let this thread yield CPU time to other threads. What actually happens is highly dependent upon the underlying thread implementation.

You may do C<use threads qw(yield)>, and then just use C<yield()> in your code.

=item threads->list()


```
=item threads->list(threads::all)
```

```
=item threads->list(threads::running)
```

```
=item threads->list(threads::joinable)
```

With no arguments (or using `C<threads::all>`) and in a list context, returns a list of all non-joined, non-detached `I<threads>` objects. In a scalar context, returns a count of the same.

With a `I<>true>` argument (using `C<threads::running>`), returns a list of all non-joined, non-detached `I<threads>` objects that are still running.

With a `I<>false>` argument (using `C<threads::joinable>`), returns a list of all non-joined, non-detached `I<threads>` objects that have finished running (i.e., for which `C<-E<gt>join()>` will not `I<block>`).

```
=item $thr1->equal($thr2)
```

Tests if two threads objects are the same thread or not. This is overloaded to the more natural forms:

```
if ($thr1 == $thr2) {  
    print("Threads are the same\n");  
}  
# or  
if ($thr1 != $thr2) {  
    print("Threads differ\n");  
}
```

(Thread comparison is based on thread IDs.)

```
=item async BLOCK;
```

`C<async>` creates a thread to execute the block immediately following it. This block is treated as an anonymous subroutine, and so must have a semicolon after the closing brace. Like `C<threads-E<gt>create()>`, `C<async>` returns a `I<threads>` object.

```
=item $thr->error()
```

Threads

are executed in an `C<eval>` context. This method will return `C<undef>` if the thread terminates `I<normally>`. Otherwise, it returns the value of `C<$@>` associated with the thread's execution status in its `C<eval>` context.

=item \$thr->_handle()

This I<private> method returns the memory location of the internal thread structure associated with a threads object. For Win32, this is a pointer to the C<HANDLE> value returned by C<CreateThread> (i.e., C<HANDLE *>); for other platforms, it is a pointer to the C<pthread_t> structure used in the C<pthread_create> call (i.e., C<pthread_t *>).

This method is of no use for general Perl threads programming. Its intent is to provide other (XS-based) thread modules with the capability to access, and possibly manipulate, the underlying thread structure associated with a Perl thread.

=item threads->_handle()

Class method that allows a thread to obtain its own I<handle>.

=back

=head1 EXITING A THREAD

The usual method for terminating a thread is

to

L<return()|perlfunc/"return EXPR"> from the entry point function with the appropriate return value(s).

=over

=item threads->exit()

If needed, a thread can be exited at any time by calling C<threads-E<gt>exit()>. This will cause the thread to return C<undef> in a scalar context, or the empty list in a list context.

When called from the I<main> thread, this behaves the same as C<exit(0)>.

=item threads->exit(status)

When called from a thread, this behaves like C<threads-E<gt>exit()> (i.e., the exit status code is ignored).

When called from the I<main> thread, this behaves the same as C<exit(status)>.

=item die()

Calling C<die()> in a thread indicates an abnormal exit for the thread. Any C<\$_SIG{__DIE__}> handler in the thread will be called first, and then the thread will exit with a warning message that will contain any arguments passed

in the `C<die()>` call.

=item `exit(status)`

Calling `L<exit()|perlfunc/"exit EXPR">` inside a thread causes the whole application to terminate.

Because of this, the use of `C<exit()>` inside threaded code, or in modules that might be used in threaded applications, is strongly discouraged.

If `C<exit()>` really is needed, then consider using the following:

```
threads->exit() if threads->can('exit'); # Thread friendly
exit(status);
```

=item use threads 'exit' => 'threads_only'

This globally overrides the default behavior of calling `C<exit()>` inside a thread, and effectively causes such calls to behave the same as `C<threads-E<gt>exit()>`. In other words, with this setting, calling `C<exit()>` causes only the thread to terminate.

Because of its global effect, this setting should not be used inside modules or the like.

The `I<main>` thread is unaffected by this setting.

=item `threads->create({'exit' => 'thread_only'}, ...)`

This overrides the default behavior of `C<exit()>` inside the newly created thread only.

=item `$thr->set_thread_exit_only(boolean)`

This can be used to change the `I<exit thread only>` behavior for a thread after it has been created. With a `I<>true>` argument, `C<exit()>` will cause only the thread to exit. With a `I<false>` argument, `C<exit()>` will terminate the application.

The `I<main>` thread is unaffected by this call.

=item `threads->set_thread_exit_only(boolean)`

Class method for use inside a thread to change its own behavior for `C<exit()>`.

The `I<main>` thread is unaffected by this call.

=back

=head1 THREAD STATE

The following boolean methods are useful in determining the I<state> of a thread.

=over

=item \$thr->is_running()

Returns true if a thread is still running (i.e., if its entry point function has not yet finished or exited).

=item \$thr->is_joinable()

Returns true if the thread has finished running, is not detached and has not yet been joined. In other words, the thread is ready to be joined, and a call to C<\$thr-E<gt>join()> will not I<block>.

=item \$thr->is_detached()

Returns true if the thread has been detached.

=item threads->is_detached()

Class method that allows a thread to determine whether or not it is detached.

=back

=head1 THREAD CONTEXT

As with subroutines, the type of value returned from a thread's entry point function may be determined by the thread's I<context>: list, scalar or void. The thread's context is determined at thread creation. This is necessary so that the context is available to the entry point function via L<wantarray()|perlfunc/"wantarray">. The thread may then specify a value of the appropriate type to be returned from C<-E<gt>join()>.

=head2 Explicit context

Because thread creation and thread joining may occur in different contexts, it may be desirable to state the context explicitly to the thread's entry point function. This may be done by calling C<-E<gt>create()> with a hash reference as the first argument:

```
my $thr = threads->create({'context' => 'list'}, \&foo);
```

```
...
my @results = $thr->join();
```

In the above, the threads object is returned to the parent thread in scalar context, and the thread's entry point function C<foo> will be called in list (array) context such that the parent thread can receive a list (array) from the C<-E<gt>join(>) call. (C<'array'> is synonymous with C<'list'>.)

Similarly, if you need the threads object, but your thread will not be returning a value (i.e., I<void> context), you would do the following:

```
my $thr = threads->create({'context' => 'void'}, \&foo);
...
$thr->join();
```

The context type may also be used as the I<key> in the hash reference followed by a I<>true> value:

```
threads->create({'scalar' => 1}, \&foo);
...
my ($thr) = threads->list();
my $result = $thr->join();
```

=head2 Implicit context

If not explicitly stated, the thread's context is implied from the context of the C<-E<gt>create(>) call:

```
# Create thread in list context
my ($thr) = threads->create(...);

# Create thread in scalar context
my $thr = threads->create(...);

# Create thread in void context
threads->create(...);
```

```
=head2
$thr->wantarray()
```

This returns the thread's context in the same manner as L<wantarray()|perlfunc/"wantarray">.

```
=head2 threads->wantarray()
```

Class method to return the current thread's context. This returns the same value as running L<wantarray()|perlfunc/"wantarray"> inside the current

thread's entry point function.

```
=head1 THREAD STACK SIZE
```

The default per-thread stack size for different platforms varies significantly, and is almost always far more than is needed for most applications. On Win32, Perl's makefile explicitly sets the default stack to 16 MB; on most other platforms, the system default is used, which again may be much larger than is needed.

By tuning the stack size to more accurately reflect your application's needs, you may significantly reduce your application's memory usage, and increase the number of simultaneously running threads.

Note that on Windows, address space allocation granularity is 64 KB, therefore, setting the stack smaller than that on Win32 Perl will not save any more memory.

```
=over
```

```
=item threads->get_stack_size();
```

Returns the current default per-thread stack size. The default is zero, which means the system default stack size is currently in use.

```
=item $size = $thr->get_stack_size();
```

Returns the stack size for a particular thread. A return value of zero indicates the system default stack size was used for the thread.

```
=item $old_size = threads->set_stack_size($new_size);
```

Sets a new default per-thread stack size, and returns the previous setting.

Some platforms have a minimum thread stack size. Trying to set the stack size below this value will result in a warning, and the minimum stack size will be used.

Some Linux platforms have a maximum stack size. Setting too large of a stack size will cause thread creation to fail.

If needed, C<\$new_size> will be rounded up to the next multiple of the memory page size (usually 4096 or 8192).

Threads created after the stack size is set will then either call C<pthread_attr_setstacksize(>

I<(for pthreads platforms)>, or supply the stack size to C<CreateThread()> I<(for Win32 Perl)>.

(Obviously, this call does not affect any currently extant threads.)

```
=item use threads ('stack_size' => VALUE);
```

This sets the default per-thread stack size at the start of the application.

```
=item $ENV{'PERL5_ITHREADS_STACK_SIZE'}
```

The default per-thread stack size may be set at the start of the application through the use of the environment variable C<PERL5_ITHREADS_STACK_SIZE>:

```
PERL5_ITHREADS_STACK_SIZE=1048576
export PERL5_ITHREADS_STACK_SIZE
perl -e'use threads; print(threads->get_stack_size(), "\n")'
```

This value overrides any C<stack_size> parameter given to C<use threads>. Its primary purpose is to permit setting the per-thread stack size for legacy threaded applications.

```
=item threads->create({'stack_size' => VALUE}, FUNCTION, ARGS)
```

To specify a particular stack size for any individual thread, call C<-E<gt>create()> with a hash reference as the first argument:

```
my $thr = threads->create({'stack_size' => 32*4096}, \&foo, @args);
```

```
=item $thr2 = $thr1->create(FUNCTION, ARGS)
```

This creates a new thread (C<\$thr2>) that inherits the stack size from an existing thread (C<\$thr1>). This is shorthand for the following:

```
my $stack_size = $thr1->get_stack_size();
my $thr2 = threads->create({'stack_size' => $stack_size}, FUNCTION, ARGS);
```

```
=back
```

=head1 THREAD SIGNALLING

When safe signals is in effect (the default behavior - see L</"Unsafe signals"> for more details), then signals may be sent and acted upon by individual threads.

```
=over 4
```

```
=item $thr->kill('SIG...');
```

Sends the specified signal to the thread. Signal names and (positive) signal numbers are the same as those supported by `kill()` or `perlfunc/"kill SIGNAL, LIST">`. For example, 'SIGTERM', 'TERM' and (depending on the OS) 15 are all valid arguments to `kill()`.

Returns the thread object to allow for method chaining:

```
$thr->kill('SIG...')->join();
```

=back

Signal

handlers need to be set up in the threads for the signals they are expected to act upon. Here's an example for `canceling` a thread:

```
use threads;

sub thr_func
{
    # Thread 'cancellation' signal handler
    $SIG{'KILL'} = sub { threads->exit(); };

    ...
}

# Create a thread
my $thr = threads->create('thr_func');

...

# Signal the thread to terminate, and then detach
# it so that it will get cleaned up automatically
$thr->kill('KILL')->detach();
```

Here's another simplistic example that illustrates the use of thread signalling in conjunction with a semaphore to provide rudimentary `suspend` and `resume` capabilities:

```
use threads;
use Thread::Semaphore;

sub thr_func
{
    my $sema = shift;

    # Thread 'suspend/resume' signal handler
    $SIG{'STOP'} = sub {
```



```

    $sema->down();    # Thread suspended
    $sema->up();      # Thread resumes
};

...
}

# Create
a semaphore and pass it to a thread
my $sema = Thread::Semaphore->new();
my $thr = threads->create('thr_func', $sema);

# Suspend the thread
$sema->down();
$thr->kill('STOP');

...

# Allow the thread to continue
$sema->up();

```

CAVEAT: The thread signalling capability provided by this module does not actually send signals via the OS. It I<emulates> signals at the Perl-level such that signal handlers are called in the appropriate thread. For example, sending C<\$thr->kill('STOP')> does not actually suspend a thread (or the whole process), but does cause a C<SIG{'STOP'}> handler to be called in that thread (as illustrated above).

As such, signals that would normally not be appropriate to use in the C<kill()> command (e.g., C<kill('KILL', \$\$)>) are okay to use with the C<->kill()> method (again, as illustrated above).

Correspondingly, sending a signal to a thread does not disrupt the operation the thread is currently working on: The signal will be acted upon after the current operation has completed. For instance, if the thread is I<stuck> on an I/O call, sending it a signal will not cause the I/O call to be interrupted such that the signal is acted up immediately.

Sending a signal to a terminated/finished thread is ignored.

=head1 WARNINGS

=over 4

=item Perl exited with active threads:

If the program exits without all threads having either been joined or

detached, then this warning will be issued.

NOTE: If the I<main> thread exits, then this warning cannot be suppressed using C<no warnings 'threads';> as suggested below.

=item Thread creation failed: pthread_create returned #

See the appropriate I<man> page for C<pthread_create> to determine the actual cause for the failure.

=item Thread # terminated abnormally: ...

A thread terminated in some manner other than just returning from its entry point function, or by using C<threads-E<gt>exit()>. For example, the thread may have terminated because of an error, or by using C<die>.

=item Using minimum thread stack size of #

Some platforms have a minimum thread stack size. Trying to set the stack size below this value will result in the above warning, and the stack size will be set to the minimum.

=item Thread creation failed: pthread_attr_setstacksize(I<SIZE>) returned 22

The specified I<SIZE> exceeds the system's maximum stack size. Use a smaller value for the stack size.

=back

If needed, thread warnings can be suppressed by using:

```
no warnings 'threads';
```

in the appropriate scope.

=head1 ERRORS

=over 4

=item This Perl not built to support threads

The particular copy of Perl that you're trying to use was not built using the C<useithreads> configuration option.

Having threads support requires all of Perl and all of the XS modules in the Perl installation to be rebuilt; it is not just a question of adding the L<threads> module (i.e., threaded and non-threaded Perls are binary

incompatible).

=item Cannot change stack size of an existing thread

The stack size of currently extant threads cannot be changed, therefore, the following results in the above error:

```
$thr->set_stack_size($size);
```

=item Cannot signal threads without safe signals

Safe signals must be in effect to use the C<-E<gt>kill()> signalling method. See L<"/>Unsafe signals"> for more details.

=item Unrecognized signal name: ...

The particular copy of Perl that you're trying to use does not support the specified signal being used in a C<-E<gt>kill()> call.

=back

=head1 BUGS AND LIMITATIONS

Before you consider posting a bug report, please consult, and possibly post a message to the discussion forum to see if what you've encountered is a known problem.

=over

=item Thread-safe modules

See L<perlmod/"Making your module threadsafe"> when creating modules that may be used in threaded applications, especially if those modules use non-Perl data, or XS code.

=item Using non-thread-safe modules

Unfortunately, you may encounter Perl modules that are not I<thread-safe>.

For example, they may crash the Perl interpreter during execution, or may dump core on termination. Depending on the module and the requirements of your application, it may be possible to work around such difficulties.

If the module will only be used inside a thread, you can try loading the module from inside the thread entry point function using C<require> (and C<import> if needed):

```

sub thr_func
{
    require Unsafe::Module
    # Unsafe::Module->import(...);

    ....
}

```

If the module is needed inside the `I<main>` thread, try modifying your application so that the module is loaded (again using `C<require>` and `C<-E<gt>import()>`) after any threads are started, and in such a way that no other threads are started afterwards.

If the above does not work, or is not adequate for your application, then file a bug report on [L<http://rt.cpan.org/Public/>](http://rt.cpan.org/Public/) against the problematic module.

=item Memory consumption

On most systems, frequent and continual creation and destruction of threads can lead to ever-increasing growth in the memory footprint of the Perl interpreter. While it is simple to just launch threads and then `C<-E<gt>join()>` or `C<-E<gt>detach()>` them, for long-lived applications, it is better to maintain a pool of threads, and to reuse them for the work needed, using `L<queues|Thread::Queue>` to notify threads of pending work. The CPAN distribution of this module contains a simple example (`F<examples/pool_reuse.pl>`) illustrating the creation, use and monitoring of a pool of `I<reusable>` threads.

=item Current working directory

On all platforms except MSWin32, the setting for the current working directory is shared among all threads such that changing it in one thread (e.g., using `C<chdir()>`) will affect all the threads in the application.

On MSWin32, each thread maintains its own the current working directory setting.

=item Environment variables

Currently, on all platforms except MSWin32, all `I<system>` calls (e.g., using `C<system()>` or back-ticks) made from threads use the environment variable settings from the `I<main>` thread. In other words, changes made to `C<%ENV>` in a thread will not be visible in `I<system>` calls made by that thread.

To work around this, set environment variables as part of the `I<system>` call. For example:

```
my $msg = 'hello';
system("FOO=$msg; echo \${FOO}"); # Outputs 'hello' to STDOUT
```

On MSWin32, each thread maintains its own set of environment variables.

=item Catching signals

Signals are I<caught> by the main thread (thread ID = 0) of a script. Therefore, setting up signal handlers in threads for purposes other than L</"THREAD SIGNALLING"> as documented above will not accomplish what is intended.

This is especially true if trying to catch C<SIGALRM> in a thread. To handle alarms in threads, set up a signal handler in the main thread, and then use L</"THREAD SIGNALLING"> to relay the signal to the thread:

```
# Create thread with a task that may time out
my $thr->create(sub {
    threads->yield();
    eval {
        $SIG{ALRM} = sub { die("Timeout\n"); };
        alarm(10);
        ... # Do work here
        alarm(0);
    };
    if ($@ =~ /Timeout/) {
        warn("Task in thread timed out\n");
    }
});

# Set signal handler to relay SIGALRM to thread
$SIG{ALRM} = sub { $thr->kill('ALRM') };

... # Main thread continues working
```

=item Parent-child threads

On some platforms, it might not be possible to destroy I<parent> threads while there are still existing I<child> threads.

=item Creating threads inside special blocks

Creating threads inside C<BEGIN>, C<CHECK> or C<INIT> blocks should not be relied upon. Depending on the Perl version and the application code, results may range from success, to (apparently harmless) warnings of leaked scalar, or all the way up to crashing of the Perl interpreter.

=item Unsafe signals

Since Perl 5.8.0, signals have been made safer in Perl by postponing their handling

until the interpreter is in a I<safe> state. See

L<perl58delta/"Safe Signals"> and L<perlipc/"Deferred Signals (Safe Signals)"> for more details.

Safe signals is the default behavior, and the old, immediate, unsafe signalling behavior is only in effect in the following situations:

=over 4

=item * Perl has been built with C<PERL_OLD_SIGNALS> (see C<perl -V>).

=item * The environment variable C<PERL_SIGNALS> is set to C<unsafe> (see L<perlrun/"PERL_SIGNALS">).

=item * The module L<Perl::Unsafe::Signals> is used.

=back

If unsafe signals is in effect, then signal handling is not thread-safe, and the C<-E<gt>kill()> signalling method cannot be used.

=item Returning closures from threads

Returning closures from threads should not be relied upon. Depending on the Perl version and the application code, results may range from success, to (apparently harmless) warnings of leaked scalar, or all the way up to crashing of the Perl interpreter.

=item Returning objects from threads

Returning

objects from threads does not work. Depending on the classes involved, you may be able to work around this by returning a serialized version of the object (e.g., using L<Data::Dumper> or L<Storable>), and then reconstituting it in the joining thread. If you're using Perl 5.10.0 or later, and if the class supports L<shared objects|threads::shared/"OBJECTS">, you can pass them via L<shared queues|Thread::Queue>.

=item END blocks in threads

It is possible to add L<END blocks|perlmod/"BEGIN, UNITCHECK, CHECK, INIT and END"> to threads by using L<require|perlfunc/"require VERSION"> or L<eval|perlfunc/"eval EXPR"> with the appropriate code. These C<END> blocks will then be executed when the thread's interpreter is destroyed (i.e., either during a C<-E<gt>join()> call, or at program termination).

However, calling any L<threads> methods in such an C<END> block will most likely I<fail> (e.g., the application may hang, or generate an error) due to mutexes that are needed to control functionality within the L<threads> module.

For this reason, the use of C<END> blocks in threads is B<strongly> discouraged.

=item Open directory handles

In perl 5.14 and higher, on systems other than Windows that do not support the C<fchdir> C function, directory handles (see L<opendir|perlfunc/"opendir DIRHANDLE,EXPR">) will not be copied to new threads. You can use the C<d_fchdir> variable in L<Config.pm|Config> to determine whether your system supports it.

In prior perl versions, spawning threads with open directory handles would crash the interpreter.

L<[perl #75154]|http://rt.perl.org/rt3/Public/Bug/Display.html?id=75154>

=item Perl Bugs and the CPAN Version of L<threads>

Support for threads extends beyond the code in this module (i.e., F<threads.pm> and F<threads.xs>), and into the Perl interpreter itself. Older versions of Perl contain bugs that may manifest themselves despite using the latest version of L<threads> from CPAN. There is no workaround for this other than upgrading to the latest version of Perl.

Even with the latest version of Perl, it is known that certain constructs with threads may result in warning messages concerning leaked scalars or unreferenced scalars. However, such warnings are harmless, and may safely be ignored.

You can search for L<threads> related bug reports at L<http://rt.cpan.org/Public/>. If needed submit any new bugs, problems, patches, etc. to: L<http://rt.cpan.org/Public/Dist/Display.html?Name=threads>

=back

=head1 REQUIREMENTS

Perl 5.8.0 or later

=head1 SEE ALSO

L<threads> Discussion Forum on CPAN:

L<<http://www.cpanforum.com/dist/threads>>

L<threads::shared>, L<perlthrtut>

L<<http://www.perl.com/pub/a/2002/06/11/threads.html>> and

L<<http://www.perl.com/pub/a/2002/09/04/threads.html>>

Perl threads mailing list:

L<<http://lists.perl.org/list/ithreads.html>>

Stack size discussion:

L<http://www.perlmonks.org/?node_id=532956>

=head1 AUTHOR

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=head1 LICENSE

threads is released under the same license as Perl.

=head1 ACKNOWLEDGEMENTS

Richard Soderberg E<lt>perl AT crystalflame DOT netE<gt> -

Helping me out tons, trying to find reasons for races and other weird bugs!

Simon Cozens E<lt>simon AT brecon DOT co DOT ukE<gt> -

Being there to answer zillions of annoying questions

Rocco Caputo E<lt>troc AT netrus DOT netE<gt>

Vipul Ved Prakash E<lt>mail AT vipul DOT netE<gt> -

Helping with debugging

Dean Arnold E<lt>darnold AT presicient DOT comE<gt> -

Stack size API

=cut

Found in path(s):

* /opt/cola/permits/1150898180_1634082310.54/0/perl-threads-1.87-4.amzn2.0.2.src.rpm-cosi-expand-archive-XBVKObV4/threads-1.87.tar.gz-cosi-expand-archive-wWLU3Lr3/threads-1.87/lib/threads.pm

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

Copyright 2006 - 2009 Jerry D. Hedden. All rights reserved.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

Found in path(s):

* /opt/cola/permits/1150898180_1634082310.54/0/perl-threads-1.87-4.amzn2.0.2.src.rpm-cosi-expand-archive-XBVKObV4/threads-1.87.tar.gz-cosi-expand-archive-wWLU3Lr3/threads-1.87/examples/pool.pl

* /opt/cola/permits/1150898180_1634082310.54/0/perl-threads-1.87-4.amzn2.0.2.src.rpm-cosi-expand-archive-XBVKObV4/threads-1.87.tar.gz-cosi-expand-archive-wWLU3Lr3/threads-1.87/examples/pool_reuse.pl

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

/*

ppport.h -- Perl/Pollution/Portability Version 3.19

Automatically created by Devel::PPPort running under perl 5.010000.

Do NOT edit this file directly! -- Edit PPPort_pm.PL and the includes in parts/inc/ instead.

Use 'perldoc ppport.h' to view the documentation below.

SKIP

=pod

=head1 NAME

ppport.h - Perl/Pollution/Portability version 3.19

=head1 SYNOPSIS

perl ppport.h [options] [source files]

Searches current directory for files if no [source files] are given

--help show short help

--version show version

--patch=file write one patch file with changes

--copy=suffix write changed copies with suffix

--diff=program use diff program and options

--compat-version=version

provide compatibility with Perl version
--plusplus accept C++ comments

--quiet don't output anything except fatal errors
--nodiag don't show diagnostics
--nohints don't show hints
--nochanges don't suggest changes
--nofilter don't filter input files

--strip strip all script and doc functionality from
 ppport.h

--list-provided list provided API
--list-unsupported list unsupported API
--api-info=name show Perl API portability information

=head1 COMPATIBILITY

This version of F<ppport.h> is designed to support operation with Perl installations back to 5.003, and has been tested up to 5.10.0.

=head1 OPTIONS

=head2 --help

Display a brief usage summary.

=head2 --version

Display the version of F<ppport.h>.

=head2 --patch=I<file>

If this option is given, a single patch file will be created if any changes are suggested. This requires a working diff program to be installed on your system.

=head2 --copy=I<suffix>

If this option is given, a copy of each file will be saved with the given suffix that contains the suggested changes. This does not require any external programs. Note that this does not automagially add a dot between the original filename and the suffix. If you want the dot, you have to include it in the option argument.

If neither C<--patch> or C<--copy> are given, the default is to

simply print the diffs for each file. This requires either C<Text::Diff> or a C<diff> program to be installed.

```
=head2 --diff=I<program>
```

Manually set the diff program and options to use. The default is to use C<Text::Diff>, when installed, and output unified context diffs.

```
=head2 --compat-version=I<version>
```

Tell F<ppport.h> to check for compatibility with the given Perl version. The default is to check for compatibility with Perl version 5.003.

You can use this option to reduce the output of F<ppport.h> if you intend to be backward compatible only down to a certain Perl version.

```
=head2 --cplusplus
```

Usually, F<ppport.h> will detect C++ style comments and replace them with C style comments for portability reasons. Using this option instructs F<ppport.h> to leave C++ comments untouched.

```
=head2 --quiet
```

Be quiet. Don't print anything except fatal errors.

```
=head2 --nodiag
```

Don't output any diagnostic messages. Only portability alerts will be printed.

```
=head2 --nohints
```

Don't output any hints. Hints often contain useful portability notes. Warnings will still be displayed.

```
=head2 --nochanges
```

Don't suggest any changes. Only give diagnostic output and hints unless these are also deactivated.

```
=head2 --nofilter
```

Don't filter the list of input files. By default, files not looking like source code (i.e. not *.xs, *.c, *.cc, *.cpp or *.h) are skipped.

=head2 --strip

Strip all script and documentation functionality from F<ppport.h>.

This

reduces the size of F<ppport.h> dramatically and may be useful if you want to include F<ppport.h> in smaller modules without increasing their distribution size too much.

The stripped F<ppport.h> will have a C<--unstrip> option that allows you to undo the stripping, but only if an appropriate C<Devel::PPPort> module is installed.

=head2 --list-provided

Lists the API elements for which compatibility is provided by F<ppport.h>. Also lists if it must be explicitly requested, if it has dependencies, and if there are hints or warnings for it.

=head2 --list-unsupported

Lists the API elements that are known not to be supported by F<ppport.h> and below which version of Perl they probably won't be available or work.

=head2 --api-info=I<name>

Show portability information for API elements matching I<name>.

If I<name> is surrounded by slashes, it is interpreted as a regular expression.

=head1 DESCRIPTION

In order for a Perl extension (XS) module to be as portable as possible across

differing versions of Perl itself, certain steps need to be taken.

=over 4

=item *

Including this header is the first major one. This alone will give you access to a large part of the Perl API that hasn't been available in earlier Perl releases. Use

```
perl ppport.h --list-provided
```

to see which API elements are provided by ppport.h.

=item *

You should avoid using deprecated parts of the API. For example, using global Perl variables without the C<PL_> prefix is deprecated. Also, some API functions used to have a C<perl_> prefix. Using this form is also deprecated. You can safely use the supported API, as F<ppport.h> will provide wrappers for older Perl versions.

=item *

If you use one of a few functions or variables that were not present in earlier versions of Perl, and that can't be provided using a macro, you have to explicitly request support for these functions by adding one or more C<#define>s in your source code before the inclusion of F<ppport.h>.

These functions or variables will be marked C<explicit> in the list shown by C<--list-provided>.

Depending on whether your module has a single or multiple files that use such functions or variables, you want either C<static> or global variants.

For a C<static> function or variable (used only in a single source file), use:

```
#define NEED_function
#define NEED_variable
```

For a global function or variable (used in multiple source files), use:

```
#define NEED_function_GLOBAL
#define NEED_variable_GLOBAL
```

Note that you mustn't have more than one global request for the same function or variable in your project.

Function / Variable	Static Request	Global Request
PL_parser	NEED_PL_parser	NEED_PL_parser_GLOBAL
PL_signals	NEED_PL_signals	NEED_PL_signals_GLOBAL
eval_pv()	NEED_eval_pv	NEED_eval_pv_GLOBAL
grok_bin()	NEED_grok_bin	NEED_grok_bin_GLOBAL
grok_hex()	NEED_grok_hex	NEED_grok_hex_GLOBAL
grok_number()	NEED_grok_number	NEED_grok_number_GLOBAL
grok_numeric_radix()	NEED_grok_numeric_radix	NEED_grok_numeric_radix_GLOBAL

grok_oct()	NEED_grok_oct	NEED_grok_oct_GLOBAL
load_module()	NEED_load_module	NEED_load_module_GLOBAL
my_snprintf()	NEED_my_snprintf	NEED_my_snprintf_GLOBAL
my_sprintf()	NEED_my_sprintf	NEED_my_sprintf_GLOBAL
my_strlcat()	NEED_my_strlcat	NEED_my_strlcat_GLOBAL
my_strlcpy()	NEED_my_strlcpy	NEED_my_strlcpy_GLOBAL
newCONSTSUB()	NEED_newCONSTSUB	NEED_newCONSTSUB_GLOBAL
newRV_noinc()	NEED_newRV_noinc	NEED_newRV_noinc_GLOBAL
newSV_type()	NEED_newSV_type	NEED_newSV_type_GLOBAL
newSVpvn_flags()	NEED_newSVpvn_flags	NEED_newSVpvn_flags_GLOBAL
newSVpvn_share()	NEED_newSVpvn_share	NEED_newSVpvn_share_GLOBAL
pv_display()	NEED_pv_display	NEED_pv_display_GLOBAL
pv_escape()	NEED_pv_escape	NEED_pv_escape_GLOBAL
pv_pretty()	NEED_pv_pretty	NEED_pv_pretty_GLOBAL
sv_2pv_flags()	NEED_sv_2pv_flags	NEED_sv_2pv_flags_GLOBAL
sv_2pvbyte()	NEED_sv_2pvbyte	NEED_sv_2pvbyte_GLOBAL
sv_catpvf_mg()	NEED_sv_catpvf_mg	NEED_sv_catpvf_mg_GLOBAL
sv_catpvf_mg_nocontext()	NEED_sv_catpvf_mg_nocontext	NEED_sv_catpvf_mg_nocontext_GLOBAL
sv_pvn_force_flags()	NEED_sv_pvn_force_flags	NEED_sv_pvn_force_flags_GLOBAL
sv_setpvf_mg()	NEED_sv_setpvf_mg	
NEED_sv_setpvf_mg_GLOBAL		
sv_setpvf_mg_nocontext()	NEED_sv_setpvf_mg_nocontext	NEED_sv_setpvf_mg_nocontext_GLOBAL
vload_module()	NEED_vload_module	NEED_vload_module_GLOBAL
vnewSVpvf()	NEED_vnewSVpvf	NEED_vnewSVpvf_GLOBAL
warnier()	NEED_warnier	NEED_warnier_GLOBAL

To avoid namespace conflicts, you can change the namespace of the explicitly exported functions / variables using the C<DPPP_NAMESPACE> macro. Just C<#define> the macro before including C<ppport.h>:

```
#define DPPP_NAMESPACE MyOwnNamespace_
#include "ppport.h"
```

The default namespace is C<DPPP_>.

=back

The good thing is that most of the above can be checked by running F<ppport.h> on your source code. See the next section for details.

=head1 EXAMPLES

To verify whether F<ppport.h> is needed for your module, whether you should make any changes to your code, and whether any special defines should be used, F<ppport.h> can be run as a Perl script to check your source code. Simply say:

```
perl ppport.h
```

The result will usually be a list of patches suggesting changes that should at least be acceptable, if not necessarily the most efficient solution, or a fix for all possible problems.

If you know that your XS module uses features only available in newer Perl releases, if you're aware that it uses C++ comments, and if you want all suggestions as a single patch file, you could use something like this:

```
perl ppport.h --compat-version=5.6.0 --cplusplus --patch=test.diff
```

If you only want your code to be scanned without any suggestions for changes, use:

```
perl ppport.h --nochanges
```

You can specify a different C<diff> program or options, using the C<--diff> option:

```
perl ppport.h --diff='diff -C 10'
```

This would output context diffs with 10 lines of context.

If you want to create patched copies of your files instead, use:

```
perl ppport.h --copy=.new
```

To display portability information for the C<newSVpv> function, use:

```
perl ppport.h --api-info=newSVpv
```

Since the argument to C<--api-info> can be a regular expression, you can use

```
perl ppport.h --api-info=/_nomg$/
```

to display portability information for all C<_nomg> functions or

```
perl ppport.h --api-info=./.
```

to display information for all known API elements.

```
=head1 BUGS
```

If this version of F<ppport.h> is causing failure during the compilation of this module, please check if newer versions of either this module or C<Devel::PPPport> are available on CPAN before sending a bug report.

If F<ppport.h> was generated using the latest version of C<Devel::PPPport> and is causing failure of this module, please file a bug report using the CPAN Request Tracker at L<<http://rt.cpan.org/>>.

Please include the following information:

=over 4

=item 1.

The complete output from running "perl -V"

=item 2.

This file.

=item 3.

The name and version of the module you were trying to build.

=item 4.

A full log of the build that failed.

=item

5.

Any other information that you think could be relevant.

=back

For the latest version of this code, please get the C<Devel::PPPport> module from CPAN.

=head1 COPYRIGHT

Version 3.x, Copyright (c) 2004-2009, Marcus Holland-Moritz.

Version 2.x, Copyright (C) 2001, Paul Marquess.

Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<Devel::PPort>.

=cut

use strict;

Disable broken TRIE-optimization

BEGIN { eval '\${^RE_TRIE_MAXBUF} = -1' if \$] >= 5.009004 && \$] <= 5.009005 }

my \$VERSION = 3.19;

```
my %opt = (
  quiet  => 0,
  diag   => 1,
  hints  => 1,
  changes => 1,
  cplusplus => 0,
  filter => 1,
  strip  => 0,
  version => 0,
);
```

```
my($ppport) = $0 =~ /([\w.]+)$/;
my $LF = '(?:\r\n|[\r\n])'; # line feed
my $HS = "[\t]";          # horizontal whitespace
```

Never use C comments in this file!

```
my $ccs = '!.*';
my
  $cce = '!.*/';
my $rcs = quotemeta $ccs;
my $rce = quotemeta $cce;
```

```
eval {
  require Getopt::Long;
  Getopt::Long::GetOptions(\%opt, qw(
    help quiet diag! filter! hints! changes! cplusplus strip version
    patch=s copy=s diff=s compat-version=s
    list-provided list-unsupported api-info=s
  )) or usage();
};
```

```
if ($@ and grep /^-/, @ARGV) {
```

```

usage() if "@ARGV" =~ /^--?h(?:elp)?$/;
die "Getopt::Long not found. Please don't use any options.\n";
}

if ($opt{version}) {
    print "This is $0 $VERSION.\n";
    exit 0;
}

usage() if $opt{help};
strip() if $opt{strip};

if (exists $opt{'compat-version'}) {
    my($r,$v,$s) = eval { parse_version($opt{'compat-version'}) };
    if ($@) {
        die "Invalid version number format: '$opt{'compat-version'}'\n";
    }
    die "Only Perl 5 is supported\n" if $r != 5;
    die "Invalid version number: $opt{'compat-version'}\n" if $v >= 1000 || $s >= 1000;
    $opt{'compat-version'} = sprintf "%d.%03d%03d", $r, $v, $s;
}
else {
    $opt{'compat-version'} = 5;
}

my
%API = map { /^(\w+)\|([^\|]*)\|([^\|]*)\|(\w*)$/
    ? ( $1 => {
        ($2      ? ( base    => $2 ) : ()),
        ($3      ? ( todo    => $3 ) : ()),
        (index($4, 'v') >= 0 ? ( varargs => 1 ) : ()),
        (index($4, 'p') >= 0 ? ( provided => 1 ) : ()),
        (index($4, 'n') >= 0 ? ( nothxarg => 1 ) : ()),
    } )
    : die "invalid spec: $_" } qw(
AvFILLp|5.004050||p
AvFILL|||
CLASS|||n
CPERLscope|5.005000||p
CX_CURPAD_SAVE|||
CX_CURPAD_SV|||
CopFILEAV|5.006000||p
CopFILEGV_set|5.006000||p
CopFILEGV|5.006000||p
CopFILESV|5.006000||p
CopFILE_set|5.006000||p
CopFILE|5.006000||p
CopSTASHPV_set|5.006000||p

```

CopSTASHPV|5.006000||p
CopSTASH_eq|5.006000||p
CopSTASH_set|5.006000||p
CopSTASH|5.006000||p
CopyD|5.009002||p
Copy|||
CvPADLIST|||
CvSTASH|||
CvWEAKOUTSIDE|||
DEFSV_set|5.011000||p
DEFSV|5.004050||p
END_EXTERN_C|5.005000||p
ENTER|||
ERRSV|5.004050||p
EXTEND|||
EXTERN_C|5.005000||p
F0convert|||n
FREEMPS|||
GIMME_V||5.004000|n
GIMME|||n
GROK_NUMERIC_RADIX|5.007002||p
G_ARRAY|||
G_DISCARD|||
G_EVAL|||
G_METHOD|5.006001||p
G_NOARGS|||
G_SCALAR|||
G_VOID||5.004000|
GetVars|||
GvSVn|5.009003||p
GvSV|||
Gv_AMupdate|||
HEf_SVKEY||5.004000|
HeHASH||5.004000|
HeKEY||5.004000|
HeKLEN||5.004000|
HePV||5.004000|
HeSVKEY_force||5.004000|
HeSVKEY_set||5.004000|
HeSVKEY||5.004000|
HeUTF8||5.011000|
HeVAL||5.004000|
HvNAMELEN_get|5.009003||p
HvNAME_get|5.009003||p
HvNAME|||
INT2PTR|5.006000||p
IN_LOCALE_COMPILETIME|5.007002||p
IN_LOCALE_RUNTIME|5.007002||p

IN_LOCALE|5.007002||p
IN_PERL_COMPILETIME|5.008001||p
IS_NUMBER_GREATER_THAN_UV_MAX|5.007002||p
IS_NUMBER_INFINITY|5.007002||p
IS_NUMBER_IN_UV|5.007002||p
IS_NUMBER_NAN|5.007003||p
IS_NUMBER_NEG|5.007002||p
IS_NUMBER_NOT_INT|5.007002||p
IVSIZE|5.006000||p
IVTYPE|5.006000||p
IVdf|5.006000||p
LEAVE|||
LVRET|||
MARK|||
MULTICALL||5.011000|
MY_CXT_CLONE|5.009002||p
MY_CXT_INIT|5.007003||p
MY_CXT|5.007003||p
MoveD|5.009002||p
Move|||
NOOP|5.005000||p
NUM2PTR|5.006000||p
NVTYPE|5.006000||p
NVef|5.006001||p
NVff|5.006001||p
NVgf|5.006001||p
Newxc|5.009003||p
Newxz|5.009003||p
Newx|5.009003||p
Nullav|||
Nullch|||
Nullcv|||
Nullhv|||
Nullsv|||
ORIGMARK|||
PAD_BASE_SV|||
PAD_CLONE_VARS|||
PAD_COMPNAME_FLAGS|||
PAD_COMPNAME_GEN_set|||
PAD_COMPNAME_GEN|||
PAD_COMPNAME_OURSTASH|||
PAD_COMPNAME_PV|||
PAD_COMPNAME_TYPE|||
PAD_DUP|||
PAD_RESTORE_LOCAL|||
PAD_SAVE_LOCAL|||
PAD_SAVE_SETNULLPAD|||
PAD_SETSV|||

PAD_SET_CUR_NOSAVE|||
PAD_SET_CUR|||
PAD_SV1|||
PAD_SV|||
PERLIO_FUNCS_CAST|5.009003||p
PERLIO_FUNCS_DECL|5.009003||p
PERL_ABS|5.008001||p
PERL_BCDVERSION|5.011000||p
PERL_GCC_BRACE_GROUPS_FORBIDDEN|5.008001||p
PERL_HASH|5.004000||p
PERL_INT_MAX|5.004000||p
PERL_INT_MIN|5.004000||p
PERL_LONG_MAX|5.004000||p
PERL_LONG_MIN|5.004000||p
PERL_MAGIC_arylen|5.007002||p
PERL_MAGIC_backref|5.007002||p
PERL_MAGIC_bm|5.007002||p
PERL_MAGIC_collxfrm|5.007002||p
PERL_MAGIC_dbfile|5.007002||p
PERL_MAGIC_dbline|5.007002||p
PERL_MAGIC_defelem|5.007002||p
PERL_MAGIC_envelem|5.007002||p
PERL_MAGIC_env|5.007002||p
PERL_MAGIC_ext|5.007002||p
PERL_MAGIC_fm|5.007002||p
PERL_MAGIC_glob|5.011000||p
PERL_MAGIC_isaelem|5.007002||p
PERL_MAGIC_isa|5.007002||p
PERL_MAGIC_mutex|5.011000||p
PERL_MAGIC_nkeys|5.007002||p
PERL_MAGIC_overload_elem|5.007002||p
PERL_MAGIC_overload_table|5.007002||p
PERL_MAGIC_overload|5.007002||p
PERL_MAGIC_pos|5.007002||p
PERL_MAGIC_qr|5.007002||p
PERL_MAGIC_regdata|5.007002||p
PERL_MAGIC_regdatum|5.007002||p
PERL_MAGIC_regex_global|5.007002||p
PERL_MAGIC_shared_scalar|5.007003||p
PERL_MAGIC_shared|5.007003||p
PERL_MAGIC_sigelem|5.007002||p
PERL_MAGIC_sig|5.007002||p
PERL_MAGIC_substr|5.007002||p
PERL_MAGIC_sv|5.007002||p
PERL_MAGIC_taint|5.007002||p
PERL_MAGIC_tiedelem|5.007002||p
PERL_MAGIC_tiedscalar|5.007002||p
PERL_MAGIC_tied|5.007002||p

PERL_MAGIC_utf8|5.008001||p
PERL_MAGIC_uvar_elem|5.007003||p
PERL_MAGIC_uvar|5.007002||p
PERL_MAGIC_vec|5.007002||p
PERL_MAGIC_vstring|5.008001||p
PERL_PV_ESCAPE_ALL|5.009004||p
PERL_PV_ESCAPE_FIRSTCHAR|5.009004||p
PERL_PV_ESCAPE_NOBACKSLASH|5.009004||p
PERL_PV_ESCAPE_NOCLEAR|5.009004||p
PERL_PV_ESCAPE_QUOTE|5.009004||p
PERL_PV_ESCAPE_RE|5.009005||p
PERL_PV_ESCAPE_UNI_DETECT|5.009004||p
PERL_PV_ESCAPE_UNI|5.009004||p
PERL_PV_PRETTY_DUMP|5.009004||p
PERL_PV_PRETTY_ELLIPSES|5.010000||p
PERL_PV_PRETTY_LTGT|5.009004||p
PERL_PV_PRETTY_NOCLEAR|5.010000||p
PERL_PV_PRETTY_QUOTE|5.009004||p
PERL_PV_PRETTY_REGPROP|5.009004||p
PERL_QUAD_MAX|5.004000||p
PERL_QUAD_MIN|5.004000||p
PERL_REVISION|5.006000||p
PERL_SCAN_ALLOW_UNDERSCORES|5.007003||p
PERL_SCAN_DISALLOW_PREFIX|5.007003||p
PERL_SCAN_GREATER_THAN_UV_MAX|5.007003||p
PERL_SCAN_SILENT_ILLDIGIT|5.008001||p
PERL_SHORT_MAX|5.004000||p
PERL_SHORT_MIN|5.004000||p
PERL_SIGNALS_UNSAFE_FLAG|5.008001||p
PERL_SUBVERSION|5.006000||p
PERL_SYS_INIT3|5.006000|
PERL_SYS_INIT||
PERL_SYS_TERM||5.011000|
PERL_UCHAR_MAX|5.004000||p
PERL_UCHAR_MIN|5.004000||p
PERL_UINT_MAX|5.004000||p
PERL_UINT_MIN|5.004000||p
PERL_ULONG_MAX|5.004000||p
PERL_ULONG_MIN|5.004000||p
PERL_UNUSED_ARG|5.009003||p
PERL_UNUSED_CONTEXT|5.009004||p
PERL_UNUSED_DECL|5.007002||p
PERL_UNUSED_VAR|5.007002||p
PERL_UQUAD_MAX|5.004000||p
PERL_UQUAD_MIN|5.004000||p
PERL_USE_GCC_BRACE_GROUPS|5.009004||p
PERL_USHORT_MAX|5.004000||p
PERL_USHORT_MIN|5.004000||p

PERL_VERSION|5.006000|p
PL_DBsignal|5.005000|p
PL_DBsingle||pn
PL_DBsub||pn
PL_DBtrace||pn
PL_Sv|5.005000|p
PL_bufend|5.011000|p
PL_bufptr|5.011000|p
PL_compiling|5.004050|p
PL_copline|5.011000|p
PL_curcop|5.004050|p
PL_curstash|5.004050|p
PL_debstash|5.004050|p
PL_defgv|5.004050|p
PL_diehook|5.004050|p
PL_dirty|5.004050|p
PL_dowarn||pn
PL_errgv|5.004050|p
PL_error_count|5.011000|p
PL_expect|5.011000|p
PL_hexdigit|5.005000|p
PL_hints|5.005000|p
PL_in_my_stash|5.011000|p
PL_in_my|5.011000|p
PL_last_in_gv||n
PL_laststatval|5.005000|p
PL_lex_state|5.011000|p
PL_lex_stuff|5.011000|p
PL_linestr|5.011000|p
PL_modglobal||5.005000|n
PL_na|5.004050|pn
PL_no_modify|5.006000|p
PL_ofsgv||n
PL_parser|5.009005|p
PL_perl_destruct_level|5.004050|p
PL_perldb|5.004050|p
PL_ppaddr|5.006000|p
PL_rsfilters|5.004050|p
PL_rsfilters|5.004050|p
PL_rs||n
PL_signals|5.008001|p
PL_stack_base|5.004050|p
PL_stack_sp|5.004050|p
PL_statcache|5.005000|p
PL_stdingv|5.004050|p
PL_sv_arenaroot|5.004050|p
PL_sv_no|5.004050|pn
PL_sv_undef|5.004050|pn

PL_sv_yes|5.004050|pn
PL_tainted|5.004050|p
PL_tainting|5.004050|p
PL_tokenbuf|5.011000|p
POP_MULTICALL||5.011000|
POPi|||n
POPi|||n
POPn|||n
POPpbytex||5.007001|n
POPpx||5.005030|n
POPp|||n
POPs|||n
PTR2IV|5.006000|p
PTR2NV|5.006000|p
PTR2UV|5.006000|p
PTR2nat|5.009003|p
PTR2ul|5.007001|p
PTRV|5.006000|p
PUSHMARK|||
PUSH_MULTICALL||5.011000|
PUSHi|||
PUSHmortal|5.009002|p
PUSHn|||
PUSHp|||
PUSHs|||
PUSHu|5.004000|p
PUTBACK|||
PerlIO_clearerr||5.007003|
PerlIO_close||5.007003|
PerlIO_context_layers||5.009004|
PerlIO_eof||5.007003|
PerlIO_error||5.007003|
PerlIO_fileno||5.007003|
PerlIO_fill||5.007003|
PerlIO_flush||5.007003|
PerlIO_get_base||5.007003|
PerlIO_get_bufsiz||5.007003|
PerlIO_get_cnt||5.007003|
PerlIO_get_ptr||5.007003|
PerlIO_read||5.007003|
PerlIO_seek||5.007003|
PerlIO_set_cnt||5.007003|
PerlIO_set_ptrcnt||5.007003|
PerlIO_setlinebuf||5.007003|
PerlIO_stderr||5.007003|
PerlIO_stdin||5.007003|
PerlIO_stdout||5.007003|
PerlIO_tell||5.007003|

PerlIO_unread|5.007003|
PerlIO_write|5.007003|
Perl_signbit|5.009005|n
PoisonFree|5.009004||p
PoisonNew|5.009004||p
PoisonWith|5.009004||p
Poison|5.008000||p
RETVAl||n
Renewc||
Renew||
SAVECLEARSV||
SAVECOMPPAD||
SAVEPADSV||
SAVETMPS||
SAVE_DEFSV|5.004050||p
SPAGAIN||
SP||
START_EXTERN_C|5.005000||p
START_MY_CXT|5.007003||p
STMT_END||p
STMT_START||p
STR_WITH_LEN|5.009003||p
ST||
SV_CONST_RETURN|5.009003||p
SV_COW_DROP_PV|5.008001||p
SV_COW_SHARED_HASH_KEYS|5.009005||p
SV_GMAGIC|5.007002||p
SV_HAS_TRAILING_NUL|5.009004||p
SV_IMMEDIATE_UNREF|5.007001||p
SV_MUTABLE_RETURN|5.009003||p
SV_NOSTEAL|5.009002||p
SV_SMAGIC|5.009003||p
SV_UTF8_NO_ENCODING|5.008001||p
SVfARG|5.009005||p
SVf_UTF8|5.006000||p
SVf|5.006000||p
SVt_IV||
SVt_NV||
SVt_PVAV||
SVt_PVCV||
SVt_PVHV||
SVt_PVMG||
SVt_PV||
Safefree||
Slab_Alloc||
Slab_Free||
Slab_to_rw||
StructCopy||

SvCUR_set||
SvCUR||
SvEND||
SvGAMAGIC|5.006001|
SvGETMAGIC|5.004050||p
SvGROW||
SvIOK_UV|5.006000|
SvIOK_notUV|5.006000|
SvIOK_off||
SvIOK_only_UV|5.006000|
SvIOK_only||
SvIOK_on||
SvIOKp||
SvIOK||
SvIVX||
SvIV_nomg|5.009001||p
SvIV_set||
SvIVx||
SvIV||
SvIsCOW_shared_hash|5.008003|
SvIsCOW|5.008003|
SvLEN_set||
SvLEN||
SvLOCK|5.007003|
SvMAGIC_set|5.009003||p
SvNIOK_off||
SvNIOKp||
SvNIOK||
SvNOK_off||
SvNOK_only||
SvNOK_on||
SvNOKp||
SvNOK||
SvNVX||
SvNV_set||
SvNVx||
SvNV||
SvOK||
SvOOK_offset|5.011000|
SvOOK||
SvPOK_off||
SvPOK_only_UTF8|5.006000|
SvPOK_only||
SvPOK_on||
SvPOKp||
SvPOK||
SvPVX_const|5.009003||p
SvPVX_mutable|5.009003||p

SvPVX|||
SvPV_const|5.009003||p
SvPV_flags_const_nolen|5.009003||p
SvPV_flags_const|5.009003||p
SvPV_flags_mutable|5.009003||p
SvPV_flags|5.007002||p
SvPV_force_flags_mutable|5.009003||p
SvPV_force_flags_nolen|5.009003||p
SvPV_force_flags|5.007002||p
SvPV_force_mutable|5.009003||p
SvPV_force_nolen|5.009003||p
SvPV_force_nomg_nolen|5.009003||p
SvPV_force_nomg|5.007002||p
SvPV_force|||p
SvPV_mutable|5.009003||p
SvPV_nolen_const|5.009003||p
SvPV_nolen|5.006000||p
SvPV_nomg_const_nolen|5.009003||p
SvPV_nomg_const|5.009003||p
SvPV_nomg|5.007002||p
SvPV_renew|5.009003||p
SvPV_set|||
SvPVbyte_force||5.009002|
SvPVbyte_nolen||5.006000|
SvPVbytex_force||5.006000|
SvPVbytex||5.006000|
SvPVbyte|5.006000||p
SvPVutf8_force||5.006000|
SvPVutf8_nolen||5.006000|
SvPVutf8x_force||5.006000|
SvPVutf8x||5.006000|
SvPVutf8||5.006000|
SvPVx|||
SvPV|||
SvREFCNT_dec|||
SvREFCNT_inc_NN|5.009004||p
SvREFCNT_inc_simple_NN|5.009004||p
SvREFCNT_inc_simple_void_NN|5.009004||p
SvREFCNT_inc_simple_void|5.009004||p
SvREFCNT_inc_simple|5.009004||p
SvREFCNT_inc_void_NN|5.009004||p
SvREFCNT_inc_void|5.009004||p
SvREFCNT_inc|||p
SvREFCNT|||
SvROK_off|||
SvROK_on|||
SvROK|||
SvRV_set|5.009003||p

SvRV|||
SvRXOK|5.009005|
SvRX|5.009005|
SvSETMAGIC|||
SvSHARED_HASH|5.009003||p
SvSHARE|5.007003|
SvSTASH_set|5.009003||p
SvSTASH|||
SvSetMagicSV_nosteal|5.004000|
SvSetMagicSV|5.004000|
SvSetSV_nosteal|5.004000|
SvSetSV|||
SvTAINTED_off|5.004000|
SvTAINTED_on|5.004000|
SvTAINTED|5.004000|
SvTAINT|||
SvTRUE|||
SvTYPE|||
SvUNLOCK|5.007003|
SvUOK|5.007001|5.006000|p
SvUPGRADE|||
SvUTF8_off|5.006000|
SvUTF8_on|5.006000|
SvUTF8|5.006000|
SvUVXx|5.004000||p
SvUVX|5.004000||p
SvUV_nomg|5.009001||p
SvUV_set|5.009003||p
SvUVx|5.004000||p
SvUV|5.004000||p
SvVOK|5.008001|
SvVSTRING_mg|5.009004||p
THIS|||n
UNDERBAR|5.009002||p
UTF8_MAXBYTES|5.009002||p
UVSIZE|5.006000||p
UVTYPE|5.006000||p
UVXf|5.007001||p
UVof|5.006000||p
UVuf|5.006000||p
UVxf|5.006000||p
WARN_ALL|5.006000||p
WARN_AMBIGUOUS|5.006000||p
WARN_ASSERTIONS|5.011000||p
WARN_BAREWORD|5.006000||p
WARN_CLOSED|5.006000||p
WARN_CLOSURE|5.006000||p
WARN_DEBUGGING|5.006000||p

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sv_setpvf_mg|5.006000|5.004000|pv
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xmldump_form||
xmldump_indent||v
xmldump_packsubs||
xmldump_sub||
xmldump_vindent||
yyerror||
yylex||
yyparse||

```

yywarn|||
);

if
(exists $opt{'list-unsupported'}) {
my $f;
for $f (sort { lc $a cmp lc $b } keys %API) {
next unless $API{$f}{todo};
print "$f ", '!x(40-length($f)), " ", format_version($API{$f}{todo}), "\n";
}
exit 0;
}

# Scan for possible replacement candidates

my(%replace, %need, %hints, %warnings, %depends);
my $replace = 0;
my($hint, $define, $function);

sub find_api
{
my $code = shift;
$code =~ s{
/ (? : \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* / | /[\r\n]*
| "[^"\\]*(?:\\.[^"\\]*)*"
| '[^'\\]*(?:\\.[^'\\]*)*' }{ } egsx;
grep { exists $API{$_} } $code =~ /(\w+)/mg;
}

while (<DATA>) {
if ($hint) {
my $h = $hint->[0] eq 'Hint' ? \%hints : \%warnings;
if (m{^\s*\*\s(.*?)\s*$}) {
for (@{$hint->[1]}) {
$h->{$_} ||= ""; # suppress warning with older
perls
$h->{$_} .= "$1\n";
}
}
else { undef $hint }
}

$hint = [$1, [split /,?\s+/, $2]]
if m{^\s*\$rcss\s+(Hint|Warning):\s+(\w+(?:,\s+\w+)*)\s*$};

if ($define) {
if ($define->[1] =~ /\$/ ) {
$define->[1] .= $_;
}
}
}

```

```

}
else {
  if (exists $API{$define->[0]} && $define->[1] !~ /^DPPP_\(/) {
    my @n = find_api($define->[1]);
    push @{$depends{$define->[0]}}, @n if @n
  }
  undef $define;
}
}

$define = [$1, $2] if m{^\s*\#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(.*)};

if ($function) {
  if (/^/) {
    if (exists $API{$function->[0]}) {
      my @n = find_api($function->[1]);
      push @{$depends{$function->[0]}}, @n if @n
    }
    undef $function;
  }
  else {
    $function->[1] .= $_;
  }
}

$function = [$1, ""] if m{^DPPP_\(my_(\w+)\)};

$replace = $1 if m{^\s*$rccs\s+Replace:\s+(\d+)\s+$rcces*$};
$replace{$2} = $1 if $replace and m{^\s*\#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+)};
$replace{$2} = $1 if m{^\s*\#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+).*rccs\s+Replace\s+$rcces*};
$replace{$1} = $2 if m{^\s*$rccs\s+Replace (\w+) with (\w+)\s+$rcces*$};

if (m{^\s*$rccs\s+(\w+(\s*,\s*\w+)*)\s+depends\s+on\s+(\w+(\s*,\s*\w+)*)\s+$rcces*$}) {
  my @deps = map { s/\s+//g; $_ } split /,/, $3;
  my $d;
  for $d (map { s/\s+//g; $_ } split /,/, $1) {
    push @{$depends{$d}}, @deps;
  }
}

$need{$1} = 1 if m{^#\s+defined\(\NEED_(\w+)(?:_GLOBAL)?\)};
}

for (values %depends) {
  my %s;
  $_ = [sort grep !${$_}++, @$_];
}

```

```

if (exists $opt{'api-info'}) {
    my $f;
    my $count = 0;
    my $match = $opt{'api-info'} =~ m!^(.*)/$! ? $1 : "\Q$opt{'api-info'}\E\$";
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $f =~ /$match/;
        print "\n=== $f ===\n\n";
        my $info = 0;
        if ($API{$f}{base} || $API{$f}{todo}) {
            my $base = format_version($API{$f}{base} || $API{$f}{todo});
            print "Supported at least starting from perl-$base.\n";
            $info++;
        }
        if ($API{$f}{provided}) {
            my $todo = $API{$f}{todo} ? format_version($API{$f}{todo}) : "5.003";
            print "Support by $ppport provided back to perl-$todo.\n";
            print "Support needs to be explicitly requested by NEED_$f.\n" if exists $need{$f};
            print "Depends on: ", join(', ', @{$depends{$f}}), ".\n" if exists $depends{$f};
            print "\n$hints{$f}" if exists $hints{$f};
            print "\nWARNING:\n$warnings{$f}" if exists $warnings{$f};
            $info++;
        }
        print "No portability information available.\n" unless $info;
        $count++;
    }
    $count or print "Found no API matching '$opt{'api-info'}'.";
    print "\n";
    exit 0;
}

```

```

if (exists $opt{'list-provided'}) {
    my $f;
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $API{$f}{provided};
        my @flags;
        push @flags, 'explicit' if exists $need{$f};
        push @flags, 'depend' if exists $depends{$f};
        push @flags, 'hint' if exists $hints{$f};
        push @flags, 'warning'
        if exists $warnings{$f};
        my $flags = @flags ? ' [' . join(', ', @flags) . '] : ';
        print "$f$flags\n";
    }
    exit 0;
}

```

```

my @files;
my @srcext = qw( .xs .c .h .cc .cpp -c.inc -xs.inc );

```

```

my $srcext = join '|', map { quotemeta $_ } @srcext;

if (@ARGV) {
  my %seen;
  for (@ARGV) {
    if (-e) {
      if (-f) {
        push @files, $_ unless $seen{$_}++;
      }
      else { warn "'$_' is not a file.\n" }
    }
    else {
      my @new = grep { -f } glob $_
        or warn "'$_' does not exist.\n";
      push @files, grep { !$seen{$_}++ } @new;
    }
  }
}
else {
  eval {
    require File::Find;
    File::Find::find(sub {
      $File::Find::name =~ /($srcext)$/i
        and push @files, $File::Find::name;
    }, '.');
  };
  if ($?) {
    @files = map { glob "*/$_" } @srcext;
  }
}

if (!@ARGV || $opt{filter}) {
  my(@in, @out);
  my %xsc = map { /\.(*)\.xs$/ ? ("1.c" => 1, "1.cc" => 1) : () } @files;
  for (@files) {
    my $out = exists $xsc{$_} || /\bQ$ppport\E$/i || !/($srcext)$/i;
    push @{$out ? \@out : \@in }, $_;
  }
  if (@ARGV && @out) {
    warning("Skipping the following files (use --nofilter to avoid this):\n| ", join "\n| ", @out);
  }
  @files = @in;
}

die "No input files given!\n" unless @files;

my(%files, %global, %revreplace);
%revreplace = reverse %replace;

```

```

my $filename;
my $patch_opened = 0;

for $filename (@files) {
    unless (open IN, "<$filename") {
        warn "Unable to read from $filename: $!\n";
        next;
    }

    info("Scanning $filename ...");

    my $c = do { local $/; <IN> };
    close IN;

    my %file = (orig => $c, changes => 0);

    # Temporarily remove C/XS comments and strings from the code
    my @ccom;

    $c =~ s{
        ( ^$HS*#$HS*include\b[^\r\n]+\b(?:Q$ppport\E|XSUB\.h)\b[^\r\n]*
        | ^$HS*#$HS*(?:define|elif|if(?:def?))\b[^\r\n]* )
    | ( ^$HS*\#[^\r\n]*
        | "[^"\\]*(?:\\.[^"\\])*"
        | '[^"\\]*(?:\\.[^"\\])*'
        | /(?:\[^\]*\*+(?:\[^\$ccs][^\]*\*+)* \| / [^\r\n]* ) )
    }{ defined $2 and push @ccom, $2;
        defined
    }
    $1 ? $1 : "$ccs$#ccom$cce" }mgsex;

    $file{ccom} = \@ccom;
    $file{code} = $c;
    $file{has_inc_ppport} = $c =~ /^$HS*#$HS*include[^\r\n]+\bQ$ppport\E\b/m;

    my $func;

    for $func (keys %API) {
        my $match = $func;
        $match .= "$$revreplace{$func}" if exists $revreplace{$func};
        if ($c =~ /\b(?:Perl_)?($match)\b/) {
            $file{uses_replace}{$1}++ if exists $revreplace{$func} && $1 eq $revreplace{$func};
            $file{uses_Perl}{$func}++ if $c =~ /\bPerl_$$func\b/;
            if (exists $API{$func}{provided}) {
                $file{uses_provided}{$func}++;
                if (!exists $API{$func}{base} || $API{$func}{base} > $opt{'compat-version'}) {
                    $file{uses}{$func}++;
                    my @deps = rec_depend($func);
                    if (@deps) {

```



```

$file{uses_deps}{$func} = \@deps;
for (@deps) {
    $file{uses}{$_} = 0 unless exists $file{uses}{$_};
}
}
for ($func, @deps) {
    $file{needs}{$_} = 'static' if exists $need{$_};
}
}
}
if (exists $API{$func}{todo} && $API{$func}{todo} > $opt{'compat-version'}) {
    if ($c =~ /\b$func\b/) {
        $file{uses_todo}{$func}++;
    }
}
}
}
}

```

```

while ($c =~ /^$HS*#$HS*define$HS+(NEED_(\w+?)(_GLOBAL)?)\b/mg) {
    if (exists $need{$2}) {
        $file{defined $3 ? 'needed_global' : 'needed_static'}{$2}++;
    }
    else { warning("Possibly wrong #define $1 in $filename") }
}

```

```

for (qw(uses needs uses_todo needed_global needed_static)) {
    for $func (keys %{$file{$_}}) {
        push @{$global{$_}{$func}}, $filename;
    }
}

```

```

$files{$filename} = \%file;
}

```

```

# Globally resolve NEED_'s
my $need;
for $need (keys %{$global{needs}}) {
    if (@{$global{needs}{$need}} > 1) {
        my @targets = @{$global{needs}{$need}};
        my @t = grep $files{$_}{needed_global}{$need}, @targets;
        @targets = @t if @t;
        @t = grep /\.xs$/i, @targets;
        @targets = @t if @t;
        my $target = shift @targets;
        $files{$target}{needs}{$need}
        = 'global';
        for (@{$global{needs}{$need}}) {
            $files{$_}{needs}{$need} = 'extern' if $_ ne $target;
        }
    }
}

```

```

    }
  }
}

for $filename (@files) {
  exists $files{$filename} or next;

  info("=== Analyzing $filename ===");

  my %file = %{$files{$filename}};
  my $func;
  my $c = $file{code};
  my $warnings = 0;

  for $func (sort keys %{$file{uses_Perl}}) {
    if ($API{$func}{varargs}) {
      unless ($API{$func}{nothxarg}) {
        my $changes = ($c =~ s{\b(Perl_?func\s*(\s*)(?!aTHX_?)(\)|[^\s]*)})
          { $1 . ($2 eq '|') ? 'aTHX': 'aTHX_' } . $2 }ge);
        if ($changes) {
          warning("Doesn't pass interpreter argument aTHX to Perl_$func");
          $file{changes} += $changes;
        }
      }
    }
    else {
      warning("Uses Perl_$func instead of $func");
      $file{changes} += ($c =~ s{\bPerl_?func(\s*)((\s*aTHX_?)?\s*}
        {$func$1}g);
    }
  }
}

for $func (sort keys %{$file{uses_replace}}) {
  warning("Uses
  $func instead of $replace{$func}");
  $file{changes} += ($c =~ s/\b$func\b/$replace{$func}/g);
}

for $func (sort keys %{$file{uses_provided}}) {
  if ($file{uses}{$func}) {
    if (exists $file{uses_deps}{$func}) {
      diag("Uses $func, which depends on ", join(', ', @{$file{uses_deps}{$func}}));
    }
    else {
      diag("Uses $func");
    }
  }
}
$warnings += hint($func);

```

```

}

unless ($opt{quiet}) {
  for $func (sort keys %{$file{uses_todo}}) {
    print "*** WARNING: Uses $func, which may not be portable below perl ",
      format_version($API{$func}{todo}), ", even with '$ppport\n";
    $warnings++;
  }
}

for $func (sort keys %{$file{needed_static}}) {
  my $message = "";
  if (not exists $file{uses}{$func}) {
    $message = "No need to define NEED_$func if $func is never used";
  }
  elsif (exists $file{needs}{$func} && $file{needs}{$func} ne 'static') {
    $message = "No need to define NEED_$func when already
needed globally";
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_$func\b.*$LF//mg);
  }
}

for $func (sort keys %{$file{needed_global}}) {
  my $message = "";
  if (not exists $global{uses}{$func}) {
    $message = "No need to define NEED_{$func}_GLOBAL if $func is never used";
  }
  elsif (exists $file{needs}{$func}) {
    if ($file{needs}{$func} eq 'extern') {
      $message = "No need to define NEED_{$func}_GLOBAL when already needed globally";
    }
    elsif ($file{needs}{$func} eq 'static') {
      $message = "No need to define NEED_{$func}_GLOBAL when only used in this file";
    }
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_{$func}_GLOBAL\b.*$LF//mg);
  }
}

$file{needs_inc_ppport} = keys %{$file{uses}};

if ($file{needs_inc_ppport}) {
  my $pp = "";

```

```

for $func (sort keys %{$file{needs}}) {
  my $type = $file{needs}{$func};
  next if $type eq 'extern';
  my $suffix = $type eq 'global' ? '_GLOBAL' : '';
  unless (exists $file{"needed_$type"}{$func}) {
    if ($type eq 'global') {
      diag("Files [ @{$global{needs}}{$func} ] need $func, adding global request");
    }
    else {
      diag("File needs $func, adding static request");
    }
    $pp .= "#define NEED_$func$suffix\n";
  }
}

if ($pp && ($c =~ s/^(?=$HS*#$HS*define$HS+NEED_\w+)/$pp/m)) {
  $pp = "";
  $file{changes}++;
}

unless ($file{has_inc_ppport}) {
  diag("Needs to include '$ppport'");
  $pp .= qq(#include "$ppport"\n)
}

if ($pp) {
  $file{changes} += ($c =~ s/^(($HS*#$HS*define$HS+NEED_\w+.*?)^/$1$pp/ms)
    || ($c =~ s/^(?=$HS*#$HS*include.*\Q$ppport\E)/$pp/m)
    || ($c =~ s/^(($HS*#$HS*include.*XSUB.*\s*)^/$1$pp/m)
    || ($c =~ s/^\Q$pp/);
}
}

else {
  if ($file{has_inc_ppport})
  {
    diag("No need to include '$ppport'");
    $file{changes} += ($c =~ s/^(($HS*?#$HS*include.*\Q$ppport\E.*?)$LF//m);
  }
}

# put back in our C comments
my $ix;
my $cppc = 0;
my @ccom = @{$file{ccom}};
for $ix (0 .. $#ccom) {
  if (!($opt{cplusplus} && $ccom[$ix] =~ s!^/!!)) {
    $cppc++;
  }
}

```

```

$file{changes} += $c =~ s/$rccs$ix$rce/$ccs$com[$ix] $cce/;
}
else {
    $c =~ s/$rccs$ix$rce/$com[$ix]/;
}
}

if ($cppc) {
    my $s = $cppc != 1 ? 's' : '';
    warning("Uses $cppc C++ style comment$s, which is not portable");
}

my $s = $warnings != 1 ? 's' : '';
my $warn = $warnings ? " ($warnings warning$s)" : "";
info("Analysis completed$warn");

if ($file{changes}) {
    if (exists $opt{copy}) {
        my $newfile = "$filename$opt{copy}";
        if (-e $newfile) {
            error("$newfile' already exists, refusing to write copy of '$filename'");
        }
        else {
            local *F;
            if (open F, ">$newfile") {
                info("Writing
copy of '$filename' with changes to '$newfile'");
                print F $c;
                close F;
            }
            else {
                error("Cannot open '$newfile' for writing: $!");
            }
        }
    }
    elsif (exists $opt{patch} || $opt{changes}) {
        if (exists $opt{patch}) {
            unless ($patch_opened) {
                if (open PATCH, ">$opt{patch}") {
                    $patch_opened = 1;
                }
            }
            else {
                error("Cannot open '$opt{patch}' for writing: $!");
                delete $opt{patch};
                $opt{changes} = 1;
                goto fallback;
            }
        }
    }
}

```

```

        mydiff(\*PATCH, $filename, $c);
    }
    else {
fallback:
        info("Suggested changes:");
        mydiff(\*STDOUT, $filename, $c);
    }
}
else {
    my $s = $file{changes} == 1 ? " : 's';
    info("$file{changes} potentially required change$s detected");
}
}
else {
    info("Looks good");
}
}

close PATCH if $patch_opened;

exit 0;

sub try_use { eval
    "use @_;" ; return $@ eq " }

sub mydiff
{
    local *F = shift;
    my($file, $str) = @_ ;
    my $diff;

    if (exists $opt{diff}) {
        $diff = run_diff($opt{diff}, $file, $str);
    }

    if (!defined $diff and try_use("Text::Diff")) {
        $diff = Text::Diff::diff($file, \ $str, { STYLE => 'Unified' });
        $diff = <<<HEADER . $diff;
    }
    --- $file
    +++ $file.patched
    HEADER
}

if (!defined $diff) {
    $diff = run_diff('diff -u', $file, $str);
}
}

```

```

if (!defined $diff) {
    $diff = run_diff('diff', $file, $str);
}

if (!defined $diff) {
    error("Cannot generate a diff. Please install Text::Diff or use --copy.");
    return;
}

print F $diff;
}

sub run_diff
{
    my($prog, $file, $str) = @_ ;
    my $tmp = 'dppptemp';
    my $suf = 'aaa';
    my $diff = "";
    local *F;

    while (-e "$tmp.$suf") { $suf++ }
    $tmp = "$tmp.$suf";

    if (open F, ">$tmp") {
        print F $str;
        close F;

        if (open F, "$prog $file $tmp |") {
            while (<F>) {
                s/^Q$tmp\E/$file.patched/;
                $diff
            }
            close F;
            unlink $tmp;
            return $diff;
        }

        unlink $tmp;
    }
    else {
        error("Cannot open '$tmp' for writing: $!");
    }

    return undef;
}

sub rec_depend

```

```

{
my($func, $seen) = @_;
return () unless exists $depends{$func};
$seen = {%{$seen|{}}};
return () if $seen->{$func}++;
my %s;
grep !${$_}++, map { ($_, rec_depend($_, $seen)) } @{$depends{$func}};
}

```

```

sub parse_version

```

```

{
my $ver = shift;

if ($ver =~ /^(d+)\.(d+)\.(d+)$/) {
return ($1, $2, $3);
}
elsif ($ver !~ /^d+\.[d_]+$/) {
die "cannot parse version '$ver'\n";
}

$ver =~ s/_//g;
$ver =~ s/$/000000/;

my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;
$s = int $s;

if ($r < 5 || ($r == 5 && $v < 6)) {
if ($s % 10) {
die "cannot parse version '$ver'\n";
}
}

return ($r, $v, $s);
}

```

```

sub format_version

```

```

{
my $ver = shift;

$ver =~ s/$/000000/;
my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;
$s =
int $s;

```



```

if ($r < 5 || ($r == 5 && $v < 6)) {
    if ($s % 10) {
        die "invalid version '$ver'\n";
    }
    $s /= 10;

    $ver = sprintf "%d.%03d", $r, $v;
    $s > 0 and $ver .= sprintf "_%02d", $s;

    return $ver;
}

return sprintf "%d.%d.%d", $r, $v, $s;
}

sub info
{
    $opt{quiet} and return;
    print @_, "\n";
}

sub diag
{
    $opt{quiet} and return;
    $opt{diag} and print @_, "\n";
}

sub warning
{
    $opt{quiet} and return;
    print "*** ", @_, "\n";
}

sub error
{
    print "*** ERROR: ", @_, "\n";
}

my %given_hints;
my %given_warnings;
sub hint
{
    $opt{quiet} and return;
    my $func = shift;
    my $rv = 0;
    if (exists $warnings{$func} && !$given_warnings{$func}++) {
        my $warn = $warnings{$func};
        $warn =~ s/^\!*** !mg;
    }
}

```

```

    print "*** WARNING: $func\n", $warn;
    $rv++;
}
if ($opt{hints} && exists $hints{$func} && !$given_hints{$func}++) {
    my $hint = $hints{$func};
    $hint =~ s/^/ /mg;
    print " --- hint for $func ---\n", $hint;
}
$rv;
}

sub
usage
{
    my($usage) = do { local(@ARGV,$/)=($0); <> } =~ /^=head\d$HS+SYNOPSIS\s*^(.*?)\s*^=/ms;
    my %M = ( 'T' => '*' );
    $usage =~ s/^\s*perl\s+\S+/$^X $0/;
    $usage =~ s/([A-Z])<([>]+)>/$M{$1}$2$M{$1}/g;

    print <<ENDUSAGE;

Usage: $usage

See perldoc $0 for details.

ENDUSAGE

    exit 2;
}

sub strip
{
    my $self = do { local(@ARGV,$/)=($0); <> };
    my($copy) = $self =~ /^=head\d\s+COPYRIGHT\s*^(.*?)^\s*\w+/ms;
    $copy =~ s/^(?=\S+)/ /gms;
    $self =~ s/^\$HS+Do NOT edit.*?(?=-)/$copy/ms;
    $self =~ s/^\$SKIP.*(?:=__DATA__)/SKIP
if (\@ARGV && $ARGV[0] eq '--unstrip') {
    eval { require Devel::PPPport };
    \@ and die "Cannot require Devel::PPPport, please install.\n";
    if (eval {$Devel::PPPport::VERSION < $VERSION}) {
        die "$0 was originally generated with Devel::PPPport $VERSION.\n"
        . "Your Devel::PPPport is only version $Devel::PPPport::VERSION.\n"
        . "Please install a newer version, or --unstrip will not work.\n";
    }
    Devel::PPPport::WriteFile($0);
    exit 0;
}

```

```
print
<<END;
```

Sorry, but this is a stripped version of \\$.

To be able to use its original script and doc functionality,
please try to regenerate this file using:

```
\^X \$0 --unstrip
```

```
END
```

```
/ms;
```

```
my($pl, $c) = $self =~ /(.*^__DATA__)(.*)/ms;
```

```
$c =~ s{
```

```
  /(?: \^[^*]*\*(?:\^[^$ccs][^*]*\*+)* / | /[\r\n]*
```

```
| ( "[^"\\]*(?:\\.[^"\\]*)*"
```

```
  | '[^'\\]*(?:\\.[^'\\]*)*' )
```

```
| ($HS+) )}{ defined $2 ? ' ' : ($1 || " ) }gsex;
```

```
$c =~ s!\s+#!mg;
```

```
$c =~ s!^\$LF!mg;
```

```
$c =~ s!\s*#\s*#!mg;
```

```
$c =~ s!\s+!mg;
```

```
open OUT, ">$0" or die "cannot strip $0: $!\n";
```

```
print OUT "$pl$c\n";
```

```
exit 0;
```

```
}
```

```
__DATA__
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1150898180_1634082310.54/0/perl-threads-1.87-4.amzn2.0.2.src.rpm-cosi-expand-archive-  
XBVKObV4/threads-1.87.tar.gz-cosi-expand-archive-wWLU3Lr3/threads-1.87/ppport.h
```

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

License: GPL+ or Artistic

Found in path(s):

```
* /opt/cola/permits/1150898180_1634082310.54/0/perl-threads-1.87-4.amzn2.0.2.src.rpm-cosi-expand-archive-  
XBVKObV4/perl-threads.spec
```

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

abstract: 'Perl interpreter-based threads'

author:

- 'Artur Bergman, Jerry D. Hedden <jdhedden AT cpan DOT org>'

build_requires:
ExtUtils::MakeMaker: 0
configure_requires:
ExtUtils::MakeMaker: 0
dynamic_config: 1
generated_by: 'ExtUtils::MakeMaker version 6.66, CPAN::Meta::Converter version 2.130880'
license: perl
meta-spec:
url: <http://module-build.sourceforge.net/META-spec-v1.4.html>
version: 1.4
name: threads
no_index:
directory:
- t
- inc
requires:
Carp: 0
Config: 0
ExtUtils::testlib: 0
Hash::Util: 0
IO::File: 0
Test::More: 0
XSLoader: 0
overload: 0
strict: 0
warnings: 0
version: 1.87

Found in path(s):

* /opt/cola/permits/1150898180_1634082310.54/0/perl-threads-1.87-4.amzn2.0.2.src.rpm-cosi-expand-archive-XBVKObV4/threads-1.87.tar.gz-cosi-expand-archive-wWLU3Lr3/threads-1.87/META.yml

1.79 perl-pathtools 3.40-5.amzn2.0.2

1.79.1 Available under license :

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

=back

=head1 AUTHORS

See the authors list in I<File::Spec>. Mac OS support by Paul Schinder
<schinder@pobox.com> and Thomas Wegner <wegner_thomas@yahoo.com>.

=head1 COPYRIGHT

Copyright (c) 2004 by the Perl 5 Porters. All rights reserved.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<File::Spec> and L<File::Spec::Unix>. This package overrides the implementation of these methods, not the semantics.

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/Mac.pm

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

=back

=head2 Note For File::Spec::Win32 Maintainers

Novell NetWare inherits its File::Spec behaviour from File::Spec::Win32.

=head1 COPYRIGHT

Copyright (c) 2004,2007 by the Perl 5 Porters. All rights reserved.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<File::Spec> and L<File::Spec::Unix>. This package overrides the implementation of these methods, not the semantics.

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/Win32.pm

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

License: (GPL+ or Artistic) and BSD

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/perl-PathTools.spec

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

=head1 EXIT CODES

If all your tests passed, Test::Builder will exit with zero (which is normal). If anything failed it will exit with how many failed. If you run less (or more) tests than you planned, the missing (or extras) will be considered failures. If no tests were ever run Test::Builder will throw a warning and exit with 255. If the test died, even after having successfully completed all its tests, it will still be considered a failure and will exit with 255.

So the exit codes are...

0	all tests successful
255	test died
any other number	how many failed (including missing or extras)

If you fail more than 254 tests, it will be reported as 254.

=head1 THREADS

In perl 5.8.0 and later, Test::Builder is thread-safe. The test number is shared amongst all threads. This means if one thread sets the test number using current_test() they will all be effected.

Test::Builder
is only thread-aware if threads.pm is loaded I<before>
Test::Builder.

=head1 EXAMPLES

CPAN can provide the best examples. Test::Simple, Test::More, Test::Exception and Test::Differences all use Test::Builder.

=head1 SEE ALSO

Test::Simple, Test::More, Test::Harness

=head1 AUTHORS

Original code by chromatic, maintained by Michael G Schwern
E<lt>schwern@pobox.comE<gt>

=head1 COPYRIGHT

Copyright 2002 by chromatic E<lt>chromatic@wgz.orgE<gt>,
Michael G Schwern E<lt>schwern@pobox.comE<gt>.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

See F<<http://www.perl.com/perl/misc/Artistic.html>>

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/t/lib/Test/Builder.pm

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

=head1 NAME

File::Spec::Functions - portably perform operations on file names

=head1 SYNOPSIS

```
use File::Spec::Functions;
$x = catfile('a','b');
```

=head1 DESCRIPTION

This module exports convenience functions for all of the class methods provided by File::Spec.

For a reference of available functions, please consult L<File::Spec::Unix>, which contains the entire set, and which is inherited by the modules for other platforms. For further information, please see L<File::Spec::Mac>, L<File::Spec::OS2>, L<File::Spec::Win32>, or L<File::Spec::VMS>.

=head2 Exports

The following functions are exported by default.

- canonpath
- catdir
- catfile
- curdir
- rootdir
- updir
- no_upwards
- file_name_is_absolute
- path

The following functions are exported only by request.

devnull
tmpdir
splitpath
splitdir
catpath
abs2rel
rel2abs
case_tolerant

All the functions may be imported using the C<:ALL> tag.

=head1 COPYRIGHT

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=head1 SEE ALSO

File::Spec, File::Spec::Unix, File::Spec::Mac, File::Spec::OS2,
File::Spec::Win32, File::Spec::VMS, ExtUtils::MakeMaker

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/Functions.pm
No license file was found, but licenses were detected in source scan.

=head1 NAME

Test::Tutorial - A tutorial about writing really basic tests

=head1 DESCRIPTION

I<AHHHHHHH!!!! NOT TESTING! Anything but testing!
Beat me, whip me, send me to Detroit, but don't make
me write tests!>

I<*sob*>

I<Besides, I don't know how to write the damned things.>

Is this you? Is writing tests right up there with writing

documentation and having your fingernails pulled out? Did you open up a test and read

```
##### We start with some black magic
```

and decide that's quite enough for you?

It's ok. That's all gone now. We've done all the black magic for you. And here are the tricks...

```
=head2 Nuts and bolts of testing.
```

Here's the most basic test program.

```
#!/usr/bin/perl -w

print "1..1\n";

print 1 + 1 == 2 ? "ok 1\n" : "not ok 1\n";
```

since 1 + 1 is 2, it prints:

```
1..1
ok 1
```

What this says is: C<1..1> "I'm going to run one test." [1] C<ok 1> "The first test passed".

And that's about all magic there is to testing. Your basic unit of testing is the I<ok>. For each thing you test, an C<ok> is printed. Simple. B<Test::Harness> interprets your test results to determine if you succeeded or failed (more on that later).

Writing all these print statements rapidly gets tedious. Fortunately, there's B<Test::Simple>. It has one function, C<ok()>.

```
#!/usr/bin/perl -w

use Test::Simple tests => 1;

ok( 1 + 1 == 2 );
```

and that does the same thing as the code above. C<ok()> is the backbone of Perl testing, and we'll be using it instead of roll-your-own from here on. If C<ok()> gets a true value, the test passes. False, it fails.

```
#!/usr/bin/perl -w
```

```
use Test::Simple tests => 2;
ok( 1 + 1 == 2 );
ok( 2 + 2 == 5 );
```

from that comes

```
1..2
ok 1
not ok 2
# Failed test (test.pl at line 5)
# Looks like you failed 1 tests of 2.
```

C<1..2> "I'm going to run two tests." This number is used to ensure your test program ran all the way through and didn't die or skip some tests. C<ok 1> "The first test passed." C<not ok 2> "The second test failed". Test::Simple helpfully prints out some extra commentary about your tests.

It's not scary. Come, hold my hand. We're going to give an example of testing a module. For our example, we'll be testing a date library, B<Date::ICal>. It's on CPAN, so download a copy and follow along. [2]

=head2 Where to start?

This is the hardest part of testing, where do you start? People often get overwhelmed at the apparent enormity of the task of testing a whole module. Best place to start is at the beginning. Date::ICal is an object-oriented module, and that means you start by making an object. So we test C<new()>.

```
#!/usr/bin/perl -w

use Test::Simple tests => 2;

use Date::ICal;

my $ical = Date::ICal->new;    # create an object
ok( defined $ical );         # check that we got something
ok( $ical->isa('Date::ICal')
); # and it's the right class
```

run that and you should get:

```
1..2
```

ok 1

ok 2

congratulations, you've written your first useful test.

=head2 Names

That output isn't terribly descriptive, is it? When you have two tests you can figure out which one is #2, but what if you have 102?

Each test can be given a little descriptive name as the second argument to `C<ok()>`.

```
use Test::Simple tests => 2;
```

```
ok( defined $ical,      'new() returned something' );  
ok( $ical->isa('Date::ICal'), " and it's the right class" );
```

So now you'd see...

1..2

ok 1 - new() returned something

ok 2 - and it's the right class

=head2 Test the manual

Simplest way to build up a decent testing suite is to just test what the manual says it does. [3] Let's pull something out of the `L<Date::ICal/SYNOPSIS>` and test that all its bits work.

```
#!/usr/bin/perl -w
```

```
use Test::Simple tests => 8;
```

```
use Date::ICal;
```

```
$ical = Date::ICal->new( year => 1964, month  
=> 10, day => 16,  
                    hour => 16, min => 12, sec => 47,  
                    tz => '0530' );
```

```
ok( defined $ical,      'new() returned something' );  
ok( $ical->isa('Date::ICal'), " and it's the right class" );  
ok( $ical->sec  == 47,    ' sec()' );  
ok( $ical->min  == 12,    ' min()' );  
ok( $ical->hour == 16,    ' hour()' );
```

```
ok( $ical->day == 17, ' day()' );
ok( $ical->month == 10, ' month()' );
ok( $ical->year == 1964, ' year()' );
```

run that and you get:

```
1..8
ok 1 - new() returned something
ok 2 - and it's the right class
ok 3 - sec()
ok 4 - min()
ok 5 - hour()
not ok 6 - day()
# Failed test (- at line 16)
ok 7 - month()
ok 8 - year()
# Looks like you failed 1 tests of 8.
```

Whoops, a failure! [4] Test::Simple helpfully lets us know on what line the failure occurred, but not much else. We were supposed to get 17, but we didn't. What did we get?? Dunno. We'll have to re-run the test in the debugger or throw in some print statements to find out.

Instead, we'll switch from B<Test::Simple> to B<Test::More>. B<Test::More> does everything B<Test::Simple> does, and more! In fact, Test::More does things I<exactly> the way Test::Simple does. You can literally swap Test::Simple out and put Test::More in its place. That's just what we're going to do.

Test::More does more than Test::Simple. The most important difference at this point is it provides more informative ways to say "ok". Although you can write almost any test with a generic C<ok()>, it can't tell you what went wrong. Instead, we'll use the C<is()> function, which lets us declare that something is supposed to be the same as something else:

```
#!/usr/bin/perl -w

use Test::More tests => 8;

use Date::ICal;

$ical = Date::ICal->new( year => 1964, month => 10, day => 16,
                        hour => 16, min
=> 12, sec => 47,
                        tz => '0530' );
```

```

ok( defined $ical,      'new() returned something' );
ok( $ical->isa('Date::ICal'), " and it's the right class" );
is( $ical->sec,  47,    ' sec()' );
is( $ical->min,  12,    ' min()' );
is( $ical->hour, 16,    ' hour()' );
is( $ical->day,  17,    ' day()' );
is( $ical->month, 10,   ' month()' );
is( $ical->year, 1964,  ' year()' );

```

"Is C<\$ical-E<gt>sec> 47?" "Is C<\$ical-E<gt>min> 12?" With C<is()> in place, you get some more information

```

1..8
ok 1 - new() returned something
ok 2 - and it's the right class
ok 3 - sec()
ok 4 - min()
ok 5 - hour()
not ok 6 - day()
# Failed test (- at line 16)
# got: '16'
# expected: '17'
ok 7 - month()
ok 8 - year()
# Looks like you failed 1 tests of 8.

```

letting us know that C<\$ical-E<gt>day> returned 16, but we expected 17. A

quick check shows that the code is working fine, we made a mistake when writing up the tests. Just change it to:

```
is( $ical->day,  16,    ' day()' );
```

and everything works.

So any time you're doing a "this equals that" sort of test, use C<is()>. It even works on arrays. The test is always in scalar context, so you can test how many elements are in a list this way. [5]

```
is( @foo, 5, 'foo has 5 elements' );
```

=head2 Sometimes the tests are wrong

Which brings us to a very important lesson. Code has bugs. Tests are code. Ergo, tests have bugs. A failing test could mean a bug in the code, but don't discount the possibility that the test is wrong.

On the flip side, don't be tempted to prematurely declare a test incorrect just because you're having trouble finding the bug. Invalidating a test isn't something to be taken lightly, and don't use it as a cop out to avoid work.

=head2 Testing lots of values

We're going to be wanting to test a lot of dates here, trying to trick the code with lots of different edge cases. Does it work before 1970? After 2038? Before 1904? Do years after 10,000 give it trouble? Does it get leap years right? We could keep repeating the code above, or we could set up a little try/expect loop.

```
use Test::More tests => 32;
use Date::ICal;

my %ICal_Dates = (
    # An ICal string    And the year, month, date
    #                  hour, minute and second we expect.
    '19971024T120000' => # from the docs.
        [ 1997, 10, 24, 12, 0, 0 ],
    '20390123T232832' => # after the Unix epoch
        [ 2039, 1, 23, 23, 28, 32 ],
    '19671225T000000' => # before the Unix epoch
        [ 1967, 12, 25, 0, 0, 0 ],
    '18990505T232323' => # before the MacOS epoch
        [ 1899, 5, 5, 23, 23, 23 ],
);

while( my($ical_str, $expect)
= each %ICal_Dates ) {
    my $ical = Date::ICal->new( ical => $ical_str );

    ok( defined $ical,      "new(ical => '$ical_str')" );
    ok( $ical->isa('Date::ICal'), " and it's the right class" );

    is( $ical->year,  $expect->[0],  ' year()' );
    is( $ical->month, $expect->[1],  ' month()' );
    is( $ical->day,   $expect->[2],  ' day()' );
    is( $ical->hour,  $expect->[3],  ' hour()' );
    is( $ical->min,   $expect->[4],  ' min()' );
    is( $ical->sec,   $expect->[5],  ' sec()' );
}
}
```

So now we can test bunches of dates by just adding them to

C<%ICal_Dates>. Now that it's less work to test with more dates, you'll be inclined to just throw more in as you think of them. Only problem is, every time we add to that we have to keep adjusting the C<use Test::More tests => ##> line. That can rapidly get annoying. There's two ways to make this work better.

First, we can calculate the plan dynamically using the C<plan()> function.

```
use Test::More;
use Date::ICal;

my %ICal_Dates = (
    ...same as before...
);

# For each key in the hash we're running 8 tests.
plan tests => keys %ICal_Dates * 8;
```

Or to be even more flexible, we use C<no_plan>. This means we're just running some tests, don't know how many. [6]

```
use Test::More 'no_plan'; # instead of tests => 32
```

now we can just add tests and not have to do all sorts of math to figure out how many we're running.

=head2 Informative names

Take a look at this line here

```
ok( defined $ical, "new(ical => '$ical_str') );
```

we've added more detail about what we're testing and the ICal string itself we're trying out to the name. So you get results like:

```
ok 25 - new(ical => '19971024T120000')
ok 26 - and it's the right class
ok 27 - year()
ok 28 - month()
ok 29 - day()
ok 30 - hour()
ok 31 - min()
ok 32 - sec()
```

if something

in there fails, you'll know which one it was and that will make tracking down the problem easier. So try to put a bit of debugging information into the test names.

Describe what the tests test, to make debugging a failed test easier for you or for the next person who runs your test.

=head2 Skipping tests

Poking around in the existing Date::ICal tests, I found this in `Fsanity.t` [7]

```
#!/usr/bin/perl -w

use Test::More tests => 7;
use Date::ICal;

# Make sure epoch time is being handled sanely.
my $t1 = Date::ICal->new( epoch => 0 );
is( $t1->epoch, 0, "Epoch time of 0" );

# XXX This will only work on unix systems.
is( $t1->ical, '19700101Z', " epoch to ical" );

is( $t1->year, 1970, " year()" );
is( $t1->month, 1, " month()" );
is( $t1->day, 1, " day()" );

# like the tests above, but starting with ical instead of epoch
my $t2 = Date::ICal->new( ical => '19700101Z' );
is(
$t2->ical, '19700101Z', "Start of epoch in ICal notation" );

is( $t2->epoch, 0, " and back to ICal" );
```

The beginning of the epoch is different on most non-Unix operating systems [8]. Even though Perl smooths out the differences for the most part, certain ports do it differently. MacPerl is one off the top of my head. [9] We I-know this will never work on MacOS. So rather than just putting a comment in the test, we can explicitly say it's never going to work and skip the test.

```
use Test::More tests => 7;
use Date::ICal;

# Make sure epoch time is being handled sanely.
my $t1 = Date::ICal->new( epoch => 0 );
```



```

is( $t1->epoch, 0,      "Epoch time of 0" );

SKIP: {
  skip('epoch to iCal not working on MacOS', 6)
  if $^O eq 'MacOS';

  is( $t1->ical, '19700101Z', " epoch to ical" );

  is( $t1->year, 1970,      " year()" );
  is( $t1->month, 1,       " month()" );
  is( $t1->day, 1,        "
day()" );

  # like the tests above, but starting with ical instead of epoch
  my $t2 = Date::iCal->new( ical => '19700101Z' );
  is( $t2->ical, '19700101Z', "Start of epoch in iCal notation" );

  is( $t2->epoch, 0,      " and back to iCal" );
}

```

A little bit of magic happens here. When running on anything but MacOS, all the tests run normally. But when on MacOS, `C<skip()>` causes the entire contents of the SKIP block to be jumped over. It's never run. Instead, it prints special output that tells `Test::Harness` that the tests have been skipped.

1..7

```

ok 1 - Epoch time of 0
ok 2 # skip epoch to iCal not working on MacOS
ok 3 # skip epoch to iCal not working on MacOS
ok 4 # skip epoch to iCal not working on MacOS
ok 5 # skip epoch to iCal not working on MacOS
ok 6 # skip epoch to iCal not working on MacOS
ok 7 # skip epoch to iCal not working on MacOS

```

This means your tests won't fail on MacOS. This means less emails from

MacPerl users telling you about failing tests that you know will never work. You've got to be careful with skip tests. These are for tests which don't work and I<never will>. It is not for skipping genuine bugs (we'll get to that in a moment).

The tests are wholly and completely skipped. [10] This will work.

```

SKIP: {
  skip("I don't wanna die!");

  die, die, die, die, die;
}

```

```
}
```

=head2 Todo tests

Thumbing through the Date::ICal man page, I came across this:

```
ical
```

```
    $ical_string = $ical->ical;
```

Retrieves, or sets, the date on the object, using any valid ICal date/time string.

"Retrieves or sets". Hmmmm, didn't see a test for using C<ical()> to set the date in the Date::ICal test suite. So I'll write one.

```
use Test::More tests => 1;
use Date::ICal;
```

```
my $ical = Date::ICal->new;
$ical->ical('20201231Z');
is( $ical->ical, '20201231Z', 'Setting via ical()' );
```

run that and I get

```
1..1
not ok 1 - Setting via ical()
#   Failed test (- at line 6)
#     got: '20010814T233649Z'
#   expected: '20201231Z'
# Looks like you failed 1 tests of 1.
```

Whoops! Looks like it's unimplemented. Let's assume we don't have the time to fix this. [11] Normally, you'd just comment out the test and put a note in a todo list somewhere. Instead, we're going to explicitly state "this test will fail" by wrapping it in a C<TODO> block.

```
use Test::More tests => 1;
```

```
TODO: {
    local $TODO = 'ical($ical) not yet implemented';
```

```
    my $ical = Date::ICal->new;
    $ical->ical('20201231Z');
```

```
    is( $ical->ical, '20201231Z', 'Setting via ical()' );
```

```
}
```

Now when you run, it's a little different:

```
1..1
not ok 1 - Setting via ical() # TODO ical($ical) not yet implemented
#     got: '20010822T201551Z'
#     expected: '20201231Z'
```

Test::More doesn't say "Looks like you failed 1 tests of 1". That '# TODO' tells Test::Harness "this is supposed to fail" and it treats a failure as a successful test. So you can write tests even before you've fixed the underlying code.

If a TODO test passes, Test::Harness will report it "UNEXPECTEDLY SUCCEEDED". When that happens, you simply remove the TODO block with `C<local $TODO>` and turn it into a real test.

=head2 Testing with taint mode.

Taint mode is a funny thing. It's the globalest of all global features. Once you turn it on, it affects `I<all>` code in your program and `I<all>` modules used (and all the modules they use). If a single piece of code isn't taint clean, the whole thing explodes. With that in mind, it's very important to ensure your module works under taint mode.

It's very simple to have your tests run under taint mode. Just throw a `C<-T>` into the `C<#!>` line. Test::Harness will read the switches in `C<#!>` and use them to run your tests.

```
#!/usr/bin/perl -Tw
```

```
...test normally here...
```

So when you say `C<make test>` it will be run with taint mode and warnings on.

=head1 FOOTNOTES

=over

4

=item 1

The first number doesn't really mean anything, but it has to be 1.

It's the second number that's important.

=item 2

For those following along at home, I'm using version 1.31. It has some bugs, which is good -- we'll uncover them with our tests.

=item 3

You can actually take this one step further and test the manual itself. Have a look at `B<Test::Inline>` (formerly `B<Pod::Tests>`).

=item 4

Yes, there's a mistake in the test suite. What! Me, contrived?

=item 5

We'll get to testing the contents of lists later.

=item 6

But what happens if your test program dies halfway through?! Since we didn't say how many tests we're going to run, how can we know it failed? No problem, `Test::More` employs some magic to catch that death and turn the test into a failure, even if every test passed up to that point.

=item 7

I cleaned it up a little.

=item 8

Most Operating Systems record time as the number of seconds since a certain date. This date is the beginning of the epoch. Unix's starts at midnight January 1st, 1970 GMT.

=item 9

MacOS's epoch is midnight January 1st, 1904. VMS's is midnight, November 17th, 1858, but `vmperl` emulates the Unix epoch so it's not a problem.

=item 10

As long as the code inside the `SKIP` block at least compiles. Please

don't ask how. No, it's not a filter.

=item 11

Do NOT be tempted to use TODO tests as a way to avoid fixing simple bugs!

=back

=head1 AUTHORS

Michael G Schwern E<lt>schwern@pobox.comE<gt> and the perl-qa dancers!

=head1 COPYRIGHT

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=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/t/lib/Test/Tutorial.pod
No license file was found, but licenses were detected in source scan.

=back

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Please submit bug reports and patches to perlbug@perl.org.

=head1 SEE ALSO

L<File::Spec>

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/Unix.pm

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

=back

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=head1 SEE ALSO

See L<File::Spec> and L<File::Spec::Unix>. This package overrides the implementation of these methods, not the semantics.

An explanation of VMS file specs can be found at

L<http://h71000.www7.hp.com/doc/731FINAL/4506/4506pro_014.html#apps_locating_naming_files>.

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/VMS.pm

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

=pod

=head1 AUTHOR

o.flebbe@gmx.de

=head1 COPYRIGHT

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=head1 SEE ALSO

See L<File::Spec> and L<File::Spec::Unix>. This package overrides the

implementation of these methods, not the semantics.

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/Epoc.pm

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

abstract: unknown

author:

- unknown

build_requires:

ExtUtils::MakeMaker: 0

configure_requires:

ExtUtils::MakeMaker: 0

dynamic_config: 1

generated_by: 'ExtUtils::MakeMaker version 6.62, CPAN::Meta::Converter version 2.112150'

license: unknown

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: PathTools

no_index:

directory:

- t

- inc

requires:

Carp: 0

File::Basename: 0

Scalar::Util: 0

Test: 0

version: 3.40

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/META.yml

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

=head1 NAME

File::Spec::OS2 - methods for OS/2 file specs

=head1 SYNOPSIS

require File::Spec::OS2; # Done internally by File::Spec if needed

=head1 DESCRIPTION

See L<File::Spec> and L<File::Spec::Unix>. This package overrides the implementation of these methods, not the semantics.

Amongst the changes made for OS/2 are...

=over 4

=item tmpdir

Modifies the list of places temp directory information is looked for.

\$ENV{TMPDIR}

\$ENV{TEMP}

\$ENV{TMP}

/tmp

/

=item splitpath

Volumes can be drive letters or UNC sharenames (\\server\share).

=back

=head1 COPYRIGHT

Copyright (c) 2004 by the Perl 5 Porters. All rights reserved.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/OS2.pm

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

/*

ppport.h -- Perl/Pollution/Portability Version 3.20

Automatically created by Devel::PPPport running under perl 5.015005.

Do NOT edit this file directly! -- Edit PPPort_pm.PL and the includes in parts/inc/ instead.

Use 'perldoc pport.h' to view the documentation below.

SKIP

=pod

=head1 NAME

pport.h - Perl/Pollution/Portability version 3.20

=head1 SYNOPSIS

perl pport.h [options] [source files]

Searches current directory for files if no [source files] are given

--help show short help

--version show version

--patch=file write one patch file with changes

--copy=suffix write changed copies with suffix

--diff=program use diff program and options

--compat-version=version
 provide compatibility with Perl version

--cplusplus accept C++ comments

--quiet don't output anything except fatal errors

--nodiag don't show diagnostics

--nohints don't show hints

--nochanges don't suggest changes

--nofilter don't filter input files

--strip strip all script and doc functionality from
 pport.h

--list-provided list provided API

--list-unsupported list unsupported API

--api-info=name show Perl API portability information

=head1 COMPATIBILITY

This version of F<pport.h> is designed to support operation with Perl installations back to 5.003, and has been tested up to 5.11.5.

=head1 OPTIONS

=head2 --help

Display a brief usage summary.

=head2 --version

Display the version of F<ppport.h>.

=head2 --patch=I<file>

If this option is given,
a single patch file will be created if
any changes are suggested. This requires a working diff program
to be installed on your system.

=head2 --copy=I<suffix>

If this option is given, a copy of each file will be saved with
the given suffix that contains the suggested changes. This does
not require any external programs. Note that this does not
automagially add a dot between the original filename and the
suffix. If you want the dot, you have to include it in the option
argument.

If neither C<--patch> or C<--copy> are given, the default is to
simply print the diffs for each file. This requires either
C<Text::Diff> or a C<diff> program to be installed.

=head2 --diff=I<program>

Manually set the diff program and options to use. The default
is to use C<Text::Diff>, when installed, and output unified
context diffs.

=head2 --compat-version=I<version>

Tell F<ppport.h> to check for compatibility with the given
Perl version. The default is to check for compatibility with Perl
version 5.003.

You can use this option to reduce the output
of F<ppport.h> if you intend to be backward compatible only
down to a certain Perl version.

=head2 --cplusplus

Usually, `F<ppport.h>` will detect C++ style comments and replace them with C style comments for portability reasons. Using this option instructs `F<ppport.h>` to leave C++ comments untouched.

```
=head2 --quiet
```

Be quiet. Don't print anything except fatal errors.

```
=head2 --nodiag
```

Don't output any diagnostic messages. Only portability alerts will be printed.

```
=head2 --nohints
```

Don't output any hints. Hints often contain useful portability notes. Warnings will still be displayed.

```
=head2 --nochanges
```

Don't suggest any changes. Only give diagnostic output and hints unless these are also deactivated.

```
=head2 --nofilter
```

Don't filter the list of input files. By default, files not looking like source code (i.e. not `*.xs`, `*.c`, `*.cc`, `*.cpp` or `*.h`) are skipped.

```
=head2 --strip
```

Strip all script and documentation functionality from `F<ppport.h>`. This reduces the size of `F<ppport.h>` dramatically and may be useful if you want to include `F<ppport.h>` in smaller modules without increasing their distribution size too much.

The stripped `F<ppport.h>` will have a `C<--unstrip>` option that allows you to undo the stripping, but only if an appropriate `C<Devel::PPPport>` module is installed.

```
=head2 --list-provided
```

Lists the API elements for which compatibility is provided by `F<ppport.h>`. Also lists if it must be explicitly requested, if it has dependencies, and if there are hints or warnings for it.

```
=head2 --list-unsupported
```

Lists the API elements that are known not to be supported by F<ppport.h> and below which version of Perl they probably won't be available or work.

```
=head2 --api-info=I<name>
```

Show portability information for API elements matching I<name>. If I<name> is surrounded by slashes, it is interpreted as a regular expression.

```
=head1 DESCRIPTION
```

In order for a Perl extension (XS) module to be as portable as possible across differing versions of Perl itself, certain steps need to be taken.

```
=over 4
```

```
=item *
```

Including this header is the first major one. This alone will give you access to a large part of the Perl API that hasn't been available in earlier Perl releases. Use

```
perl ppport.h --list-provided
```

to see which API elements are provided by ppport.h.

```
=item *
```

You should avoid using deprecated parts of the API. For example, using global Perl variables without the C<PL_> prefix is deprecated. Also, some API functions used to have a C<perl_> prefix. Using this form is also deprecated. You can safely use the supported API, as F<ppport.h> will provide wrappers for older Perl versions.

```
=item *
```

If you use one of a few functions or variables that were not present in earlier versions of Perl, and that can't be provided using a macro, you have to explicitly request support for these functions by adding one or more C<#define>s in your source code before the inclusion of F<ppport.h>.

These functions or variables will be marked C<explicit> in the list shown by C<--list-provided>.

Depending on whether your module has a single or multiple files that use such functions or variables, you want either C<static> or global variants.

For a C<static> function or variable (used only in a single source file), use:

```
#define NEED_function
#define NEED_variable
```

For a global function or variable (used in multiple source files), use:

```
#define NEED_function_GLOBAL
#define NEED_variable_GLOBAL
```

Note that you mustn't have more than one global request for the same function or variable in your project.

Function / Variable	Static Request	Global Request
PL_parser	NEED_PL_parser	NEED_PL_parser_GLOBAL
PL_signals	NEED_PL_signals	NEED_PL_signals_GLOBAL
eval_pv()	NEED_eval_pv	NEED_eval_pv_GLOBAL
grok_bin()	NEED_grok_bin	NEED_grok_bin_GLOBAL
grok_hex()	NEED_grok_hex	NEED_grok_hex_GLOBAL
grok_number()	NEED_grok_number	NEED_grok_number_GLOBAL
grok_numeric_radix()	NEED_grok_numeric_radix	NEED_grok_numeric_radix_GLOBAL
grok_oct()	NEED_grok_oct	NEED_grok_oct_GLOBAL
load_module()	NEED_load_module	NEED_load_module_GLOBAL
my_snprintf()	NEED_my_snprintf	NEED_my_snprintf_GLOBAL
my_sprintf()	NEED_my_sprintf	NEED_my_sprintf_GLOBAL
my_strlcat()	NEED_my_strlcat	NEED_my_strlcat_GLOBAL
my_strlcpy()	NEED_my_strlcpy	NEED_my_strlcpy_GLOBAL
newCONSTSUB()	NEED_newCONSTSUB	NEED_newCONSTSUB_GLOBAL
newRV_noinc()	NEED_newRV_noinc	NEED_newRV_noinc_GLOBAL
newSV_type()	NEED_newSV_type	NEED_newSV_type_GLOBAL
newSVpv_flags()	NEED_newSVpv_flags	NEED_newSVpv_flags_GLOBAL
newSVpv_share()	NEED_newSVpv_share	NEED_newSVpv_share_GLOBAL
pv_display()	NEED_pv_display	NEED_pv_display_GLOBAL
pv_escape()	NEED_pv_escape	NEED_pv_escape_GLOBAL
pv_pretty()	NEED_pv_pretty	NEED_pv_pretty_GLOBAL
sv_2pv_flags()	NEED_sv_2pv_flags	NEED_sv_2pv_flags_GLOBAL
sv_2pvbyte()	NEED_sv_2pvbyte	NEED_sv_2pvbyte_GLOBAL
sv_catpvf_mg()	NEED_sv_catpvf_mg	NEED_sv_catpvf_mg_GLOBAL
sv_catpvf_mg_nocontext()	NEED_sv_catpvf_mg_nocontext	NEED_sv_catpvf_mg_nocontext_GLOBAL
sv_pvn_force_flags()	NEED_sv_pvn_force_flags	NEED_sv_pvn_force_flags_GLOBAL
sv_setpvf_mg()	NEED_sv_setpvf_mg	

```

NEED_sv_setpvf_mg_GLOBAL
sv_setpvf_mg_nocontext() NEED_sv_setpvf_mg_nocontext NEED_sv_setpvf_mg_nocontext_GLOBAL
vload_module()      NEED_vload_module      NEED_vload_module_GLOBAL
vnewSVpvf()         NEED_vnewSVpvf         NEED_vnewSVpvf_GLOBAL
warner()            NEED_warner            NEED_warner_GLOBAL

```

To avoid namespace conflicts, you can change the namespace of the explicitly exported functions / variables using the C<DPPP_NAMESPACE> macro. Just C<#define> the macro before including C<ppport.h>:

```

#define DPPP_NAMESPACE MyOwnNamespace_
#include "ppport.h"

```

The default namespace is C<DPPP_>.

=back

The good thing is that most of the above can be checked by running F<ppport.h> on your source code. See the next section for details.

=head1 EXAMPLES

To verify whether F<ppport.h> is needed for your module, whether you should make any changes to your code, and whether any special defines should be used, F<ppport.h> can be run as a Perl script to check your source code. Simply say:

```
perl ppport.h
```

The result will usually be a list of patches suggesting changes that should at least be acceptable, if not necessarily the most efficient solution, or a fix for all possible problems.

If you know that your XS module uses features only available in newer Perl releases, if you're aware that it uses C++ comments, and if you want all suggestions as a single patch file, you could use something like this:

```
perl ppport.h --compat-version=5.6.0 --cplusplus --patch=test.diff
```

If you only want your code to be scanned without any suggestions for changes, use:

```
perl ppport.h --nochanges
```

You can specify a different C<diff> program or options, using

the C<--diff> option:

```
perl ppport.h --diff='diff -C 10'
```

This would output context diffs with 10 lines of context.

If you want to create patched copies of your files instead, use:

```
perl ppport.h --copy=.new
```

To display portability information for the C<newSVpv>
function,
use:

```
perl ppport.h --api-info=newSVpv
```

Since the argument to C<--api-info> can be a regular expression,
you can use

```
perl ppport.h --api-info=/_nomg$/
```

to display portability information for all C<_nomg> functions or

```
perl ppport.h --api-info=./
```

to display information for all known API elements.

=head1 BUGS

If this version of F<ppport.h> is causing failure during
the compilation of this module, please check if newer versions
of either this module or C<Devel::PPP> are available on CPAN
before sending a bug report.

If F<ppport.h> was generated using the latest version of
C<Devel::PPP> and is causing failure of this module, please
file a bug report using the CPAN Request Tracker at L<<http://rt.cpan.org/>>.

Please include the following information:

=over 4

=item 1.

The complete output from running "perl -V"

=item 2.

This file.

=item 3.

The name and version of the module you were trying to build.

=item 4.

A full log of the build that failed.

=item

5.

Any other information that you think could be relevant.

=back

For the latest version of this code, please get the C<Devel::PPPort> module from CPAN.

=head1 COPYRIGHT

Version 3.x, Copyright (c) 2004-2010, Marcus Holland-Moritz.

Version 2.x, Copyright (C) 2001, Paul Marquess.

Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<Devel::PPPort>.

=cut

use strict;

Disable broken TRIE-optimization

```
BEGIN { eval '${^RE_TRIE_MAXBUF} = -1' if $] >= 5.009004 && $] <= 5.009005 }
```

```
my $VERSION = 3.20;
```

```
my %opt = (
```

```
  quiet => 0,
```

```
  diag => 1,
```

```
  hints => 1,
```



```

changes => 1,
cplusplus => 0,
filter => 1,
strip => 0,
version => 0,
);

my($ppport) = $0 =~ /([\w.]+)$/;
my $LF = '(?:\r\n|[\r\n])'; # line feed
my $HS = "[\t]";          # horizontal whitespace

# Never use C comments in this file!
my $ccs = '/!.*';
my
  $cce = '*/!';
my $rcs = quotemeta $ccs;
my $rce = quotemeta $cce;

eval {
  require Getopt::Long;
  Getopt::Long::GetOptions(\%opt, qw(
    help quiet diag! filter! hints! changes! cplusplus strip version
    patch=s copy=s diff=s compat-version=s
    list-provided list-unsupported api-info=s
  )) or usage();
};

if ($@ and grep /^-/, @ARGV) {
  usage() if "@ARGV" =~ /^--?h(?:elp)?$/;
  die "Getopt::Long not found. Please don't use any options.\n";
}

if ($opt{version}) {
  print "This is $0 $VERSION.\n";
  exit 0;
}

usage() if $opt{help};
strip() if $opt{strip};

if (exists $opt{'compat-version'}) {
  my($r,$v,$s) = eval { parse_version($opt{'compat-version'}) };
  if ($@) {
    die "Invalid version number format: '$opt{'compat-version'}'\n";
  }
  die "Only Perl 5 is supported\n" if $r != 5;
  die "Invalid version number: $opt{'compat-version'}\n" if $v >= 1000 || $s >= 1000;
  $opt{'compat-version'} = sprintf "%d.%03d%03d", $r, $v, $s;
}

```

```

}
else {
  $opt{'compat-version'} = 5;
}

my
%API = map { /^(\w+)\|([\^]*)\|([\^]*)\|(\w*)$/
  ? ( $1 => {
    ($2      ? ( base  => $2 ) : ()),
    ($3      ? ( todo  => $3 ) : ()),
    (index($4, 'v') >= 0 ? ( varargs => 1 ) : ()),
    (index($4, 'p') >= 0 ? ( provided => 1 ) : ()),
    (index($4, 'n') >= 0 ? ( nothxarg => 1 ) : ()),
  } )
  : die "invalid spec: $_" } qw(
AvFILLp|5.004050||p
AvFILL|||
BhkDISABLE||5.014000|
BhkENABLE||5.014000|
BhkENTRY_set||5.014000|
BhkENTRY|||
BhkFLAGS|||
CALL_BLOCK_HOOKS|||
CLASS|||n
CPERLscope|5.005000||p
CX_CURPAD_SAVE|||
CX_CURPAD_SV|||
CopFILEAV|5.006000||p
CopFILEGV_set|5.006000||p
CopFILEGV|5.006000||p
CopFILESV|5.006000||p
CopFILE_set|5.006000||p
CopFILE|5.006000||p
CopSTASHPV_set|5.006000||p
CopSTASHPV|5.006000||p
CopSTASH_eq|5.006000||p
CopSTASH_set|5.006000||p
CopSTASH|5.006000||p
CopyD|5.009002||p
Copy|||
CvPADLIST|||
CvSTASH|||
CvWEAKOUTSIDE|||
DEFSV_set|5.010001||p
DEFSV|5.004050||p
END_EXTERN_C|5.005000||p
ENTER|||
ERRSV|5.004050||p

```

EXTEND|||
EXTERN_C|5.005000||p
F0convert|||n
FREETMPS|||
GIMME_V||5.004000|n
GIMME|||n
GROK_NUMERIC_RADIX|5.007002||p
G_ARRAY|||
G_DISCARD|||
G_EVAL|||
G_METHOD|5.006001||p
G_NOARGS|||
G_SCALAR|||
G_VOID|5.004000|
GetVars|||
GvSVn|5.009003||p
GvSV|||
Gv_AMupdate||5.011000|
HEf_SVKEY|5.004000|
HeHASH|5.004000|
HeKEY|5.004000|
HeKLEN|5.004000|
HePV|5.004000|
HeSVKEY_force||5.004000|
HeSVKEY_set||5.004000|
HeSVKEY|5.004000|
HeUTF8||5.010001|
HeVAL||5.004000|
HvENAME||5.013007|
HvNAMELEN_get|5.009003||p
HvNAME_get|5.009003||p
HvNAME|||
INT2PTR|5.006000||p
IN_LOCALE_COMPILETIME|5.007002||p
IN_LOCALE_RUNTIME|5.007002||p
IN_LOCALE|5.007002||p
IN_PERL_COMPILETIME|5.008001||p
IS_NUMBER_GREATER_THAN_UV_MAX|5.007002||p
IS_NUMBER_INFINITY|5.007002||p
IS_NUMBER_IN_UV|5.007002||p
IS_NUMBER_NAN|5.007003||p
IS_NUMBER_NEG|5.007002||p
IS_NUMBER_NOT_INT|5.007002||p
IVSIZE|5.006000||p
IVTYPE|5.006000||p
IVdf|5.006000||p
LEAVE|||
LINKLIST||5.013006|

LVRET|||
MARK|||
MULTICALL|5.014000|
MY_CXT_CLONE|5.009002||p
MY_CXT_INIT|5.007003||p
MY_CXT|5.007003||p
MoveD|5.009002||p
Move|||
NOOP|5.005000||p
NUM2PTR|5.006000||p
NVTYPE|5.006000||p
NVef|5.006001||p
NVff|5.006001||p
NVgf|5.006001||p
Newxc|5.009003||p
Newxz|5.009003||p
Newx|5.009003||p
Nullav|||
Nullch|||
Nullcv|||
Nullhv|||
Nullsv|||
OP_CLASS|5.013007|
OP_DESC|5.007003|
OP_NAME|5.007003|
ORIGMARK|||
PAD_BASE_SV|||
PAD_CLONE_VARS|||
PAD_COMPNAME_FLAGS|||
PAD_COMPNAME_GEN_set|||
PAD_COMPNAME_GEN|||
PAD_COMPNAME_OURSTASH|||
PAD_COMPNAME_PV|||
PAD_COMPNAME_TYPE|||
PAD_DUP|||
PAD_RESTORE_LOCAL|||
PAD_SAVE_LOCAL|||
PAD_SAVE_SETNULLPAD|||
PAD_SETSV|||
PAD_SET_CUR_NOSAVE|||
PAD_SET_CUR|||
PAD_SV1|||
PAD_SV|||
PERLIO_FUNCS_CAST|5.009003||p
PERLIO_FUNCS_DECL|5.009003||p
PERL_ABS|5.008001||p
PERL_BCDVERSION|5.014000||p
PERL_GCC_BRACE_GROUPS_FORBIDDEN|5.008001||p

PERL_HASH|5.004000||p
PERL_INT_MAX|5.004000||p
PERL_INT_MIN|5.004000||p
PERL_LONG_MAX|5.004000||p
PERL_LONG_MIN|5.004000||p
PERL_MAGIC_arylen|5.007002||p
PERL_MAGIC_backref|5.007002||p
PERL_MAGIC_bm|5.007002||p
PERL_MAGIC_collxfrm|5.007002||p
PERL_MAGIC_dbfile|5.007002||p
PERL_MAGIC_dbline|5.007002||p
PERL_MAGIC_defelem|5.007002||p
PERL_MAGIC_envelem|5.007002||p
PERL_MAGIC_env|5.007002||p
PERL_MAGIC_ext|5.007002||p
PERL_MAGIC_fm|5.007002||p
PERL_MAGIC_glob|5.014000||p
PERL_MAGIC_isaelem|5.007002||p
PERL_MAGIC_isa|5.007002||p
PERL_MAGIC_mutex|5.014000||p
PERL_MAGIC_nkeys|5.007002||p
PERL_MAGIC_overload_elem|5.007002||p
PERL_MAGIC_overload_table|5.007002||p
PERL_MAGIC_overload|5.007002||p
PERL_MAGIC_pos|5.007002||p
PERL_MAGIC_qr|5.007002||p
PERL_MAGIC_regdata|5.007002||p
PERL_MAGIC_regdatum|5.007002||p
PERL_MAGIC_regex_global|5.007002||p
PERL_MAGIC_shared_scalar|5.007003||p
PERL_MAGIC_shared|5.007003||p
PERL_MAGIC_sigelem|5.007002||p
PERL_MAGIC_sig|5.007002||p
PERL_MAGIC_substr|5.007002||p
PERL_MAGIC_sv|5.007002||p
PERL_MAGIC_taint|5.007002||p
PERL_MAGIC_tiedelem|5.007002||p
PERL_MAGIC_tiedscalar|5.007002||p
PERL_MAGIC_tied|5.007002||p
PERL_MAGIC_utf8|5.008001||p
PERL_MAGIC_uvar_elem|5.007003||p
PERL_MAGIC_uvar|5.007002||p
PERL_MAGIC_vec|5.007002||p
PERL_MAGIC_vstring|5.008001||p
PERL_PV_ESCAPE_ALL|5.009004||p
PERL_PV_ESCAPE_FIRSTCHAR|5.009004||p
PERL_PV_ESCAPE_NOBACKSLASH|5.009004||p
PERL_PV_ESCAPE_NOCLEAR|5.009004||p

PERL_PV_ESCAPE_QUOTE|5.009004||p
PERL_PV_ESCAPE_RE|5.009005||p
PERL_PV_ESCAPE_UNI_DETECT|5.009004||p
PERL_PV_ESCAPE_UNI|5.009004||p
PERL_PV_PRETTY_DUMP|5.009004||p
PERL_PV_PRETTY_ELLIPSES|5.010000||p
PERL_PV_PRETTY_LTGT|5.009004||p
PERL_PV_PRETTY_NOCLEAR|5.010000||p
PERL_PV_PRETTY_QUOTE|5.009004||p
PERL_PV_PRETTY_REGPROP|5.009004||p
PERL_QUAD_MAX|5.004000||p
PERL_QUAD_MIN|5.004000||p
PERL_REVISION|5.006000||p
PERL_SCAN_ALLOW_UNDERSCORES|5.007003||p
PERL_SCAN_DISALLOW_PREFIX|5.007003||p
PERL_SCAN_GREATER_THAN_UV_MAX|5.007003||p
PERL_SCAN_SILENT_ILLDIGIT|5.008001||p
PERL_SHORT_MAX|5.004000||p
PERL_SHORT_MIN|5.004000||p
PERL_SIGNALS_UNSAFE_FLAG|5.008001||p
PERL_SUBVERSION|5.006000||p
PERL_SYS_INIT3|5.006000|
PERL_SYS_INIT|||
PERL_SYS_TERM|5.014000|
PERL_UCHAR_MAX|5.004000||p
PERL_UCHAR_MIN|5.004000||p
PERL_UINT_MAX|5.004000||p
PERL_UINT_MIN|5.004000||p
PERL_ULONG_MAX|5.004000||p
PERL_ULONG_MIN|5.004000||p
PERL_UNUSED_ARG|5.009003||p
PERL_UNUSED_CONTEXT|5.009004||p
PERL_UNUSED_DECL|5.007002||p
PERL_UNUSED_VAR|5.007002||p
PERL_UQUAD_MAX|5.004000||p
PERL_UQUAD_MIN|5.004000||p
PERL_USE_GCC_BRACE_GROUPS|5.009004||p
PERL_USHORT_MAX|5.004000||p
PERL_USHORT_MIN|5.004000||p
PERL_VERSION|5.006000||p
PL_DBsignal|5.005000||p
PL_DBsingle|||pn
PL_DBsub|||pn
PL_DBtrace|||pn
PL_Sv|5.005000||p
PL_bufend|5.014000||p
PL_bufptr|5.014000||p
PL_compiling|5.004050||p

PL_copline|5.014000||p
PL_curcop|5.004050||p
PL_curstash|5.004050||p
PL_debstash|5.004050||p
PL_defgv|5.004050||p
PL_diehook|5.004050||p
PL_dirty|5.004050||p
PL_dowarn|||pn
PL_errgv|5.004050||p
PL_error_count|5.014000||p
PL_expect|5.014000||p
PL_hexdigit|5.005000||p
PL_hints|5.005000||p
PL_in_my_stash|5.014000||p
PL_in_my|5.014000||p
PL_keyword_plugin||5.011002|
PL_last_in_gv|||n
PL_laststatval|5.005000||p
PL_lex_state|5.014000||p
PL_lex_stuff|5.014000||p
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PL_ppaddr|5.006000||p
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sv_setiv|||
sv_setnv_mg|5.006000||p
sv_setnv|||
sv_setpv_mg|5.004050||p
sv_setpvf_mg_nocontext|||pvn
sv_setpvf_mg|5.006000|5.004000|pv
sv_setpvf_nocontext|||vn
sv_setpvf|5.004000|v
sv_setpviv_mg|5.008001|
sv_setpviv|5.008001|
sv_setpvn_mg|5.004050||p
sv_setpvn|||
sv_setpvs_mg|5.013006|
sv_setpvs|5.009004||p
sv_setpv|||
sv_setref_iv|||
sv_setref_nv|||
sv_setref_pvn|||
sv_setref_pvs|5.013006|
sv_setref_pv|||
sv_setref_uv|5.007001|
sv_setsv_cow|||
sv_setsv_flags|5.007002|
sv_setsv_mg|5.004050||p
sv_setsv_nomg|5.007002||p
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```

yylex|||
yyvsparse|||
yyunlex|||
yywarn|||
);

if
(exists $opt{'list-unsupported'}) {
my $f;
for $f (sort { lc $a cmp lc $b } keys %API) {
next unless $API{$f}{todo};
print "$f ", 'x'(40-length($f)), " ", format_version($API{$f}{todo}), "\n";
}
exit 0;
}

# Scan for possible
replacement candidates

my(%replace, %need, %hints, %warnings, %depends);
my $replace = 0;
my($hint, $define, $function);

sub find_api
{
my $code = shift;
$code =~ s{
/ (? : \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* / | /[\r\n]*
| "[^"\\]*(?:\\.[^"\\]*)*"
| '[^'\\]*(?:\\.[^'\\]*)*' }{ } egsx;
grep { exists $API{$_} } $code =~ /(\w+)/mg;
}

while (<DATA>) {
if ($hint) {
my $h = $hint->[0] eq 'Hint' ? \%hints : \%warnings;
if (m{^\s*\s*(.*?)\s*$}) {
for (@{$hint->[1]}) {
$h->{$_} ||= ""; # suppress warning with older perls
$h->{$_} .= "$1\n";
}
}
else { undef $hint }
}

$hint = [$1, [split /,?\s+/, $2]]
if m{^\s*$rcs\s+(Hint|Warning):\s+(\w+(?:,\s+\w+)*)\s*$};

```

```

if ($define) {
  if ($define->[1] =~ /\$/) {
    $define->[1] .= $_;
  }
  else {
    if (exists $API{$define->[0]} && $define->[1] !~ /^DPPP_(/() {
      my @n = find_api($define->[1]);
      push @{$depends{$define->[0]}}, @n if @n
    }

    undef $define;
  }
}

$define = [$1, $2] if m{^\s*\#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(.*)};

if ($function) {
  if (/^/) {
    if (exists $API{$function->[0]}) {
      my @n = find_api($function->[1]);
      push @{$depends{$function->[0]}}, @n if @n
    }
    undef $function;
  }
  else {
    $function->[1] .= $_;
  }
}

$function = [$1, ""] if m{^DPPP_(my_(\w+))};

$replace = $1 if m{^\s*$rcs\s+Replace:\s+(\d+)\s+$rcce\s*$};
$replace{$2} = $1 if $replace and m{^\s*\#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+)};
$replace{$2} = $1 if m{^\s*\#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+).*\s*$rcs\s+Replace\s+$rcce};
$replace{$1} = $2 if m{^\s*$rcs\s+Replace (\w+) with (\w+)\s+$rcce\s*$};

if (m{^\s*$rcs\s+(\w+(\s*,\s*\w+)*)\s+depends\s+on\s+(\w+(\s*,\s*\w+)*)\s+$rcce\s*$}) {
  my @deps = map { s/\s+//g; $_ } split /,/, $3;
  my $d;
  for $d (map { s/\s+//g; $_ } split /,/, $1) {
    push @{$depends{$d}}, @deps;
  }
}

$need{$1} = 1
if m{^#\s+if\s+defined\(\NEED_(\w+)(?:_GLOBAL)?\)};
}

```



```

for (values %depends) {
    my %s;
    $_ = [sort grep !${$_}++, @$_];
}

if (exists $opt{'api-info'}) {
    my $f;
    my $count = 0;
    my $match = $opt{'api-info'} =~ m!^(.*)/#! ? $1 : "\Q$opt{'api-info'}\E\$";
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $f =~ /$match/;
        print "\n=== $f ===\n\n";
        my $info = 0;
        if ($API{$f}{base} || $API{$f}{todo}) {
            my $base = format_version($API{$f}{base} || $API{$f}{todo});
            print "Supported at least starting from perl-$base.\n";
            $info++;
        }
        if ($API{$f}{provided}) {
            my $todo = $API{$f}{todo} ? format_version($API{$f}{todo}) : "5.003";
            print "Support by $ppport provided back to perl-$todo.\n";
            print "Support needs to be explicitly requested by NEED_$f.\n" if exists $need{$f};
            print "Depends on: ", join(', ', @{$depends{$f}}), ".\n" if exists $depends{$f};
            print "\n$hints{$f}" if exists $hints{$f};
            print "\nWARNING:\n$warnings{$f}"
        }
        if exists $warnings{$f};
            $info++;
        }
        print "No portability information available.\n" unless $info;
        $count++;
    }
    $count or print "Found no API matching '$opt{'api-info'}'.";
    print "\n";
    exit 0;
}

if (exists $opt{'list-provided'}) {
    my $f;
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $API{$f}{provided};
        my @flags;
        push @flags, 'explicit' if exists $need{$f};
        push @flags, 'depend' if exists $depends{$f};
        push @flags, 'hint' if exists $hints{$f};
        push @flags, 'warning' if exists $warnings{$f};
        my $flags = @flags ? '['.join(', ', @flags).']' : '';
        print "$f$flags\n";
    }
}

```

```

exit 0;
}

my @files;
my @srcext = qw( .xs .c .h .cc .cpp -c.inc -xs.inc );
my $srcext = join '|', map { quotemeta $_ } @srcext;

if (@ARGV) {
my %seen;
for (@ARGV) {
if (-e) {
if (-f) {
push @files, $_ unless $seen{$_}++;
}
else { warn "'$_' is not a file.\n" }
}
else {
my
@new = grep { -f } glob $_
or warn "'$_' does not exist.\n";
push @files, grep { !$seen{$_}++ } @new;
}
}
}
else {
eval {
require File::Find;
File::Find::find(sub {
$File::Find::name =~ /($srcext)$/i
and push @files, $File::Find::name;
}, '.');
};
if ($?) {
@files = map { glob ".*$_" } @srcext;
}
}

if (!@ARGV || $opt{filter}) {
my(@in, @out);
my %xsc = map { /\.(.*)\.$s$/ ? ("1.c" => 1, "1.cc" => 1) : () } @files;
for (@files) {
my $out = exists $xsc{$_} || /\bQ$ppport\E$/i || !/($srcext)$/i;
push @ { $out ? \@out : \@in }, $_;
}
if (@ARGV && @out) {
warning("Skipping the following files (use --nofilter to avoid this):\n| ", join "\n| ", @out);
}
@files = @in;
}

```

```

}

die "No input files given!\n" unless @files;

my(%files, %global, %revreplace);
%revreplace = reverse %replace;
my $filename;
my $patch_opened = 0;

for $filename (@files) {
    unless (open IN, "<$filename") {
        warn "Unable to read from $filename:
        $!\n";
        next;
    }

    info("Scanning $filename ...");

    my $c = do { local $/; <IN> };
    close IN;

    my %file = (orig => $c, changes => 0);

    # Temporarily remove C/XS comments and strings from the code
    my @ccom;

    $c =~ s{
        ( ^$HS*#$HS*include\b[^\r\n]+\b(?:Q$ppport\E\XSUB\.h)\b[^\r\n]*
        | ^$HS*#$HS*(?:define|elif|if(?:def?))\b[^\r\n]* )
    | ( ^$HS*\#[^\r\n]*
        | "[^"\\]*(?:\\.[^"\\])*"
        | '[^'\\]*(?:\\.[^'\\])*'
        | /(?:\*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* /|/[^\r\n]* ) )
    }{ defined $2 and push @ccom, $2;
        defined $1 ? $1 : "$ccs$#ccom$cce" }mgsex;

    $file{ccom} = \@ccom;
    $file{code} = $c;
    $file{has_inc_ppport} = $c =~ /^$HS*#$HS*include[^\r\n]+\bQ$ppport\E\b/m;

    my $func;

    for $func (keys %API) {
        my $match = $func;
        $match .= "$revreplace{$func}" if exists $revreplace{$func};
        if ($c =~ /\b(?:Perl)?($match)\b/) {
            $file{uses_replace}{$1}++ if exists $revreplace{$func} && $1 eq $revreplace{$func};
            $file{uses_Perl}{$func}++;
        }
    }
}

```

```

if $c =~ /\bPerl_$func\b/;
  if (exists $API{$func}{provided}) {
    $file{uses_provided}{$func}++;
    if (!exists $API{$func}{base} || $API{$func}{base} > $opt{'compat-version'}) {
      $file{uses}{$func}++;
      my @deps = rec_depend($func);
      if (@deps) {
        $file{uses_deps}{$func} = \@deps;
        for (@deps) {
          $file{uses}{$_} = 0 unless exists $file{uses}{$_};
        }
      }
      for ($func, @deps) {
        $file{needs}{$_} = 'static' if exists $need{$_};
      }
    }
  }
  if (exists $API{$func}{todo} && $API{$func}{todo} > $opt{'compat-version'}) {
    if ($c =~ /\b$func\b/) {
      $file{uses_todo}{$func}++;
    }
  }
}

```

```

while ($c =~ /^$HS*#$HS*define$HS+(NEED_(\w+?)(_GLOBAL?))\b/mg) {
  if (exists $need{$2}) {
    $file{defined $3 ? 'needed_global' : 'needed_static'}{$2}++;
  }
  else { warning("Possibly wrong #define $1 in $filename")
  }
}

```

```

for (qw(uses needs uses_todo needed_global needed_static)) {
  for $func (keys %{$file{$_}}) {
    push @{$global{$_}{$func}}, $filename;
  }
}

```

```

$files{$filename} = \%file;
}

```

```

# Globally resolve NEED_'s
my $need;
for $need (keys %{$global{needs}}) {
  if (@{$global{needs}{$need}} > 1) {
    my @targets = @{$global{needs}{$need}};
    my @t = grep $files{$_}{needed_global}{$need}, @targets;

```

```

@targets = @t if @t;
@t = grep /\.xs$/i, @targets;
@targets = @t if @t;
my $target = shift @targets;
$files{$target}{needs}{$need} = 'global';
for (@{$global{needs}{$need}}) {
    $files{$_}{needs}{$need} = 'extern' if $_ ne $target;
}
}
}

for $filename (@files) {
exists $files{$filename} or next;

info("=== Analyzing $filename ===");

my %file = %{$files{$filename}};
my $func;
my $c = $file{code};
my $warnings = 0;

for $func (sort keys %{$file{uses_Perl}}) {
    if ($API{$func}{varargs}) {
        unless ($API{$func}{nothxarg}) {

            my $changes = ($c =~ s{\b(Perl_$func\s*(\s*)(?!aTHX_?)\(\)|[\^s]*)})
                { $1 . ($2 eq ') ? 'aTHX' : 'aTHX_' } . $2 }ge);
            if ($changes) {
                warning("Doesn't pass interpreter argument aTHX to Perl_$func");
                $file{changes} += $changes;
            }
        }
    }
    else {
        warning("Uses Perl_$func instead of $func");
        $file{changes} += ($c =~ s{\bPerl_$func(\s*)((\s*aTHX_?)?\s*}
            {$func$1(}g);
    }
}

for $func (sort keys %{$file{uses_replace}}) {
    warning("Uses $func instead of $replace{$func}");
    $file{changes} += ($c =~ s{\b$func\b/$replace{$func}/g);
}

for $func (sort keys %{$file{uses_provided}}) {
    if ($file{uses}{$func}) {
        if (exists $file{uses_deps}{$func}) {

```

```

    diag("Uses $func, which depends on ", join(', ', @{$file{uses_deps}{$func}}));
  }
  else {
    diag("Uses $func");
  }
}
$warnings += hint($func);
}

```

```

unless ($opt{quiet})
{
  for $func (sort keys %{$file{uses_todo}}) {
    print "*** WARNING: Uses $func, which may not be portable below perl ",
      format_version($API{$func}{todo}), ", even with 'Sppport\n";
    $warnings++;
  }
}

```

```

for $func (sort keys %{$file{needed_static}}) {
  my $message = "";
  if (not exists $file{uses}{$func}) {
    $message = "No need to define NEED_$func if $func is never used";
  }
  elsif (exists $file{needs}{$func} && $file{needs}{$func} ne 'static') {
    $message = "No need to define NEED_$func when already needed globally";
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_$func\b.*$LF//mg);
  }
}

```

```

for $func (sort keys %{$file{needed_global}}) {
  my $message = "";
  if (not exists $global{uses}{$func}) {
    $message = "No need to define NEED_{$func}_GLOBAL if $func is never used";
  }
  elsif (exists $file{needs}{$func}) {
    if ($file{needs}{$func} eq 'extern')
    {
      $message = "No need to define NEED_{$func}_GLOBAL when already needed globally";
    }
    elsif ($file{needs}{$func} eq 'static') {
      $message = "No need to define NEED_{$func}_GLOBAL when only used in this file";
    }
  }
  if ($message) {
    diag($message);
  }
}

```

```

$file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_{func}_GLOBAL\b.*$LF//mg);
}
}

$file{needs_inc_ppport} = keys %{$file{uses}};

if ($file{needs_inc_ppport}) {
    my $pp = "";

    for $func (sort keys %{$file{needs}}) {
        my $type = $file{needs}{$func};
        next if $type eq 'extern';
        my $suffix = $type eq 'global' ? '_GLOBAL' : "";
        unless (exists $file{"needed_$type"}{$func}) {
            if ($type eq 'global') {
                diag("Files [@$global{needs}{$func}] need $func, adding global request");
            }
            else {
                diag("File needs $func, adding static request");
            }
            $pp .= "#define NEED_$func$suffix\n";
        }
    }

    if ($pp
&& ($c =~ s/^(?=$HS*#\$HS*define\$HS+NEED_(w+)/$pp/m)) {
        $pp = "";
        $file{changes}++;
    }

    unless ($file{has_inc_ppport}) {
        diag("Needs to include '$ppport'");
        $pp .= qq(#include "$ppport"\n)
    }

    if ($pp) {
        $file{changes} += ($c =~ s/^\($HS*#\$HS*define\$HS+NEED_(w+.*?)^/$1$pp/ms)
            || ($c =~ s/^(?=$HS*#\$HS*include.*\Q$ppport\E)/$pp/m)
            || ($c =~ s/^\($HS*#\$HS*include.*XSUB.*\s*?)^/$1$pp/m)
            || ($c =~ s/^\$pp/);
    }
}
else {
    if ($file{has_inc_ppport}) {
        diag("No need to include '$ppport'");
        $file{changes} += ($c =~ s/^\$HS*?#\$HS*include.*\Q$ppport\E.*?$LF//m);
    }
}
}

```

```

# put back in our C comments
my $ix;
my $cppc = 0;
my @ccom = @{$file{ccom}};
for $ix (0 .. $#ccom) {
    if (!$opt{cplusplus} && $ccom[$ix] =~ s!^/!!) {
        $cppc++;
        $file{changes} += $c =~ s/$rcs$ix$rcce/$ccs$ccom[$ix] $cce/;
    }
    else {
        $c =~ s/$rcs$ix$rcce/$ccom[$ix]/;
    }
}

if ($cppc) {
    my $s = $cppc != 1 ? 's' : '';
    warning("Uses $cppc C++ style comment$s, which is not portable");
}

my $s = $warnings != 1 ? 's' : '';
my $warn = $warnings ? " ($warnings warning$s)" : "";
info("Analysis completed$warn");

if ($file{changes}) {
    if (exists $opt{copy}) {
        my $newfile = "$filename$opt{copy}";
        if (-e $newfile) {
            error("$newfile' already exists, refusing to write copy of '$filename'");
        }
        else {
            local *F;
            if (open F, ">$newfile") {
                info("Writing copy of '$filename' with changes to '$newfile'");
                print F $c;
                close F;
            }
            else {
                error("Cannot open '$newfile' for writing: $!");
            }
        }
    }
}

elsif (exists $opt{patch} || $opt{changes}) {
    if (exists $opt{patch}) {
        unless ($patch_opened) {
            if (open PATCH, ">$opt{patch}") {
                $patch_opened = 1;
            }
        }
    }
}

```



```

        else {
            error("Cannot
open '$opt{patch}' for writing: $!");
            delete $opt{patch};
            $opt{changes} = 1;
            goto fallback;
        }
    }
    mydiff(\*PATCH, $filename, $c);
}
else {
fallback:
    info("Suggested changes:");
    mydiff(\*STDOUT, $filename, $c);
}
else {
    my $s = $file{changes} == 1 ? " : 's'";
    info("$file{changes} potentially required change$s detected");
}
}
else {
    info("Looks good");
}
}

close PATCH if $patch_opened;

exit 0;

sub try_use { eval "use @_."; return $@ eq " }

sub mydiff
{
    local *F = shift;
    my($file, $str) = @_;
    my $diff;

    if (exists $opt{diff}) {
        $diff = run_diff($opt{diff}, $file, $str);
    }

    if (!defined $diff and try_use("Text::Diff")) {
        $diff = Text::Diff::diff($file, \$str, { STYLE => 'Unified' });
        $diff = <<HEADER . $diff;
    }
    --- $file
    +++ $file.patched

```

```

HEADER
}

if (!defined $diff) {
    $diff = run_diff('diff -u', $file, $str);
}

if (!defined $diff) {
    $diff = run_diff('diff', $file, $str);
}

if (!defined $diff) {
    error("Cannot generate a diff. Please install Text::Diff or use --copy.");
    return;
}

print F $diff;
}

sub run_diff
{
    my($prog, $file, $str) = @_;
    my $tmp = 'dppptemp';
    my $suf = 'aaa';
    my $diff = "";
    local *F;

    while (-e "$tmp.$suf") { $suf++ }
    $tmp = "$tmp.$suf";

    if (open F, ">$tmp") {
        print F $str;
        close F;

        if (open F, "$prog $file $tmp |") {
            while (<F>) {
                s/^Q$tmp\E/$file.patched/;
                $diff .= $_;
            }
            close F;
            unlink $tmp;
            return $diff;
        }

        unlink $tmp;
    }
    else {
        error("Cannot open '$tmp' for writing: $!");
    }
}

```

```

}

return undef;
}

sub rec_depend
{
my($func, $seen) = @_ ;
return () unless exists $depends{$func};
$seen = {%{$seen|{}}};
return () if $seen->{$func}++;
my %s;
grep !${$_}++, map { ($_, rec_depend($_, $seen)) } @{$depends{$func}};
}

sub parse_version
{
my $ver = shift;

if ($ver =~ /^(d+)\.(d+)\.(d+)$/) {
return ($1, $2, $3);
}
elsif ($ver !~ /^d+\.[d_]+$/) {
die "cannot parse version '$ver'\n";
}

$ver =~ s/_//g;
$ver =~ s/000000/;

my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;
$s = int $s;

if ($r < 5 || ($r == 5 && $v < 6)) {
if ($s % 10) {
die "cannot parse version '$ver'\n";
}
}

return ($r, $v, $s);
}

sub format_version
{
my $ver = shift;

$ver =~ s/000000/;

```

```
my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;
```

```
$v = int $v;
```

```
$s = int $s;
```

```
if ($r < 5 || ($r == 5 && $v < 6)) {
```

```
  if ($s % 10) {
```

```
    die "invalid version '$ver'\n";
```

```
  }
```

```
  $s /= 10;
```

```
  $ver = sprintf "%d.%03d", $r, $v;
```

```
  $s > 0 and $ver .= sprintf "_%02d", $s;
```

```
  return $ver;
```

```
}
```

```
return sprintf "%d.%d.%d", $r, $v, $s;
```

```
}
```

```
sub info
```

```
{
```

```
  $opt{quiet} and return;
```

```
  print @_, "\n";
```

```
}
```

```
sub diag
```

```
{
```

```
  $opt{quiet} and return;
```

```
  $opt{diag} and print @_, "\n";
```

```
}
```

```
sub warning
```

```
{
```

```
  $opt{quiet} and return;
```

```
  print "*** ", @_, "\n";
```

```
}
```

```
sub error
```

```
{
```

```
  print "*** ERROR: ", @_, "\n";
```

```
}
```

```
my %given_hints;
```

```
my %given_warnings;
```

```
sub hint
```

```
{
```

```
  $opt{quiet} and return;
```

```

my $func = shift;
my $rv = 0;
if (exists $warnings{$func} && !$given_warnings{$func}++) {
    my $warn = $warnings{$func};
    $warn =~ s/^\!*** !mg;
    print "*** WARNING: $func\n", $warn;
    $rv++;
}
if ($opt{hints} && exists $hints{$func} && !$given_hints{$func}++) {
    my $hint = $hints{$func};
    $hint =~ s/^\s+ /mg;
    print " --- hint for $func ---\n", $hint;
}
$rv;
}

```

sub usage

```

{
my($usage) = do { local(@ARGV,$/)=($0); <> } =~ /^=head\d$HS+SYNOPSIS\s*^(.*?)\s*^=/ms;
my %M = ( 'T' => '*' );
$usage =~ s/^\s*perl\s+\S+/$^X $0/;
$usage =~ s/([A-Z])<([>]+)>/M{$1}$2M{$1}/g;

```

```
print <<ENDUSAGE;
```

Usage: \$usage

See perldoc \$0 for details.

ENDUSAGE

```
exit 2;
}
```

sub strip

```

{
my $self = do { local(@ARGV,$/)=($0); <> };
my($copy) = $self =~ /^=head\d\s+COPYRIGHT\s*^(.*?)^\s*\w+/ms;
$copy =~ s/^(?=\S+)/
    /gms;
$self =~ s/^\$HS+Do NOT edit.*?(?=\^)/$copy/ms;
$self =~ s/^\$SKIP.*(?=\^__DATA__)/SKIP
if (\@ARGV && $ARGV[0] eq '--unstrip') {
    eval { require Devel::PPPport };
    \@ and die "Cannot require Devel::PPPport, please install.\n";
    if (eval $Devel::PPPport::VERSION < $VERSION) {
        die "$0 was originally generated with Devel::PPPport $VERSION.\n"
            . "Your Devel::PPPport is only version $Devel::PPPport::VERSION.\n"
    }
}

```

```

    . "Please install a newer version, or --unstrip will not work.\n";
}
Devel::PPPort::WriteFile(\$0);
exit 0;
}
print <<END;

```

Sorry, but this is a stripped version of \\$0.

To be able to use its original script and doc functionality,
please try to regenerate this file using:

```
\$^X \$0 --unstrip
```

```
END
```

```
/ms;
```

```
my($pl, $c) = $self =~ /(.*__DATA__)(.*)/ms;
```

```
$c =~ s{
```

```
 /(?: \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* /|/[\r\n]*)
```

```
| ( "[^\\"]*(?:\\\[^\\"\\\\]*)"
```

```
 | '[^\\"]*(?:\\\[^\\"\\\\]*)" )
```

```
| ($HS+) }{ defined $2 ? ' ' : ($1 || " ) }gsex;
```

```
$c =~ s!\s+#!mg;
```

```
$c =~ s!^\$LF!mg;
```

```
$c =~ s!\s*#\s*#!mg;
```

```
$c =~ s!\s+!mg;
```

```
open OUT, ">$0" or die "cannot strip $0: $!\n";
```

```
print OUT "$pl$c\n";
```

```
exit 0;
```

```
}
```

```
__DATA__
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/ppport.h
```

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

```
/* See
```

```
* http://www.xray.mpe.mpg.de/mailling-lists/perl5-porters/2004-11/msg00979.html
```

```
* for the details of why the BSD license is compatible with the
```

```
* AL/GPL standard perl license.
```

```
*/
```

```
/*
```

```
* Copyright (c) 2003 Constantin S. Svintsoff <kostik@iclub.nsu.ru>
```

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* SUCH DAMAGE.
*/

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/Cwd.xs

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

=back

=head1 COPYRIGHT

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=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec/Cygwin.pm

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

=back

=head1 EXIT CODES

If all your tests passed, Test::Builder will exit with zero (which is normal). If anything failed it will exit with how many failed. If you run less (or more) tests than you planned, the missing (or extras) will be considered failures. If no tests were ever run Test::Builder will throw a warning and exit with 255. If the test died, even after having successfully completed all its tests, it will still be considered a failure and will exit with 255.

So the exit codes are...

0	all tests successful
255	test died
any other number	how many failed (including missing or extras)

If you fail more than 254 tests, it will be reported as 254.

=head1 NOTES

Test::More is B<explicitly> tested all the way back to perl 5.004.

=head1 BUGS and CAVEATS

=over 4

=item Threads

Test::More will only be aware of threads if "use threads" has been done I<before>

Test::More is loaded. This is ok:

```
use threads;
use Test::More;
```

This may cause problems:

```
use Test::More
use threads;
```

=item Making your own ok()

If you are trying to extend Test::More, don't. Use Test::Builder instead.

=item The eq_* family has some caveats.

=item Test::Harness upgrade

no_plan and todo depend on new Test::Harness features and fixes. If you're going to distribute tests that use no_plan or todo your end-users will have to upgrade Test::Harness to the latest one on CPAN. If you avoid no_plan and TODO tests, the stock Test::Harness will work fine.

Installing Test::More should also upgrade Test::Harness.

=back

=head1 HISTORY

This is a case of convergent evolution with Joshua Pritikin's Test module. I was largely unaware of its existence when I'd first written my own ok() routines. This module exists because I can't figure out how to easily wedge test names into Test's interface (along with a few other problems).

The goal here is to have a testing utility that's simple to learn, quick to use and difficult to trip yourself up with while still providing more flexibility than the existing Test.pm. As such, the names of the most common routines are kept tiny, special cases and magic side-effects are kept to a minimum. WYSIWYG.

=head1 SEE ALSO

L<Test::Simple> if all this confuses you and you just want to write some tests. You can upgrade to Test::More later (it's forward compatible).

L<Test> is the old testing module. Its main benefit is that it has been distributed with Perl since 5.004_05.

L<Test::Harness> for details on how your test results are interpreted by Perl.

L<Test::Differences> for more ways to test complex data structures. And it plays well with Test::More.

L<Test::Class> is like XUnit but more perl-ish.

L<Test::Deep> gives you more powerful complex data structure testing.

L<Test::Unit> is XUnit style testing.

L<Test::Inline> shows the idea of embedded testing.

L<Bundle::Test> installs a whole bunch of useful test modules.

=head1 AUTHORS

Michael G Schwern E<lt>schwern@pobox.comE<gt> with much inspiration from Joshua Pritikin's Test module and lots of help from Barrie Slaymaker, Tony Bowden, blackstar.co.uk, chromatic and the perl-qa gang.

=head1 COPYRIGHT

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See F<http://www.perl.com/perl/misc/Artistic.html>

=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/t/lib/Test/More.pm

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=back

Test::Simple will start by printing number of tests run in the form "1..M" (so "1..5" means you're going to run 5 tests). This strange format lets Test::Harness know how many tests you plan on running in case something goes horribly wrong.

If all your tests passed, Test::Simple will exit with zero (which is normal). If anything failed it will exit with how many failed. If you run less (or more) tests than you planned, the missing (or extras) will be considered failures. If no tests were ever run Test::Simple will throw a warning and exit with 255. If the test died, even after having successfully completed all its tests, it will still be considered a failure and will exit with 255.

So the exit codes are...

```
0          all tests successful
255       test died
any other number  how many failed (including missing or extras)
```

If you fail more than 254 tests, it will be reported as 254.

This module is by no means trying to be a complete testing system. It's just to get you started. Once you're off the ground its recommended you look at [L<Test::More>](#).

=head1 EXAMPLE

Here's an example of a simple .t file for the fictional Film module.

```
use Test::Simple tests => 5;

use Film; # What you're testing.

my $btaste = Film->new({ Title => 'Bad Taste',
                      Director => 'Peter Jackson',
                      Rating => 'R',
                      NumExplodingSheep => 1
                      });
ok( defined($btaste) and ref $btaste eq 'Film', 'new() works' );

ok( $btaste->Title eq 'Bad Taste', 'Title() get' );
ok( $btaste->Director eq 'Peter Jackson', 'Director() get' );
ok( $btaste->Rating eq 'R', 'Rating() get' );
ok( $btaste->NumExplodingSheep == 1, 'NumExplodingSheep() get' );
```

It will produce output like this:

```
1..5
ok 1 - new() works
ok 2 - Title() get
ok 3 - Director() get
not ok 4 - Rating() get
# Failed test (t/film.t at line 14)
ok 5 - NumExplodingSheep() get
# Looks like you failed 1 tests of 5
```

Indicating the `Film::Rating()` method is broken.

=head1 CAVEATS

Test::Simple will only report a maximum of 254 failures in its exit code. If this is a problem, you probably have a huge test script. Split it into multiple files. (Otherwise blame the Unix folks for using an unsigned short integer as the exit status).

Because VMS's exit codes are much, much different than the rest of the universe, and perl does horrible mangling to them that gets in my way, it works like this on VMS.

```
0  SS$_NORMAL    all tests successful
4  SS$_ABORT     something went wrong
```

Unfortunately, I can't differentiate any further.

=head1 NOTES

Test::Simple is B<explicitly> tested all the way back to perl 5.004.

Test::Simple is thread-safe in perl 5.8.0 and up.

=head1 HISTORY

This

module was conceived while talking with Tony Bowden in his kitchen one night about the problems I was having writing some really complicated feature into the new Testing module. He observed that the main problem is not dealing with these edge cases but that people hate to write tests B<at all>. What was needed was a dead simple module that took all the hard work out of testing and was really, really easy to learn. Paul Johnson simultaneously had this idea (unfortunately, he wasn't in Tony's kitchen). This is it.

=head1 SEE ALSO

=over 4

=item L<Test::More>

More testing functions! Once you outgrow Test::Simple, look at Test::More. Test::Simple is 100% forward compatible with Test::More (i.e. you can just use Test::More instead of Test::Simple in your programs and things will still work).

=item L<Test>

The original Perl testing module.

=item L<Test::Unit>

Elaborate unit testing.

=item L<Test::Inline>, L<SelfTest>

Embed tests in your code!

=item L<Test::Harness>

Interprets

the output of your test program.

=back

=head1 AUTHORS

Idea by Tony Bowden and Paul Johnson, code by Michael G Schwern
E<lt>schwern@pobox.comE<gt>, wardrobe by Calvin Klein.

=head1 COPYRIGHT

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=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-
DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/t/lib/Test/Simple.pm

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=head1 NAME

Cwd - get pathname of current working directory

=head1 SYNOPSIS

```
use Cwd;
```

```
my $dir = getcwd;

use Cwd 'abs_path';
my $abs_path = abs_path($file);
```

=head1 DESCRIPTION

This module provides functions for determining the pathname of the current working directory. It is recommended that `getcwd` (or another `*cwd()` function) be used in I<all> code to ensure portability.

By default, it exports the functions `cwd()`, `getcwd()`, `fastcwd()`, and `fastgetcwd()` (and, on Win32, `getdcwd()`) into the caller's namespace.

=head2 `getcwd` and friends

Each of these functions are called without arguments and return the absolute path of the current working directory.

=over 4

=item `getcwd`

```
my $cwd = getcwd();
```

Returns the current working directory.

Exposes the POSIX function `getcwd(3)` or re-implements it if it's not available.

=item `cwd`

```
my $cwd = cwd();
```

The `cwd()` is the most natural form for the current architecture. For most systems it is identical to ``pwd`` (but without the trailing line terminator).

=item `fastcwd`

```
my $cwd = fastcwd();
```

A more dangerous version of `getcwd()`, but potentially faster.

It might conceivably `chdir()` you out of a directory that it can't `chdir()` you back into. If `fastcwd` encounters a problem it will return

undef but will probably leave you in a different directory. For a measure of extra security, if everything appears to have worked, the `fastcwd()` function will check that it leaves you in the same directory that it started in. If it has changed it will `C<die>` with the message "Unstable directory path, current directory changed unexpectedly". That should never happen.

=item fastgetcwd

```
my $cwd = fastgetcwd();
```

The `fastgetcwd()` function is provided as a synonym for `cwd()`.

=item getdcwd

```
my $cwd = getdcwd();  
my $cwd = getdcwd('C:');
```

The `getdcwd()` function is also provided on Win32 to get the current working directory on the specified drive, since Windows maintains a separate current working directory for each drive. If no drive is specified then the current drive is assumed.

This function simply calls the Microsoft C library `_getdcwd()` function.

=back

=head2 abs_path and friends

These functions are exported only on request. They each take a single argument and return the absolute pathname for it. If no argument is given they'll use the current working directory.

=over 4

=item abs_path

```
my $abs_path = abs_path($file);
```

Uses the same algorithm as `getcwd()`. Symbolic links and relative-path components (".", "..") are resolved to return the canonical pathname, just like `realpath(3)`.

=item realpath

```
my $abs_path = realpath($file);
```

A synonym for `abs_path()`.

=item `fast_abs_path`

```
my $abs_path = fast_abs_path($file);
```

A more dangerous, but potentially faster version of `abs_path`.

=back

=head2 `$ENV{PWD}`

If you ask to override your `chdir()` built-in function,

```
use Cwd qw(chdir);
```

then your `PWD` environment

variable will be kept up to date. Note that

it will only be kept up to date if all packages which use `chdir` import it from `Cwd`.

=head1 NOTES

=over 4

=item *

Since the path separators are different on some operating systems (`/` on Unix, `:` on MacPerl, etc...) we recommend you use the `File::Spec` modules wherever portability is a concern.

=item *

Actually, on Mac OS, the `C<getcwd()`, `C<fastgetcwd()` and `C<fastcwd()` functions are all aliases for the `C<cwd()` function, which, on Mac OS, calls ``pwd``. Likewise, the `C<abs_path()` function is an alias for `C<fast_abs_path()`.

=back

=head1 AUTHOR

Originally by the perl5-porters.

Maintained by Ken Williams <KWILLIAMS@cpan.org>

=head1 COPYRIGHT

Copyright (c) 2004 by the Perl 5 Porters. All rights reserved.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

Portions of the C code in this library are copyright (c) 1994 by the Regents of the University of California.

All rights reserved. The license on this code is compatible with the licensing of the rest of the distribution - please see the source code in `F<Cwd.xs>` for the details.

=head1 SEE ALSO

`L<File::chdir>`

=cut

Found in path(s):

```
* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/Cwd.pm
```

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

=head1 NAME

`File::Spec` - portably perform operations on file names

=head1 SYNOPSIS

```
use File::Spec;
```

```
$x=File::Spec->catfile('a', 'b', 'c');
```

which returns 'a/b/c' under Unix. Or:

```
use File::Spec::Functions;
```

```
$x = catfile('a', 'b', 'c');
```

=head1 DESCRIPTION

This module is designed to support operations commonly performed on file specifications (usually called "file names", but not to be confused with the contents of a file, or Perl's file handles), such as concatenating several directory and file names into a single path, or determining whether a path is rooted. It is based on code directly taken from MakeMaker 5.17, code

written by Andreas Koenig, Andy Dougherty, Charles Bailey, Ilya Zakharevich, Paul Schinder, and others.

Since these functions are different for most operating systems, each set of OS specific routines is available in a separate module, including:

```
File::Spec::Unix
File::Spec::Mac
File::Spec::OS2
File::Spec::Win32
File::Spec::VMS
```

The module appropriate for the current OS is automatically loaded by File::Spec. Since some modules (like VMS) make use of facilities available only under that OS, it may not be possible to load all modules under all operating systems.

Since File::Spec is object oriented, subroutines should not be called directly, as in:

```
File::Spec::catfile('a','b');
```

but rather as class methods:

```
File::Spec->catfile('a','b');
```

For simple uses, L<File::Spec::Functions> provides convenient functional forms of these methods.

=head1 METHODS

=over 2

=item canonpath
X<canonpath>

No physical check on the filesystem, but a logical cleanup of a path.

```
$cpath = File::Spec->canonpath( $path );
```

Note that this does *not* collapse F<x/../y> sections into F<y>. This is by design. If F</foo> on your system is a symlink to F</bar/baz>, then F</foo/../quux> is actually F</bar/quux>, not F</quux> as a naive F<./>-removal would give you. If you want to do this kind of processing, you probably want C<Cwd>'s C<realpath()> function to

actually traverse the filesystem cleaning up paths like this.

=item catdir
X<catdir>

Concatenate two or more directory names to form a complete path ending with a directory. But remove the trailing slash from the resulting string, because it doesn't look good, isn't necessary and confuses OS/2. Of course, if this is the root directory, don't cut off the trailing slash :-)

```
$path = File::Spec->catdir( @directories );
```

=item catfile
X<catfile>

Concatenate one or more directory names and a filename to form a complete path ending with a filename

```
$path = File::Spec->catfile( @directories, $filename );
```

=item curdir
X<curdir>

Returns a string representation of the current directory.

```
$curdir = File::Spec->curdir();
```

=item devnull
X<devnull>

Returns a string representation of the null device.

```
$devnull = File::Spec->devnull();
```

=item rootdir
X<rootdir>

Returns a string representation of the root directory.

```
$rootdir = File::Spec->rootdir();
```

=item tmpdir
X<tmpdir>

Returns a string representation of the first writable directory from a list of possible temporary directories. Returns the current directory

if no writable temporary directories are found. The list of directories checked depends on the platform; e.g. `File::Spec::Unix` checks `C<${ENV{TMPDIR}}>` (unless taint is on) and `F</tmp>`.

```
$tmpdir = File::Spec->tmpdir();
```

=item updir

X<updir>

Returns a string representation of the parent directory.

```
$updir = File::Spec->updir();
```

=item no_upwards

Given a list of file names, strip out those that refer to a parent directory. (Does not strip symlinks, only `'.'`, `'..'`, and equivalents.)

```
@paths = File::Spec->no_upwards( @paths );
```

=item case_tolerant

Returns a true or false value indicating, respectively, that alphabetic case is not or is significant when comparing file specifications.

Cygwin and Win32 accept an optional drive argument.

```
$is_case_tolerant =  
File::Spec->case_tolerant();
```

=item file_name_is_absolute

Takes as its argument a path, and returns true if it is an absolute path.

```
$is_absolute = File::Spec->file_name_is_absolute( $path );
```

This does not consult the local filesystem on Unix, Win32, OS/2, or Mac OS (Classic). It does consult the working environment for VMS (see `L<File::Spec::VMS/file_name_is_absolute>`).

=item path

X<path>

Takes no argument. Returns the environment variable `C<PATH>` (or the local platform's equivalent) as a list.

```
@PATH = File::Spec->path();
```

=item join

X<join, path>

join is the same as catfile.

=item splitpath

X<splitpath> X<split, path>

Splits a path in to volume, directory, and filename portions. On systems with no concept of volume, returns " for volume.

```
($volume,$directories,$file) =  
    File::Spec->splitpath( $path );  
($volume,$directories,$file) =  
    File::Spec->splitpath( $path, $no_file );
```

For systems with no syntax differentiating filenames from directories, assumes that the last file is a path unless C<\$no_file> is true or a trailing separator or F</.> or F</..> is present. On Unix, this means that C<\$no_file> true makes this return (" , \$path, ").

The directory portion may or may not be returned with a trailing '/'.

The results can be passed to L</catpath()> to get back a path equivalent to (usually identical to) the original path.

=item splitdir

X<splitdir> X<split, dir>

The opposite of L</catdir>.

```
@dirs = File::Spec->splitdir( $directories );
```

C<\$directories> must be only the directory portion of the path on systems that have the concept of a volume or that have path syntax that differentiates files from directories.

Unlike just splitting the directories on the separator, empty directory names (C<">) can be returned, because these are significant on some OSes.

=item catpath()

Takes volume, directory and file portions and returns an entire path. Under Unix, C<\$volume> is ignored, and directory and file are concatenated. A '/' is inserted if need be. On other OSes, C<\$volume> is significant.

```
$full_path = File::Spec->catpath( $volume, $directory, $file );
```

```
=item abs2rel
```

```
X<abs2rel> X<absolute, path> X<relative, path>
```

Takes a destination path and an optional base path returns a relative path from the base path to the destination path:

```
$rel_path = File::Spec->abs2rel( $path ) ;
```

```
$rel_path = File::Spec->abs2rel( $path, $base ) ;
```

If C<\$base> is not present or "", then L<Cwd::cwd()|Cwd> is used. If C<\$base> is relative, then it is converted to absolute form using

```
L</rel2abs()>. This means that it is taken to be relative to
```

```
L<Cwd::cwd()|Cwd>.
```

On systems with the concept of volume, if C<\$path> and C<\$base> appear to be on two different volumes, we will not attempt to resolve the two paths, and we will instead simply return C<\$path>. Note that previous versions of this module ignored the volume of C<\$base>, which resulted in garbage results part of the time.

On

systems that have a grammar that indicates filenames, this ignores the C<\$base> filename as well. Otherwise all path components are assumed to be directories.

If C<\$path> is relative, it is converted to absolute form using L</rel2abs()>.

This means that it is taken to be relative to L<Cwd::cwd()|Cwd>.

No checks against the filesystem are made. On VMS, there is interaction with the working environment, as logicals and macros are expanded.

Based on code written by Shigio Yamaguchi.

```
=item rel2abs()
```

```
X<rel2abs> X<absolute, path> X<relative, path>
```

Converts a relative path to an absolute path.

```
$abs_path = File::Spec->rel2abs( $path ) ;
```

```
$abs_path = File::Spec->rel2abs( $path, $base ) ;
```

If C<\$base> is not present or "", then L<Cwd::cwd()|Cwd> is used. If C<\$base> is relative, then it is converted to absolute form using L</rel2abs()>. This means that it is taken to be relative to L<Cwd::cwd()|Cwd>.

On systems with the concept of volume, if C<\$path> and C<\$base> appear to be on two different volumes, we will not attempt to resolve the two paths, and we will instead simply return C<\$path>. Note that previous versions of this module ignored the volume of C<\$base>, which resulted in garbage results part of the time.

On systems that have a grammar that indicates filenames, this ignores the C<\$base> filename as well. Otherwise all path components are assumed to be directories.

If C<\$path> is absolute, it is cleaned up and returned using L</canonpath>.

No checks against the filesystem are made. On VMS, there is interaction with the working environment, as logicals and macros are expanded.

Based on code written by Shigio Yamaguchi.

=back

For further information, please see L<File::Spec::Unix>, L<File::Spec::Mac>, L<File::Spec::OS2>, L<File::Spec::Win32>, or L<File::Spec::VMS>.

=head1 SEE ALSO

L<File::Spec::Unix>, L<File::Spec::Mac>, L<File::Spec::OS2>, L<File::Spec::Win32>, L<File::Spec::VMS>, L<File::Spec::Functions>, L<ExtUtils::MakeMaker>

=head1

AUTHOR

Currently maintained by Ken Williams C<< <KWILLIAMS@cpan.org> >>.

The vast majority of the code was written by Kenneth Albanowski C<< <kjahds@kjahds.com> >>, Andy Dougherty C<< <doughera@lafayette.edu> >>, Andreas KE<ouml>nig C<< <A.Koenig@franz.ww.TU-Berlin.DE> >>, Tim Bunce C<< <Tim.Bunce@ig.co.uk> >>. VMS support by Charles Bailey C<< <bailey@newman.upenn.edu> >>. OS/2 support by Ilya Zakharevich C<< <ilya@math.ohio-state.edu> >>. Mac support by Paul Schinder C<< <schinder@pobox.com> >>, and Thomas Wegner C<< <wegner_thomas@yahoo.com> >>. abs2rel() and rel2abs() written by Shigio Yamaguchi C<< <shigio@tamacom.com> >>, modified by Barrie Slaymaker C<< <barries@slaysys.com> >>. splitpath(), splitdir(), catpath() and catdir() by Barrie Slaymaker.

=head1 COPYRIGHT

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=cut

Found in path(s):

* /opt/cola/permits/1150897886_1634081776.87/0/perl-PathTools-3.40-5.amzn2.0.2.src.rpm-cosi-expand-archive-DFqo5q1V/PathTools-3.40.tar.gz-cosi-expand-archive-ftvWY5fq/PathTools-3.40/lib/File/Spec.pm

1.80 perl-time-hires 1.9725-3.amzn2.0.2

1.80.1 Available under license :

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

Time::HiRes module: High resolution time, sleep, and alarm.

Implement usleep, ualarm, and gettimeofday for Perl, as well as wrappers to implement time, sleep, and alarm that know about non-integral seconds.

Note: the tests of this module are by definition time sensitive: under heavy loads the tests may fail. Reasonable relaxed criteria are being used for the tests but sometimes you may still see transient failures.

Rerun the tests (make test) a couple of times, preferably with less load on the testing machine.

Also, older versions of Perl do not support '-nolinenumbers' on the XSUBPP command, however, 5.004_03 requires it (on my box, anyway) since the #line generating code in XSUBPP appears to have problems with #ifdef'd .xs code.

If xsubpp complains about usage when you do a make, look at the top of the Makefile.PL and comment out the "\$XSOPT=" line. Or upgrade to a newer version of Perl.

POD documentation is embedded.

Copyright

(c) 1996, 1997, 1998, 1999, 2000, 2001, 2002 Douglas E. Wegscheid.

Copyright (c) 2002, 2003, 2004, 2005 Jarkko Hietaniemi. All rights reserved.

Copyright (C) 2011, 2012 Andrew Main (Zefram) <zefram@fysh.org>

All rights reserved. This program is free software; you can

redistribute it and/or modify it under the same terms as Perl itself.

Found in path(s):

* /opt/cola/permits/1150898783_1634082442.68/0/perl-Time-HiRes-1.9725-3.amzn2.0.2.src.rpm-cosi-expand-archive-pN2prdIr/Time-HiRes-1.9725.tar.gz-cosi-expand-archive-J7vCgOEK/Time-HiRes-1.9725/README
No license file was found, but licenses were detected in source scan.

/*

*

* Copyright (c) 1996-2002 Douglas E. Wegscheid. All rights reserved.

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*

* This program is free software; you can redistribute it and/or modify

* it under the same terms as Perl itself.

*/

Found in path(s):

* /opt/cola/permits/1150898783_1634082442.68/0/perl-Time-HiRes-1.9725-3.amzn2.0.2.src.rpm-cosi-expand-archive-pN2prdIr/Time-HiRes-1.9725.tar.gz-cosi-expand-archive-J7vCgOEK/Time-HiRes-1.9725/HiRes.xs
No license file was found, but licenses were detected in source scan.

abstract: 'High resolution alarm, sleep, gettimeofday, interval timers'

author:

- 'Jarkko Hietaniemi <jhi@iki.fi>'

build_requires:

ExtUtils::MakeMaker: 0

configure_requires:

ExtUtils::MakeMaker: 0

dynamic_config: 1

generated_by: 'ExtUtils::MakeMaker version 6.62, CPAN::Meta::Converter version 2.112621'

license: unknown

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: Time-HiRes

no_index:

directory:

- t

- inc

requires:

Carp: 0

Config: 0

DynaLoader: 0

Exporter: 0
ExtUtils::MakeMaker: 0
Test::More: 0.82
strict: 0
version: 1.9725

Found in path(s):

* /opt/cola/permits/1150898783_1634082442.68/0/perl-Time-HiRes-1.9725-3.amzn2.0.2.src.rpm-cosi-expand-archive-pN2prdIr/Time-HiRes-1.9725.tar.gz-cosi-expand-archive-J7vCgOEK/Time-HiRes-1.9725/META.yml
No license file was found, but licenses were detected in source scan.

/*

ppport.h -- Perl/Pollution/Portability Version 3.13

Automatically created by Devel::PPPport running under perl 5.008008.

Do NOT edit this file directly! -- Edit PPPport_pm.PL and the includes in parts/inc/ instead.

Use 'perldoc ppport.h' to view the documentation below.

SKIP

=pod

=head1 NAME

ppport.h - Perl/Pollution/Portability version 3.13

=head1 SYNOPSIS

perl ppport.h [options] [source files]

Searches current directory for files if no [source files] are given

--help show short help

--version show version

--patch=file write one patch file with changes

--copy=suffix write changed copies with suffix

--diff=program use diff program and options

--compat-version=version

provide compatibility with Perl version
--plusplus accept C++ comments

--quiet don't output anything except fatal errors
--nodiag don't show diagnostics
--nohints don't show hints
--nochanges don't suggest changes
--nofilter don't filter input files

--strip strip all script and doc functionality from
 ppport.h

--list-provided list provided API
--list-unsupported list unsupported API
--api-info=name show Perl API portability information

=head1 COMPATIBILITY

This version of F<ppport.h> is designed to support operation with Perl installations back to 5.003, and has been tested up to 5.10.0.

=head1 OPTIONS

=head2 --help

Display a brief usage summary.

=head2 --version

Display the version of F<ppport.h>.

=head2 --patch=I<file>

If this option is given, a single patch file will be created if any changes are suggested. This requires a working diff program to be installed on your system.

=head2 --copy=I<suffix>

If this option is given, a copy of each file will be saved with the given suffix that contains the suggested changes. This does not require any external programs. Note that this does not automagially add a dot between the original filename and the suffix. If you want the dot, you have to include it in the option argument.

If neither C<--patch> or C<--copy> are given, the default is to

simply print the diffs for each file. This requires either C<Text::Diff> or a C<diff> program to be installed.

```
=head2 --diff=I<program>
```

Manually set the diff program and options to use. The default is to use C<Text::Diff>, when installed, and output unified context diffs.

```
=head2 --compat-version=I<version>
```

Tell F<ppport.h> to check for compatibility with the given Perl version. The default is to check for compatibility with Perl version 5.003.

You can use this option to reduce the output of F<ppport.h> if you intend to be backward compatible only down to a certain Perl version.

```
=head2 --cplusplus
```

Usually, F<ppport.h> will detect C++ style comments and replace them with C style comments for portability reasons. Using this option instructs F<ppport.h> to leave C++ comments untouched.

```
=head2 --quiet
```

Be quiet. Don't print anything except fatal errors.

```
=head2 --nodiag
```

Don't output any diagnostic messages. Only portability alerts will be printed.

```
=head2 --nohints
```

Don't output any hints. Hints often contain useful portability notes. Warnings will still be displayed.

```
=head2 --nochanges
```

Don't suggest any changes. Only give diagnostic output and hints unless these are also deactivated.

```
=head2 --nofilter
```

Don't filter the list of input files. By default, files not looking like source code (i.e. not *.xs, *.c, *.cc, *.cpp or *.h) are skipped.

=head2 --strip

Strip all script and documentation functionality from F<ppport.h>.

This

reduces the size of F<ppport.h> dramatically and may be useful if you want to include F<ppport.h> in smaller modules without increasing their distribution size too much.

The stripped F<ppport.h> will have a C<--unstrip> option that allows you to undo the stripping, but only if an appropriate C<Devel::PPPort> module is installed.

=head2 --list-provided

Lists the API elements for which compatibility is provided by F<ppport.h>. Also lists if it must be explicitly requested, if it has dependencies, and if there are hints or warnings for it.

=head2 --list-unsupported

Lists the API elements that are known not to be supported by F<ppport.h> and below which version of Perl they probably won't be available or work.

=head2 --api-info=I<name>

Show portability information for API elements matching I<name>. If I<name> is surrounded by slashes, it is interpreted as a regular expression.

=head1 DESCRIPTION

In order for a Perl extension (XS) module to be as portable as possible across differing versions of Perl itself, certain steps need to be taken.

=over 4

=item *

Including this header is the first major one. This alone will give you access to a large part of the Perl API that hasn't been available in earlier Perl releases. Use

```
perl ppport.h --list-provided
```

to see which API elements are provided by ppport.h.

=item *

You should avoid using deprecated parts of the API. For example, using global Perl variables without the C<PL_> prefix is deprecated. Also, some API functions used to have a C<perl_> prefix. Using this form is also deprecated. You can safely use the supported API, as F<ppport.h> will provide wrappers for older Perl versions.

=item *

If you use one of a few functions or variables that were not present in earlier versions of Perl, and that can't be provided using a macro, you have to explicitly request support for these functions by adding one or more C<#define>s in your source code before the inclusion of F<ppport.h>.

These functions or variables will be marked C<explicit> in the list shown by C<--list-provided>.

Depending on whether your module has a single or multiple files that use such functions or variables, you want either C<static> or global variants.

For a C<static> function or variable (used only in a single source file), use:

```
#define NEED_function
#define NEED_variable
```

For a global function or variable (used in multiple source files), use:

```
#define NEED_function_GLOBAL
#define NEED_variable_GLOBAL
```

Note that you mustn't have more than one global request for the same function or variable in your project.

Function / Variable	Static Request	Global Request
PL_signals	NEED_PL_signals	NEED_PL_signals_GLOBAL
eval_pv()	NEED_eval_pv	NEED_eval_pv_GLOBAL
grok_bin()	NEED_grok_bin	NEED_grok_bin_GLOBAL
grok_hex()	NEED_grok_hex	NEED_grok_hex_GLOBAL
grok_number()	NEED_grok_number	NEED_grok_number_GLOBAL
grok_numeric_radix()	NEED_grok_numeric_radix	NEED_grok_numeric_radix_GLOBAL
grok_oct()	NEED_grok_oct	NEED_grok_oct_GLOBAL

load_module()	NEED_load_module	NEED_load_module_GLOBAL
my_snprintf()	NEED_my_snprintf	NEED_my_snprintf_GLOBAL
my_strlcat()	NEED_my_strlcat	NEED_my_strlcat_GLOBAL
my_strlcpy()	NEED_my_strlcpy	NEED_my_strlcpy_GLOBAL
newCONSTSUB()	NEED_newCONSTSUB	NEED_newCONSTSUB_GLOBAL
newRV_noinc()	NEED_newRV_noinc	NEED_newRV_noinc_GLOBAL
newSVpvn_share()	NEED_newSVpvn_share	NEED_newSVpvn_share_GLOBAL
sv_2pv_flags()	NEED_sv_2pv_flags	NEED_sv_2pv_flags_GLOBAL
sv_2pvbyte()	NEED_sv_2pvbyte	NEED_sv_2pvbyte_GLOBAL
sv_catpvf_mg()	NEED_sv_catpvf_mg	NEED_sv_catpvf_mg_GLOBAL
sv_catpvf_mg_nocontext()	NEED_sv_catpvf_mg_nocontext	NEED_sv_catpvf_mg_nocontext_GLOBAL
sv_pvn_force_flags()	NEED_sv_pvn_force_flags	NEED_sv_pvn_force_flags_GLOBAL
sv_setpvf_mg()	NEED_sv_setpvf_mg	NEED_sv_setpvf_mg_GLOBAL
sv_setpvf_mg_nocontext()	NEED_sv_setpvf_mg_nocontext	NEED_sv_setpvf_mg_nocontext_GLOBAL
vload_module()	NEED_vload_module	NEED_vload_module_GLOBAL
vnewSVpvf()	NEED_vnewSVpvf	NEED_vnewSVpvf_GLOBAL
warnier()	NEED_warnier	NEED_warnier_GLOBAL

To avoid namespace conflicts, you can change the namespace of the explicitly exported functions / variables using the C<DPPP_NAMESPACE> macro. Just C<#define> the macro before including C<ppport.h>:

```
#define
DPPP_NAMESPACE MyOwnNamespace_
#include "ppport.h"
```

The default namespace is C<DPPP_>.

=back

The good thing is that most of the above can be checked by running F<ppport.h> on your source code. See the next section for details.

=head1 EXAMPLES

To verify whether F<ppport.h> is needed for your module, whether you should make any changes to your code, and whether any special defines should be used, F<ppport.h> can be run as a Perl script to check your source code. Simply say:

```
perl ppport.h
```

The result will usually be a list of patches suggesting changes that should at least be acceptable, if not necessarily the most efficient solution, or a fix for all possible problems.

If you know that your XS module uses features only available in

newer Perl releases, if you're aware that it uses C++ comments, and if you want all suggestions as a single patch file, you could use something like this:

```
perl ppport.h --compat-version=5.6.0 --cplusplus --patch=test.diff
```

If you only want your code to be scanned without any suggestions for changes, use:

```
perl ppport.h --nochanges
```

You can specify a different C<diff> program or options, using the C<--diff> option:

```
perl ppport.h --diff='diff -C 10'
```

This would output context diffs with 10 lines of context.

If you want to create patched copies of your files instead, use:

```
perl ppport.h --copy=.new
```

To display portability information for the C<newSVpv> function, use:

```
perl ppport.h --api-info=newSVpv
```

Since the argument to C<--api-info> can be a regular expression, you can use

```
perl ppport.h --api-info=/_nomg$/
```

to display portability information for all C<_nomg> functions or

```
perl ppport.h --api-info=./
```

to display information for all known API elements.

=head1 BUGS

If this version of F<ppport.h> is causing failure during the compilation of this module, please check if newer versions of either this module or C<Devel::PPPport> are available on CPAN before sending a bug report.

If F<ppport.h> was

generated using the latest version of
C<Devel::PPPort> and is causing failure of this module, please
file a bug report using the CPAN Request Tracker at L<<http://rt.cpan.org/>>.

Please include the following information:

=over 4

=item 1.

The complete output from running "perl -V"

=item 2.

This file.

=item 3.

The name and version of the module you were trying to build.

=item 4.

A full log of the build that failed.

=item 5.

Any other information that you think could be relevant.

=back

For the latest version of this code, please get the C<Devel::PPPort>
module from CPAN.

=head1 COPYRIGHT

Version 3.x, Copyright (c) 2004-2007, Marcus Holland-Moritz.

Version 2.x, Copyright (C) 2001, Paul Marquess.

Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

This program is free software; you can redistribute it and/or
modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<Devel::PPPort>.

```

=cut

use strict;

# Disable broken TRIE-optimization
BEGIN { eval '${^RE_TRIE_MAXBUF}
= -1' if $] >= 5.009004 && $] <= 5.009005 }

my $VERSION = 3.13;

my %opt = (
  quiet => 0,
  diag => 1,
  hints => 1,
  changes => 1,
  cplusplus => 0,
  filter => 1,
  strip => 0,
  version => 0,
);

my($ppport) = $0 =~ /([\w.]+)$/;
my $LF = '(?:\r\n|[\r\n])'; # line feed
my $HS = "[\t]";          # horizontal whitespace

# Never use C comments in this file!
my $ccs = '/.*';
my $cce = '.*!';
my $rcs = quotemeta $ccs;
my $rce = quotemeta $cce;

eval {
  require Getopt::Long;
  Getopt::Long::GetOptions(\%opt, qw(
    help quiet diag! filter! hints! changes! cplusplus strip version
    patch=s copy=s diff=s compat-version=s
    list-provided list-unsupported api-info=s
  )) or usage();
};

if ($@ and grep /^-/, @ARGV) {
  usage() if "@ARGV" =~ /^--?h(?:elp)?$/;
  die "Getopt::Long not found. Please don't use any options.\n";
}

if ($opt{version}) {
  print "This is $0 $VERSION.\n";
  exit 0;
}

```

```

}

usage() if $opt{help};
strip() if $opt{strip};

if
(exists $opt{'compat-version'}) {
my($r,$v,$s) = eval { parse_version($opt{'compat-version'}) };
if ($@) {
die "Invalid version number format: '$opt{'compat-version'}'\n";
}
die "Only Perl 5 is supported\n" if $r != 5;
die "Invalid version number: $opt{'compat-version'}\n" if $v >= 1000 || $s >= 1000;
$opt{'compat-version'} = sprintf "%d.%03d%03d", $r, $v, $s;
}
else {
$opt{'compat-version'} = 5;
}

my %API = map { /^(\w+)\|([\^]*)\|([\^]*)\|(\w*)$/
? ( $1 => {
($2 ? ( base => $2 ) : ()),
($3 ? ( todo => $3 ) : ()),
(index($4, 'v') >= 0 ? ( varargs => 1 ) : ()),
(index($4, 'p') >= 0 ? ( provided => 1 ) : ()),
(index($4, 'n') >= 0 ? ( nothxarg => 1 ) : ()),
} )
: die "invalid spec: $_" } qw(
AvFILLp|5.004050||p
AvFILL|||
CLASS|||n
CX_CURPAD_SAVE|||
CX_CURPAD_SV|||
CopFILEAV|5.006000||p
CopFILEGV_set|5.006000||p
CopFILEGV|5.006000||p
CopFILESV|5.006000||p
CopFILE_set|5.006000||p
CopFILE|5.006000||p
CopSTASHPV_set|5.006000||p
CopSTASHPV|5.006000||p
CopSTASH_eq|5.006000||p
CopSTASH_set|5.006000||p
CopSTASH|5.006000||p
CopyD|5.009002||p
Copy|||
CvPADLIST|||
CvSTASH|||

```

CvWEAKOUTSIDE|||
DEFSV|5.004050|p
END_EXTERN_C|5.005000|p
ENTER|||
ERRSV|5.004050|p
EXTEND|||
EXTERN_C|5.005000|p
F0convert|||n
FREETMPS|||
GIMME_V|5.004000|n
GIMME|||n
GROK_NUMERIC_RADIX|5.007002|p
G_ARRAY|||
G_DISCARD|||
G_EVAL|||
G_NOARGS|||
G_SCALAR|||
G_VOID|5.004000|
GetVars|||
GvSV|||
Gv_AMupdate|||
HEf_SVKEY|5.004000|
HeHASH|5.004000|
HeKEY|5.004000|
HeKLEN|5.004000|
HePV|5.004000|
HeSVKEY_force|5.004000|
HeSVKEY_set|5.004000|
HeSVKEY|5.004000|
HeVAL|5.004000|
HvNAME|||
INT2PTR|5.006000|p
IN_LOCALE_COMPILETIME|5.007002|p
IN_LOCALE_RUNTIME|5.007002|p
IN_LOCALE|5.007002|p
IN_PERL_COMPILETIME|5.008001|p
IS_NUMBER_GREATER_THAN_UV_MAX|5.007002|p
IS_NUMBER_INFINITY|5.007002|p
IS_NUMBER_IN_UV|5.007002|p
IS_NUMBER_NAN|5.007003|p
IS_NUMBER_NEG|5.007002|p
IS_NUMBER_NOT_INT|5.007002|p
IVSIZE|5.006000|p
IVTYPE|5.006000|p
IVdf|5.006000|p
LEAVE|||
LVRET|||
MARK|||

MULTICALL|5.009005|
MY_CXT_CLONE|5.009002||p
MY_CXT_INIT|5.007003||p
MY_CXT|5.007003||p
MoveD|5.009002||p
Move||
NOOP|5.005000||p
NUM2PTR|5.006000||p
NVTYPE|5.006000||p
NVef|5.006001||p
NVff|5.006001||p
NVgf|5.006001||p
Newxc|5.009003||p
Newxz|5.009003||p
Newx|5.009003||p
Nullav||
Nullch||
Nullcv||
Nullhv||
Nullsv||
ORIGMARK||
PAD_BASE_SV||
PAD_CLONE_VARS||
PAD_COMPNAME_FLAGS||
PAD_COMPNAME_GEN_set||
PAD_COMPNAME_GEN||
PAD_COMPNAME_OURSTASH||
PAD_COMPNAME_PV||
PAD_COMPNAME_TYPE||
PAD_RESTORE_LOCAL||
PAD_SAVE_LOCAL||
PAD_SAVE_SETNULLPAD||
PAD_SETSV||
PAD_SET_CUR_NOSAVE||
PAD_SET_CUR||
PAD_SV1||
PAD_SV||
PERL_ABS|5.008001||p
PERL_BCDVERSION|5.009005||p
PERL_GCC_BRACE_GROUPS_FORBIDDEN|5.008001||p
PERL_HASH|5.004000||p
PERL_INT_MAX|5.004000||p
PERL_INT_MIN|5.004000||p
PERL_LONG_MAX|5.004000||p
PERL_LONG_MIN|5.004000||p
PERL_MAGIC_arylen|5.007002||p
PERL_MAGIC_backref|5.007002||p
PERL_MAGIC_bm|5.007002||p

PERL_MAGIC_collxfrm|5.007002||p
PERL_MAGIC_dbfile|5.007002||p
PERL_MAGIC_dbline|5.007002||p
PERL_MAGIC_defelem|5.007002||p
PERL_MAGIC_envelem|5.007002||p
PERL_MAGIC_env|5.007002||p
PERL_MAGIC_ext|5.007002||p
PERL_MAGIC_fm|5.007002||p
PERL_MAGIC_glob|5.009005||p
PERL_MAGIC_isaelem|5.007002||p
PERL_MAGIC_isa|5.007002||p
PERL_MAGIC_mutex|5.009005||p
PERL_MAGIC_nkeys|5.007002||p
PERL_MAGIC_overload_elem|5.007002||p
PERL_MAGIC_overload_table|5.007002||p
PERL_MAGIC_overload|5.007002||p
PERL_MAGIC_pos|5.007002||p
PERL_MAGIC_qr|5.007002||p
PERL_MAGIC_regdata|5.007002||p
PERL_MAGIC_regdatum|5.007002||p
PERL_MAGIC_regex_global|5.007002||p
PERL_MAGIC_shared_scalar|5.007003||p
PERL_MAGIC_shared|5.007003||p
PERL_MAGIC_sigelem|5.007002||p
PERL_MAGIC_sig|5.007002||p
PERL_MAGIC_substr|5.007002||p
PERL_MAGIC_sv|5.007002||p
PERL_MAGIC_taint|5.007002||p
PERL_MAGIC_tiedelem|5.007002||p
PERL_MAGIC_tiedscalar|5.007002||p
PERL_MAGIC_tied|5.007002||p
PERL_MAGIC_utf8|5.008001||p
PERL_MAGIC_uvar_elem|5.007003||p
PERL_MAGIC_uvar|5.007002||p
PERL_MAGIC_vec|5.007002||p
PERL_MAGIC_vstring|5.008001||p
PERL_QUAD_MAX|5.004000||p
PERL_QUAD_MIN|5.004000||p
PERL_REVISION|5.006000||p
PERL_SCAN_ALLOW_UNDERSCORES|5.007003||p
PERL_SCAN_DISALLOW_PREFIX|5.007003||p
PERL_SCAN_GREATER_THAN_UV_MAX|5.007003||p
PERL_SCAN_SILENT_ILLDIGIT|5.008001||p
PERL_SHORT_MAX|5.004000||p
PERL_SHORT_MIN|5.004000||p
PERL_SIGNALS_UNSAFE_FLAG|5.008001||p
PERL_SUBVERSION|5.006000||p
PERL_UCHAR_MAX|5.004000||p

PERL_UCHAR_MIN|5.004000||p
PERL_UINT_MAX|5.004000||p
PERL_UINT_MIN|5.004000||p
PERL_ULONG_MAX|5.004000||p
PERL_ULONG_MIN|5.004000||p
PERL_UNUSED_ARG|5.009003||p
PERL_UNUSED_CONTEXT|5.009004||p
PERL_UNUSED_DECL|5.007002||p
PERL_UNUSED_VAR|5.007002||p
PERL_UQUAD_MAX|5.004000||p
PERL_UQUAD_MIN|5.004000||p
PERL_USE_GCC_BRACE_GROUPS|5.009004||p
PERL_USHORT_MAX|5.004000||p
PERL_USHORT_MIN|5.004000||p
PERL_VERSION|5.006000||p
PL_DBsignal|5.005000||p
PL_DBsingle|||pn
PL_DBsub|||pn
PL_DBtrace|||pn
PL_Sv|5.005000||p
PL_compiling|5.004050||p
PL_copline|5.009005||p
PL_curcop|5.004050||p
PL_curstash|5.004050||p
PL_debstash|5.004050||p
PL_defgv|5.004050||p
PL_diehook|5.004050||p
PL_dirty|5.004050||p
PL_dowarn|||pn
PL_errgv|5.004050||p
PL_expect|5.009005||p
PL_hexdigit|5.005000||p
PL_hints|5.005000||p
PL_last_in_gv|||n
PL_laststatval|5.005000||p
PL_modglobal||5.005000|n
PL_na|5.004050||pn
PL_no_modify|5.006000||p
PL_ofs_sv|||n
PL_perl_destruct_level|5.004050||p
PL_perldb|5.004050||p
PL_ppaddr|5.006000||p
PL_rsfilters|5.004050||p
PL_rsfpl|5.004050||p
PL_rs|||n
PL_signals|5.008001||p
PL_stack_base|5.004050||p
PL_stack_sp|5.004050||p

PL_statcache|5.005000||p
PL_stdingv|5.004050||p
PL_sv_arenaroot|5.004050||p
PL_sv_no|5.004050||pn
PL_sv_undef|5.004050||pn
PL_sv_yes|5.004050||pn
PL_tainted|5.004050||p
PL_tainting|5.004050||p
POP_MULTICALL||5.009005|
POPi|||n
POPi|||n
POPn|||n
POPpbytex||5.007001|n
POPpx||5.005030|n
POPp|||n
POPs|||n
PTR2IV|5.006000||p
PTR2NV|5.006000||p
PTR2UV|5.006000||p
PTR2ul|5.007001||p
PTRV|5.006000||p
PUSHMARK|||
PUSH_MULTICALL||5.009005|
PUSHi|||
PUSHmortal|5.009002||p
PUSHn|||
PUSHp|||
PUSHs|||
PUSHu|5.004000||p
PUTBACK|||
PerlIO_clearerr||5.007003|
PerlIO_close||5.007003|
PerlIO_context_layers||5.009004|
PerlIO_eof||5.007003|
PerlIO_error||5.007003|
PerlIO_fileno||5.007003|
PerlIO_fill||5.007003|
PerlIO_flush||5.007003|
PerlIO_get_base||5.007003|
PerlIO_get_bufsiz||5.007003|
PerlIO_get_cnt||5.007003|
PerlIO_get_ptr||5.007003|
PerlIO_read||5.007003|
PerlIO_seek||5.007003|
PerlIO_set_cnt||5.007003|
PerlIO_set_ptrcnt||5.007003|
PerlIO_setlinebuf||5.007003|
PerlIO_stderr||5.007003|

PerlIO_stdin|5.007003|
PerlIO_stdout|5.007003|
PerlIO_tell|5.007003|
PerlIO_unread|5.007003|
PerlIO_write|5.007003|
Perl_signbit|5.009005|n
PoisonFree|5.009004||p
PoisonNew|5.009004||p
PoisonWith|5.009004||p
Poison|5.008000||p
RETVAl||n
Renewc||
Renew||
SAVECLEARSV||
SAVECOMPPAD||
SAVEPADSV||
SAVETMPS||
SAVE_DEFSV|5.004050||p
SPAGAIN||
SP||
START_EXTERN_C|5.005000||p
START_MY_CXT|5.007003||p
STMT_END||p
STMT_START||p
STR_WITH_LEN|5.009003||p
ST||
SV_CONST_RETURN|5.009003||p
SV_COW_DROP_PV|5.008001||p
SV_COW_SHARED_HASH_KEYS|5.009005||p
SV_GMAGIC|5.007002||p
SV_HAS_TRAILING_NUL|5.009004||p
SV_IMMEDIATE_UNREF|5.007001||p
SV_MUTABLE_RETURN|5.009003||p
SV_NOSTEAL|5.009002||p
SV_SMAGIC|5.009003||p
SV_UTF8_NO_ENCODING|5.008001||p
SVf|5.006000||p
SVt_IV||
SVt_NV||
SVt_PVAV||
SVt_PVCV||
SVt_PVHV||
SVt_PVMG||
SVt_PV||
Safefree||
Slab_Alloc||
Slab_Free||
Slab_to_rw||

StructCopy|||
SvCUR_set|||
SvCUR|||
SvEND|||
SvGAMAGIC|5.006001|
SvGETMAGIC|5.004050||p
SvGROW|||
SvIOK_UV|5.006000|
SvIOK_notUV|5.006000|
SvIOK_off|||
SvIOK_only_UV|5.006000|
SvIOK_only|||
SvIOK_on|||
SvIOKp|||
SvIOK|||
SvIVX|||
SvIV_nomg|5.009001||p
SvIV_set|||
SvIVx|||
SvIV|||
SvIsCOW_shared_hash|5.008003|
SvIsCOW|5.008003|
SvLEN_set|||
SvLEN|||
SvLOCK|5.007003|
SvMAGIC_set|5.009003||p
SvNIOK_off|||
SvNIOKp|||
SvNIOK|||
SvNOK_off|||
SvNOK_only|||
SvNOK_on|||
SvNOKp|||
SvNOK|||
SvNVX|||
SvNV_set|||
SvNVx|||
SvNV|||
SvOK|||
SvOOK|||
SvPOK_off|||
SvPOK_only_UTF8|5.006000|
SvPOK_only|||
SvPOK_on|||
SvPOKp|||
SvPOK|||
SvPVX_const|5.009003||p
SvPVX_mutable|5.009003||p

SvPVX|||
SvPV_const|5.009003||p
SvPV_flags_const_nolen|5.009003||p
SvPV_flags_const|5.009003||p
SvPV_flags_mutable|5.009003||p
SvPV_flags|5.007002||p
SvPV_force_flags_mutable|5.009003||p
SvPV_force_flags_nolen|5.009003||p
SvPV_force_flags|5.007002||p
SvPV_force_mutable|5.009003||p
SvPV_force_nolen|5.009003||p
SvPV_force_nomg_nolen|5.009003||p
SvPV_force_nomg|5.007002||p
SvPV_force|||p
SvPV_mutable|5.009003||p
SvPV_nolen_const|5.009003||p
SvPV_nolen|5.006000||p
SvPV_nomg_const_nolen|5.009003||p
SvPV_nomg_const|5.009003||p
SvPV_nomg|5.007002||p
SvPV_set|||
SvPVbyte_force||5.009002|
SvPVbyte_nolen||5.006000|
SvPVbytex_force||5.006000|
SvPVbytex||5.006000|
SvPVbyte|5.006000||p
SvPVutf8_force||5.006000|
SvPVutf8_nolen||5.006000|
SvPVutf8x_force||5.006000|
SvPVutf8x||5.006000|
SvPVutf8||5.006000|
SvPVx|||
SvPV|||
SvREFCNT_dec|||
SvREFCNT_inc_NN|5.009004||p
SvREFCNT_inc_simple_NN|5.009004||p
SvREFCNT_inc_simple_void_NN|5.009004||p
SvREFCNT_inc_simple_void|5.009004||p
SvREFCNT_inc_simple|5.009004||p
SvREFCNT_inc_void_NN|5.009004||p
SvREFCNT_inc_void|5.009004||p
SvREFCNT_inc|||p
SvREFCNT|||
SvROK_off|||
SvROK_on|||
SvROK|||
SvRV_set|5.009003||p
SvRV|||

SvRXOK|5.009005|
SvRX|5.009005|
SvSETMAGIC|||
SvSHARED_HASH|5.009003|p
SvSHARE|5.007003|
SvSTASH_set|5.009003|p
SvSTASH|||
SvSetMagicSV_nosteal|5.004000|
SvSetMagicSV|5.004000|
SvSetSV_nosteal|5.004000|
SvSetSV|||
SvTAINTED_off|5.004000|
SvTAINTED_on|5.004000|
SvTAINTED|5.004000|
SvTAINT|||
SvTRUE|||
SvTYPE|||
SvUNLOCK|5.007003|
SvUOK|5.007001|5.006000|p
SvUPGRADE|||
SvUTF8_off|5.006000|
SvUTF8_on|5.006000|
SvUTF8|5.006000|
SvUVXx|5.004000|p
SvUVX|5.004000|p
SvUV_nomg|5.009001|p
SvUV_set|5.009003|p
SvUVx|5.004000|p
SvUV|5.004000|p
SvVOK|5.008001|
SvVSTRING_mg|5.009004|p
THIS||n
UNDERBAR|5.009002|p
UTF8_MAXBYTES|5.009002|p
UVSIZE|5.006000|p
UVTYPE|5.006000|p
UVXf|5.007001|p
UVof|5.006000|p
UVuf|5.006000|p
UVxf|5.006000|p
WARN_ALL|5.006000|p
WARN_AMBIGUOUS|5.006000|p
WARN_ASSERTIONS|5.009005|p
WARN_BAREWORD|5.006000|p
WARN_CLOSED|5.006000|p
WARN_CLOSURE|5.006000|p
WARN_DEBUGGING|5.006000|p
WARN_DEPRECATED|5.006000|p

WARN_DIGIT|5.006000||p
WARN_EXEC|5.006000||p
WARN_EXITING|5.006000||p
WARN_GLOB|5.006000||p
WARN_INPLACE|5.006000||p
WARN_INTERNAL|5.006000||p
WARN_IO|5.006000||p
WARN_LAYER|5.008000||p
WARN_MALLOC|5.006000||p
WARN_MISC|5.006000||p
WARN_NEWLINE|5.006000||p
WARN_NUMERIC|5.006000||p
WARN_ONCE|5.006000||p
WARN_OVERFLOW|5.006000||p
WARN_PACK|5.006000||p
WARN_PARENTHESES|5.006000||p
WARN_PIPE|5.006000||p
WARN_PORTABLE|5.006000||p
WARN_PRECEDENCE|5.006000||p
WARN_PRINTF|5.006000||p
WARN_PROTOTYPE|5.006000||p
WARN_QW|5.006000||p
WARN_RECURSION|5.006000||p
WARN_REDEFINE|5.006000||p
WARN_REGEX|5.006000||p
WARN_RESERVED|5.006000||p
WARN_SEMICOLON|5.006000||p
WARN_SEVERE|5.006000||p
WARN_SIGNAL|5.006000||p
WARN_SUBSTR|5.006000||p
WARN_SYNTAX|5.006000||p
WARN_TAINT|5.006000||p
WARN_THREADS|5.008000||p
WARN_UNINITIALIZED|5.006000||p
WARN_UNOPENED|5.006000||p
WARN_UNPACK|5.006000||p
WARN_UNTIE|5.006000||p
WARN_UTF8|5.006000||p
WARN_VOID|5.006000||p
XCPT_CATCH|5.009002||p
XCPT_RETHROW|5.009002||p
XCPT_TRY_END|5.009002||p
XCPT_TRY_START|5.009002||p
XPUSHi|||
XPUSHmortal|5.009002||p
XPUSHn|||
XPUSHp|||
XPUSHs|||

XPUSHu|5.004000||p
XSRETURN_EMPTY|||
XSRETURN_IV|||
XSRETURN_NO|||
XSRETURN_NV|||
XSRETURN_PV|||
XSRETURN_UNDEF|||
XSRETURN_UV|5.008001||p
XSRETURN_YES|||
XSRETURN|||p
XST_mIV|||
XST_mNO|||
XST_mNV|||
XST_mPV|||
XST_mUNDEF|||
XST_mUV|5.008001||p
XST_mYES|||
XS_VERSION_BOOTCHECK|||
XS_VERSION|||
XSpREPush|5.006000||p
XS|||
ZeroD|5.009002||p
Zero|||
_aMY_CXT|5.007003||p
_pMY_CXT|5.007003||p
aMY_CXT_|5.007003||p
aMY_CXT|5.007003||p
aTHXR_|5.009005||p
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yylex|||
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yywarn|||
);

if
(exists $opt{'list-unsupported'}) {
my $f;
for $f (sort { lc $a cmp lc $b } keys %API) {
next unless $API{$f}{todo};
print "$f ", '!x(40-length($f)), " ", format_version($API{$f}{todo}), "\n";
}
exit 0;
}

# Scan for possible replacement candidates

my(%replace, %need, %hints, %warnings, %depends);
my $replace
= 0;
my($hint, $define, $function);

sub find_api
{
my $code = shift;
$code =~ s{
/ (? : \*[^\*]*\*(?:[^\$ccs][^\*]*+)* / | /[\r\n]*
| "[^\\"]*(?:\\.["\\"])*"
| '[^\']*?(?:\\.["\\"])*' }{ }egsx;
grep { exists $API{$_} } $code =~ /(\w+)/mg;
}

```

```

while (<DATA>) {
  if ($hint) {
    my $h = $hint->[0] eq 'Hint' ? \%hints : \%warnings;
    if (m{^\s*\*\s(.*?)\s*$}) {
      for (@{$hint->[1]}) {
        $h->{$_} ||= "; # suppress warning with older perls
        $h->{$_} .= "$1\n";
      }
    }
  }
  else { undef $hint }
}

$hint = [$1, [split /,?\s+/, $2]]
  if m{^\s*$rcs\s+(Hint|Warning):\s+(\w+(?:,\s+\w+)*)\s*$};

if ($define) {
  if ($define->[1] =~ /\$/) {
    $define->[1] .= $_;
  }
  else {
    if (exists $API{$define->[0]} && $define->[1] !~ /^DPPP_\(/) {
      my @n = find_api($define->[1]);
      push @{$depends{$define->[0]}}, @n if @n
    }
    undef $define;
  }
}

$define = [$1, $2] if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(.*)};

if ($function) {
  if (/^/) {
    if (exists $API{$function->[0]}) {
      my @n = find_api($function->[1]);
      push @{$depends{$function->[0]}}, @n if @n
    }
    undef $define;
  }
  else {
    $function->[1] .= $_;
  }
}

$function = [$1, ""] if m{^DPPP_(my_(\w+))};

$replace = $1 if m{^\s*$rcs\s+Replace:\s+(\d+)\s+$rcce\s*$};
$replace{ $2 } = $1 if $replace and m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+)};
$replace{ $2 } = $1 if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+).*\s*$rcs\s+Replace\s+$rcce};

```

```

$replace{$1} = $2 if m{^\s*$rcce\s+Replace (\w+) with (\w+)\s+$rcce\s*$};

if (m{^\s*$rcce\s+(\w+)\s+depends\s+on\s+(\w+(\s*,\s*\w+*)\s+$rcce\s*$)}) {
    push @{$depends{$1}}, map { s/\s+//g; $_ } split /,/, $2;
}

$need{$1} = 1 if m{^#\s+defined\(\NEED_\(\w+)\(?:_GLOBAL)?\)};
}

for (values %depends) {
    my %s;
    $_ = [sort grep !$s{$_}++, @$_];
}

if (exists $opt{'api-info'}) {
    my $f;
    my $count = 0;
    my $match = $opt{'api-info'}
    =~ m!^(.*)/$! ? $1 : "\Q$opt{'api-info'}\E\$";
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $f =~ /$match/;
        print "\n=== $f ===\n\n";
        my $info = 0;
        if ($API{$f}{base} || $API{$f}{todo}) {
            my $base = format_version($API{$f}{base} || $API{$f}{todo});
            print "Supported at least starting from perl-$base.\n";
            $info++;
        }
        if ($API{$f}{provided}) {
            my $todo = $API{$f}{todo} ? format_version($API{$f}{todo}) : "5.003";
            print "Support by $ppport provided back to perl-$todo.\n";
            print "Support needs to be explicitly requested by NEED_$.f.\n" if exists $need{$f};
            print "Depends on: ", join(', ', @{$depends{$f}}), ".\n" if exists $depends{$f};
            print "\n$hints{$f}" if exists $hints{$f};
            print "\nWARNING:\n$warnings{$f}" if exists $warnings{$f};
            $info++;
        }
        print "No portability information available.\n" unless $info;
        $count++;
    }
    $count or print "Found no API matching '$opt{'api-info'}'.";
    print "\n";
    exit 0;
}

if (exists $opt{'list-provided'}) {
    my $f;
    for $f (sort { lc $a cmp lc $b } keys %API) {

```

```

next unless $API{$f}{provided};
my @flags;
push @flags, 'explicit' if exists $need{$f};
push @flags, 'depend' if exists $depends{$f};
push @flags, 'hint' if exists $hints{$f};
push @flags, 'warning' if exists $warnings{$f};
my $flags = @flags ? ' [' . join(', ', @flags) . ' ] : '';
print "$f$flags\n";
}
exit 0;
}

my @files;
my @srcext = qw( .xs .c .h .cc .cpp -c.inc -xs.inc );
my $srcext = join '|', map { quotemeta $_ } @srcext;

if (@ARGV) {
my %seen;
for (@ARGV) {
if (-e) {
if (-f) {
push @files, $_ unless $seen{$_}++;
}
else { warn "'$_' is not a file.\n" }
}
else {
my @new = grep { -f } glob $_
or warn "'$_' does not exist.\n";
push @files, grep { !$seen{$_}++ } @new;
}
}
}
else {
eval {
require File::Find;
File::Find::find(sub {
$File::Find::name =~ /($srcext)$/i
and push @files, $File::Find::name;
}, '.');
};
if ($?) {
@files = map { glob ".*$_" } @srcext;
}
}

if (!@ARGV || $opt{filter}) {
my(@in, @out);
my %xsc = map { /(.*)\.xs$/ ? ("1.c" => 1, "1.cc" => 1) : () } @files;

```

```

for (@files) {
    my $out = exists $xsc{$_} || ^\b\Q$pport\E$/i || !/($srcext)/i;
    push @ { $out ? \@out : \@in }, $_;
}
if (@ARGV && @out) {
    warning("Skipping the following files (use --nofilter to avoid this):\n| ", join "\n| ", @out);
}
@files = @in;
}

```

die "No input files given!\n" unless @files;

```

my(%files, %global, %revreplace);
%revreplace = reverse %replace;
my $filename;
my $patch_opened = 0;

```

```

for $filename (@files) {
    unless (open IN, "<$filename") {
        warn "Unable to read from $filename: $!\n";
        next;
    }
}

```

info("Scanning \$filename ...");

```

my $c = do { local $/; <IN> };
close IN;

```

```

my %file = (orig => $c, changes => 0);

```

```

# Temporarily remove C/XS comments and strings
from the code
my @ccom;

```

```

$c =~ s{
    ( ^$HS*#$HS*include\b[^\r\n]+\b(?:\Q$pport\E|XSUB\.h)\b[^\r\n]*
    | ^$HS*#$HS*(?:define|elif|if(?:def?))\b[^\r\n]* )
| ( ^$HS*#[^\r\n]*
    | "[^"\\]*(?:\\.["\\])*"
    | '[^"\\]*(?:\\.["\\])*'
    | /(?: \*[^*]*\*+(?:[^\sccs][^*]*\*+)* /|/[^\r\n]* ) )
}{ defined $2 and push @ccom, $2;
    defined $1 ? $1 : "$ccs#$ccom$cc" }mgsex;

```

```

$file{ccom} = \@ccom;

```

```

$file{code} = $c;

```

```

$file{has_inc_pport} = $c =~ /^$HS*#$HS*include[^\r\n]+\b\Q$pport\E\b/m;

```

```

my $func;

for $func (keys %API) {
    my $match = $func;
    $match .= "$$revreplace{$func}" if exists $revreplace{$func};
    if ($c =~ /\b(?:Perl_)?($match)\b/) {
        $file{uses_replace}{$1}++ if exists $revreplace{$func} && $1 eq $revreplace{$func};
        $file{uses_Perl}{$func}++ if $c =~ /\bPerl_{$func}\b/;
        if (exists $API{$func}{provided}) {
            $file{uses_provided}{$func}++;
            if (!exists $API{$func}{base} || $API{$func}{base} > $opt{'compat-version'})
            {
                $file{uses}{$func}++;
                my @deps = rec_depend($func);
                if (@deps) {
                    $file{uses_deps}{$func} = \@deps;
                    for (@deps) {
                        $file{uses}{$_} = 0 unless exists $file{uses}{$_};
                    }
                }
                for ($func, @deps) {
                    $file{needs}{$_} = 'static' if exists $need{$_};
                }
            }
        }
        if (exists $API{$func}{todo} && $API{$func}{todo} > $opt{'compat-version'}) {
            if ($c =~ /\b{$func}\b/) {
                $file{uses_todo}{$func}++;
            }
        }
    }
}

while ($c =~ /^$HS*#$HS*define$HS+(NEED_(\w+?)(_GLOBAL)?)\b/mg) {
    if (exists $need{$2}) {
        $file{defined $3 ? 'needed_global' : 'needed_static'}{$2}++;
    }
    else { warning("Possibly wrong #define $1 in $filename") }
}

for (qw(uses needs uses_todo needed_global needed_static)) {
    for $func (keys %{$file{$_}}) {
        push @{$global{$_}{$func}}, $filename;
    }
}

$files{$filename} = \%file;
}

```



```

#
Globally resolve NEED_'s
my $need;
for $need (keys %{$global{needs}}) {
  if (@{$global{needs}{$need}} > 1) {
    my @targets = @{$global{needs}{$need}};
    my @t = grep $files{$_}{needed_global}{$need}, @targets;
    @targets = @t if @t;
    @t = grep /\.xs$/i, @targets;
    @targets = @t if @t;
    my $target = shift @targets;
    $files{$target}{needs}{$need} = 'global';
    for (@{$global{needs}{$need}}) {
      $files{$_}{needs}{$need} = 'extern' if $_ ne $target;
    }
  }
}

for $filename (@files) {
  exists $files{$filename} or next;

  info("=== Analyzing $filename ===");

  my %file = %{$files{$filename}};
  my $func;
  my $c = $file{code};
  my $warnings = 0;

  for $func (sort keys %{$file{uses_Perl}}) {
    if ($API{$func}{varargs}) {
      unless ($API{$func}{nothxarg}) {
        my $changes = ($c =~ s{\b(Perl_?func\s*(\s*)(?!aTHX_?)\(\)[^\s]*\)}
          { $1 . ($2 eq ' ') ? 'aTHX' : 'aTHX_ ' } . $2 }ge);
        if ($changes) {
          warning("Doesn't
pass interpreter argument aTHX to Perl_$func");
          $file{changes} += $changes;
        }
      }
    }
    else {
      warning("Uses Perl_$func instead of $func");
      $file{changes} += ($c =~ s{\bPerl_?func(\s*)(\s*aTHX_?)?\s*}
        {$func$1}g);
    }
  }
}

```

```

for $func (sort keys %{$file{uses_replace}}) {
    warning("Uses $func instead of $replace{$func}");
    $file{changes} += ($c =~ s/\b$func\b/$replace{$func}/g);
}

for $func (sort keys %{$file{uses_provided}}) {
    if ($file{uses}{$func}) {
        if (exists $file{uses_deps}{$func}) {
            diag("Uses $func, which depends on ", join(', ', @{$file{uses_deps}{$func}}));
        }
        else {
            diag("Uses $func");
        }
    }
    $warnings += hint($func);
}

unless ($opt{quiet}) {
    for $func (sort keys %{$file{uses_todo}}) {
        print "*** WARNING: Uses $func, which may not be portable below perl ",
            format_version($API{$func}{todo}), ", even with '$ppport\n';
        $warnings++;
    }
}

for $func (sort keys %{$file{needed_static}}) {
    my $message = "";
    if (not exists $file{uses}{$func}) {
        $message = "No need to define NEED_$func if $func is never used";
    }
    elsif (exists $file{needs}{$func} && $file{needs}{$func} ne 'static') {
        $message = "No need to define NEED_$func when already needed globally";
    }
    if ($message) {
        diag($message);
        $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_$func\b.*$LF//mg);
    }
}

for $func (sort keys %{$file{needed_global}}) {
    my $message = "";
    if (not exists $global{uses}{$func}) {
        $message = "No need to define NEED_{$func}_GLOBAL if $func is never used";
    }
    elsif (exists $file{needs}{$func}) {
        if ($file{needs}{$func} eq 'extern') {
            $message = "No need to define NEED_{$func}_GLOBAL when already needed globally";
        }
    }
}

```

```

elseif ($file{needs}{$func} eq 'static') {
    $message = "No need to define NEED_${func}_GLOBAL
when only used in this file";
}
}
if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_${func}_GLOBAL\b.*$LF//mg);
}
}

$file{needs_inc_ppport} = keys %{$file{uses}};

if ($file{needs_inc_ppport}) {
    my $pp = "";

    for $func (sort keys %{$file{needs}}) {
        my $type = $file{needs}{$func};
        next if $type eq 'extern';
        my $suffix = $type eq 'global' ? '_GLOBAL' : "";
        unless (exists $file{"needed_$type"}{$func}) {
            if ($type eq 'global') {
                diag("Files [@$global{needs}{$func}] need $func, adding global request");
            }
            else {
                diag("File needs $func, adding static request");
            }
            $pp .= "#define NEED_${func}$suffix\n";
        }
    }
}

if ($pp && ($c =~ s/^(?=$HS*#\$HS*define\$HS+NEED_\w+)/$pp/m)) {
    $pp = "";
    $file{changes}++;
}

unless ($file{has_inc_ppport}) {
    diag("Needs to include '$ppport'");
    $pp .= qq(#include
"$ppport"\n)
}

if ($pp) {
    $file{changes} += ($c =~ s/^(\$HS*#\$HS*define\$HS+NEED_\w+.*?)^/$1$pp/ms)
        || ($c =~ s/^(?=$HS*#\$HS*include.*\Q$ppport\E)/$pp/m)
        || ($c =~ s/^(\$HS*#\$HS*include.*XSUB.*\s*?)^/$1$pp/m)
        || ($c =~ s/^\$/pp/);
}
}

```

```

}
else {
  if ($file{has_inc_ppport}) {
    diag("No need to include '$ppport'");
    $file{changes} += ($c =~ s/^\$HS*?#\$HS*include.*\Q$ppport\E.*?$LF//m);
  }
}

# put back in our C comments
my $ix;
my $cppc = 0;
my @ccom = @{$file{ccom}};
for $ix (0 .. $#ccom) {
  if (!$opt{cplusplus} && $ccom[$ix] =~ s!^/!!) {
    $cppc++;
    $file{changes} += $c =~ s/$rccs$ix$rcce/$ccs$ccom[$ix] $cce/;
  }
  else {
    $c =~ s/$rccs$ix$rcce/$ccom[$ix]/;
  }
}

if ($cppc) {
  my $s = $cppc != 1 ? 's' : '';
  warning("Uses $cppc C++ style comment$s, which is not portable");
}

my $s = $warnings != 1 ? 's' : '';
my $warn = $warnings
? " ($warnings warning$s)" : "";
info("Analysis completed$warn");

if ($file{changes}) {
  if (exists $opt{copy}) {
    my $newfile = "$filename$opt{copy}";
    if (-e $newfile) {
      error("' $newfile' already exists, refusing to write copy of '$filename'");
    }
    else {
      local *F;
      if (open F, ">$newfile") {
        info("Writing copy of '$filename' with changes to '$newfile'");
        print F $c;
        close F;
      }
      else {
        error("Cannot open '$newfile' for writing: $!");
      }
    }
  }
}

```

```

    }
  }
  elsif (exists $opt{patch} || $opt{changes}) {
    if (exists $opt{patch}) {
      unless ($patch_opened) {
        if (open PATCH, ">$opt{patch}") {
          $patch_opened = 1;
        }
        else {
          error("Cannot open '$opt{patch}' for writing: $!");
          delete $opt{patch};
          $opt{changes} = 1;
          goto fallback;
        }
      }
      mydiff(\*PATCH, $filename,
    $c);
    }
    else {
  fallback:
      info("Suggested changes:");
      mydiff(\*STDOUT, $filename, $c);
    }
    }
    else {
      my $s = $file{changes} == 1 ? " : 's'";
      info("$file{changes} potentially required change$s detected");
    }
  }
  }
  else {
    info("Looks good");
  }
}

```

```
close PATCH if $patch_opened;
```

```
exit 0;
```

```
sub try_use { eval "use @_."; return $@ eq " }
```

```
sub mydiff
```

```
{
  local *F = shift;
  my($file, $str) = @_;
  my $diff;
```

```
if (exists $opt{diff}) {
```

```

    $diff = run_diff($opt{diff}, $file, $str);
}

if (!defined $diff and try_use("Text::Diff")) {
    $diff = Text::Diff::diff($file, \$str, { STYLE => 'Unified' });
    $diff = <<HEADER . $diff;
    --- $file
    +++ $file.patched
    HEADER
}

if (!defined $diff) {
    $diff = run_diff('diff -u', $file, $str);
}

if (!defined $diff) {
    $diff = run_diff('diff', $file, $str);
}

if (!defined $diff) {
    error("Cannot generate a diff. Please install Text::Diff or use --copy.");
    return;
}

print
F $diff;
}

sub run_diff
{
    my($prog, $file, $str) = @_;
    my $tmp = 'dppptemp';
    my $suf = 'aaa';
    my $diff = "";
    local *F;

    while (-e "$tmp.$suf") { $suf++ }
    $tmp = "$tmp.$suf";

    if (open F, ">$tmp") {
        print F $str;
        close F;

        if (open F, "$prog $file $tmp |") {
            while (<F>) {
                s/^Q$tmp\E/$file.patched/;
                $diff .= $_;
            }
        }
    }
}

```

```

    close F;
    unlink $tmp;
    return $diff;
}

    unlink $tmp;
}
else {
    error("Cannot open '$tmp' for writing: $!");
}

return undef;
}

sub rec_depend
{
    my($func, $seen) = @_ ;
    return () unless exists $depends{$func};
    $seen = { %{$seen} };
    return () if $seen->{$func}++;
    my %s;
    grep !${$_}++, map { ($_, rec_depend($_, $seen)) } @{$depends{$func}};
}

sub parse_version
{
    my $ver = shift;

    if ($ver =~ /^(\d+)\.(\d+)\.(\d+)$/) {
        return ($1, $2, $3);
    }
    elsif ($ver !~ /^(\d+)\.(\d_)+$/) {
        die "cannot parse version '$ver'\n";
    }

    $ver =~ s/_//g;
    $ver =~ s/$/000000/;

    my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

    $v = int $v;
    $s = int $s;

    if ($r < 5 || ($r == 5 && $v < 6)) {
        if ($s % 10) {
            die "cannot parse version '$ver'\n";
        }
    }
}

```

```

return ($r, $v, $s);
}

sub format_version
{
my $ver = shift;

$ver =~ s/$/000000/;
my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;
$s = int $s;

if ($r < 5 || ($r == 5 && $v < 6)) {
if ($s % 10) {
die "invalid version '$ver'\n";
}
$s /= 10;

$ver = sprintf "%d.%03d", $r, $v;
$s > 0 and $ver .= sprintf "_%02d", $s;

return $ver;
}

return sprintf "%d.%d.%d", $r, $v, $s;
}

sub info
{
$opt{quiet} and return;
print @_, "\n";
}

sub diag
{
$opt{quiet} and return;
$opt{diag} and print @_, "\n";
}

sub warning
{
$opt{quiet} and return;
print "*** ", @_, "\n";
}

sub error

```



```

{
print "*** ERROR: ", @_, "\n";
}

my %given_hints;
my %given_warnings;
sub hint
{
$opt{quiet} and return;
my $func = shift;
my $rv = 0;
if (exists
$warnings{$func} && !$given_warnings{$func}++) {
my $warn = $warnings{$func};
$warn =~ s/!*** !mg;
print "*** WARNING: $func\n", $warn;
$rv++;
}
if ($opt{hints} && exists $hints{$func} && !$given_hints{$func}++) {
my $hint = $hints{$func};
$hint =~ s/^/ /mg;
print " --- hint for $func ---\n", $hint;
}
$rv;
}

sub usage
{
my($usage) = do { local(@ARGV,$/)=($0); <> } =~ /^=head\d$HS+SYNOPSIS\s**^(.*?)\s**^=/ms;
my %M = ( 'T' => '*' );
$usage =~ s/^\s*perl\s+\S+/$^X $0/;
$usage =~ s/([A-Z])<([>]+)>/M{$1}$2M{$1}/g;

print <<ENDUSAGE;

Usage: $usage

See perldoc $0 for details.

ENDUSAGE

exit 2;
}

sub strip
{
my $self = do { local(@ARGV,$/)=($0); <> };
my($copy) = $self =~ /^=head\d\s+COPYRIGHT\s**^(.*?)^=\w+/ms;

```

```

$copy =~ s/^(?=\S+)/ /gms;
$self =~ s/^\$HS+Do NOT edit.*?(?=-)/$copy/ms;
$self =~ s/^\$SKIP.*(?=^__DATA__)/SKIP
if (@ARGV && $ARGV[0] eq '--unstrip') {
    eval { require Devel::PPPport };
    \@ and die "Cannot
require Devel::PPPport, please install.\n";
if ($Devel::PPPport::VERSION < $VERSION) {
    die "$0 was originally generated with Devel::PPPport $VERSION.\n"
        . "Your Devel::PPPport is only version $Devel::PPPport::VERSION.\n"
        . "Please install a newer version, or --unstrip will not work.\n";
}
Devel::PPPport::WriteFile(\$0);
exit 0;
}
print <<END;

```

Sorry, but this is a stripped version of \\$0.

To be able to use its original script and doc functionality,
please try to regenerate this file using:

```

\^X \$0 --unstrip

END
/ms;
my($pl, $c) = $self =~ /(.*^__DATA__)(.*)/ms;
$c =~ s{
 / (? : \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* / | /[\r\n]*
 | ( "[^"]\]*(?:\\.["\\"])*"
 | '[^']*?(?:\\.["\\"])*' )
 | ($HS+) }{ defined $2 ? ' ' : ($1 || " ) }gsex;
$c =~ s!\s+#!mg;
$c =~ s!\$LF!!mg;
$c =~ s!\s*#\s*#!mg;
$c =~ s!\s+!!mg;

open OUT, ">$0" or die "cannot strip $0: $!\n";
print OUT "$pl$c\n";

exit 0;
}

__DATA__
*/

```

Found in path(s):

* /opt/cola/permits/1150898783_1634082442.68/0/perl-Time-HiRes-1.9725-3.amzn2.0.2.src.rpm-cosi-expand-

archive-pN2prdIr/Time-HiRes-1.9725.tar.gz-cosi-expand-archive-J7vCgOEK/Time-HiRes-1.9725/ppport.h
No license file was found, but licenses were detected in source scan.

=head1 NAME

Time::HiRes - High resolution alarm, sleep, gettimeofday, interval timers

=head1 SYNOPSIS

```
use Time::HiRes qw( usleep ualarm gettimeofday tv_interval nanosleep
    clock_gettime clock_getres clock_nanosleep clock
    stat );
```

```
usleep ($microseconds);
nanosleep ($nanoseconds);
```

```
ualarm ($microseconds);
ualarm ($microseconds, $interval_microseconds);
```

```
$t0 = [gettimeofday];
($seconds, $microseconds) = gettimeofday;
```

```
$elapsed = tv_interval ( $t0, [$seconds, $microseconds]);
$elapsed = tv_interval ( $t0, [gettimeofday]);
$elapsed = tv_interval ( $t0 );
```

```
use Time::HiRes qw ( time alarm sleep );
```

```
$now_fractions = time;
sleep ($floating_seconds);
alarm ($floating_seconds);
alarm ($floating_seconds, $floating_interval);
```

```
use Time::HiRes qw( setitimer getitimer );
```

```
setitimer ($which, $floating_seconds, $floating_interval );
getitimer ($which);
```

```
use Time::HiRes
qw( clock_gettime clock_getres clock_nanosleep
    ITIMER_REAL ITIMER_VIRTUAL ITIMER_PROF ITIMER_REALPROF );
```

```
$realtime = clock_gettime(CLOCK_REALTIME);
$resolution = clock_getres(CLOCK_REALTIME);
```

```
clock_nanosleep(CLOCK_REALTIME, 1.5e9);
clock_nanosleep(CLOCK_REALTIME, time()*1e9 + 10e9, TIMER_ABSTIME);
```

```
my $sticktock = clock();

use Time::HiRes qw( stat );

my @stat = stat("file");
my @stat = stat(FH);
```

=head1 DESCRIPTION

The C<Time::HiRes> module implements a Perl interface to the C<usleep>, C<nanosleep>, C<ualarm>, C<gettimeofday>, and C<setitimer>/C<getitimer> system calls, in other words, high resolution time and timers. See the L</EXAMPLES> section below and the test scripts for usage; see your system documentation for the description of the underlying C<nanosleep> or C<usleep>, C<ualarm>, C<gettimeofday>, and C<setitimer>/C<getitimer> calls.

If your system lacks C<gettimeofday()> or an emulation of it you don't get C<gettimeofday()> or the one-argument form of C<tv_interval()>.

If your system lacks all of C<nanosleep()>, C<usleep()>, C<select()>, and C<poll>, you don't get C<Time::HiRes::usleep()>, C<Time::HiRes::nanosleep()>, or C<Time::HiRes::sleep()>.

If your system lacks both C<ualarm()> and C<setitimer()> you don't get C<Time::HiRes::ualarm()> or C<Time::HiRes::alarm()>.

If you try to import an unimplemented function in the C<use> statement it will fail at compile time.

If your subsecond sleeping is implemented with C<nanosleep()> instead of C<usleep()>, you can mix subsecond sleeping with signals since C<nanosleep()> does not use signals. This, however, is not portable, and you should first check for the truth value of C<&Time::HiRes::d_nanosleep> to see whether you have nanosleep, and then carefully read your C<nanosleep()> C API documentation for any peculiarities.

If you are using C<nanosleep> for something else than mixing sleeping with signals, give some thought to whether Perl is the tool you should be using for work requiring nanosecond accuracies.

Remember that unless you are working on a I<hard realtime> system, any clocks and timers will be imprecise, especially so if you are working in a pre-emptive multiuser system. Understand the difference between I<walleclock time> and process time (in UNIX-like systems the sum of I<user> and I<system> times). Any attempt to sleep for X seconds will most probably end up sleeping B<more> than that, but don't be surprised

if you end up sleeping slightly B<less>.

The following functions can be imported from this module.

No functions are exported by default.

=over 4

=item gettimeofday ()

In array context returns a two-element array with the seconds and microseconds since the epoch. In scalar context returns floating seconds like C<Time::HiRes::time()> (see below).

=item usleep (\$useconds)

Sleeps for the number of microseconds (millionths of a second) specified. Returns the number of microseconds actually slept. Can sleep for more than one second, unlike the C<usleep> system call. Can also sleep for zero seconds, which often works like a I<thread yield>. See also C<Time::HiRes::usleep()>, C<Time::HiRes::sleep()>, and C<Time::HiRes::clock_nanosleep()>.

Do not expect usleep() to be exact down to one microsecond.

=item nanosleep (\$nanoseconds)

Sleeps for the number of nanoseconds (1e9ths of a second) specified. Returns the number of nanoseconds actually slept (accurate only to microseconds, the nearest thousand of them). Can sleep for more than one second. Can also sleep for zero seconds, which often works like a I<thread yield>. See also C<Time::HiRes::sleep()>, C<Time::HiRes::usleep()>, and C<Time::HiRes::clock_nanosleep()>.

Do not expect nanosleep() to be exact down to one nanosecond. Getting even accuracy of one thousand nanoseconds is good.

=item ualarm (\$useconds [, \$interval_useconds])

Issues a C<ualarm> call; the C<\$interval_useconds> is optional and will be zero if unspecified, resulting in C<alarm>-like behaviour.

Returns

the remaining time in the alarm in microseconds, or C<undef> if an error occurred.

ualarm(0) will cancel an outstanding ualarm().

Note that the interaction between alarms and sleeps is unspecified.

=item tv_interval

tv_interval (\$ref_to_gettimeofday [, \$ref_to_later_gettimeofday])

Returns the floating seconds between the two times, which should have been returned by C<gettimeofday()>. If the second argument is omitted, then the current time is used.

=item time ()

Returns a floating seconds since the epoch. This function can be imported, resulting in a nice drop-in replacement for the C<time> provided with core Perl; see the L</EXAMPLES> below.

B<NOTE 1>: This higher resolution timer can return values either less or more than the core C<time()>, depending on whether your platform rounds the higher resolution timer values up, down, or to the nearest second to get the core C<time()>, but naturally the difference should be never more than half a second. See also L</clock_getres>, if available in your system.

B<NOTE 2>: Since Sunday, September 9th, 2001 at 01:46:40 AM GMT, when the C<time()> seconds since epoch rolled over to 1_000_000_000, the default floating point format of Perl and the seconds since epoch have conspired to produce an apparent bug: if you print the value of C<Time::HiRes::time()> you seem to be getting only five decimals, not six as promised (microseconds). Not to worry, the microseconds are there (assuming your platform supports such granularity in the first place). What is going on is that the default floating point format of Perl only outputs 15 digits. In this case that means ten digits before the decimal separator and five after. To see the microseconds you can use either C<printf>/C<sprintf> with C<".6f">, or the C<gettimeofday()> function in list context, which will give you the seconds and microseconds as two separate values.

=item sleep (\$floating_seconds)

Sleeps for the specified amount of seconds. Returns the number of seconds actually slept (a floating point value). This function can be imported, resulting in a nice drop-in replacement for the C<sleep> provided with perl, see the L</EXAMPLES> below.

Note that the interaction between alarms and sleeps is unspecified.

=item alarm (\$floating_seconds [, \$interval_floating_seconds])

The C<SIGALRM> signal is sent after the specified number of seconds. Implemented using C<setitimer()> if available, C<ualarm()> if not. The C<\$interval_floating_seconds> argument is optional and will be zero if unspecified, resulting in C<alarm()>-like behaviour. This function can be imported, resulting in a nice drop-in replacement for the C<alarm> provided with perl, see the L</EXAMPLES> below.

Returns the remaining time in the alarm in seconds, or C<undef> if an error occurred.

B<NOTE 1>: With some combinations of operating systems and Perl releases C<SIGALRM> restarts C<select()>, instead of interrupting it. This means that an C<alarm()> followed by a C<select()> may together take the sum of the times specified for the C<alarm()> and the C<select()>, not just the time of the C<alarm()>.

Note that the interaction between alarms and sleeps is unspecified.

=item setitimer (\$which, \$floating_seconds [, \$interval_floating_seconds])

Start up an interval timer: after a certain time, a signal (\$which) arrives, and more signals may keep arriving at certain intervals. To disable an "itimer", use C<\$floating_seconds> of zero. If the C<\$interval_floating_seconds> is set to zero (or unspecified), the timer is disabled B<after> the next delivered signal.

Use of interval timers may interfere with C<alarm()>, C<sleep()>, and C<usleep()>. In standard-speak the "interaction is unspecified", which means that I<anything> may happen: it may work, it may not.

In scalar context, the remaining time in the timer is returned.

In list context, both the remaining time and the interval are returned.

There are usually three or four interval timers (signals) available: the C<\$which> can be C<ITIMER_REAL>, C<ITIMER_VIRTUAL>, C<ITIMER_PROF>, or C<ITIMER_REALPROF>. Note that which ones are available depends: true UNIX platforms usually have the first three, but only Solaris seems to have C<ITIMER_REALPROF> (which is used to profile multithreaded programs). Win32 unfortunately does not have interval timers.

C<ITIMER_REAL> results in C<alarm()>-like behaviour. Time is counted in I<real time>; that is, wallclock time. C<SIGALRM> is delivered when the timer expires.

C<ITIMER_VIRTUAL> counts time in (process) I<virtual time>; that is, only when the process is running. In multiprocessor/user/CPU systems this may be more or less than real or wallclock time. (This time is also known as the I<user time>.) C<SIGVTALRM> is delivered when the timer expires.

C<ITIMER_PROF> counts time when either the process virtual time or when the operating system is running on behalf of the process (such as I/O). (This time is also known as the I<system time>.) (The sum of user I<system time>.) (The sum of user time and system time is known as the I<CPU time>.) C<SIGPROF> is delivered when the timer expires. C<SIGPROF> can interrupt system calls.

The semantics of interval timers for multithreaded programs are system-specific, and some systems may support additional interval timers. For example, it is unspecified which thread gets the signals. See your C<setitimer()> documentation.

=item getitimer (\$which)

Return the remaining time in the interval timer specified by C<\$which>.

In scalar context, the remaining time is returned.

In list context, both the remaining time and the interval are returned. The interval is always what you put in using C<setitimer()>.

=item clock_gettime (\$which)

Return as seconds the current value of the POSIX high resolution timer specified by C<\$which>. All implementations that support POSIX high resolution timers are supposed to support at least the C<\$which> value of C<CLOCK_REALTIME>, which is supposed to return results close to the results of C<gettimeofday>, or the number of seconds since 00:00:00:00 January 1, 1970 Greenwich Mean Time (GMT). Do not assume that CLOCK_REALTIME is zero, it might be one, or something else. Another potentially useful (but not available everywhere) value is C<CLOCK_MONOTONIC>, which guarantees a monotonically increasing time value (unlike time() or gettimeofday(), which can be adjusted). See your system documentation for other possibly supported values.

=item clock_getres (\$which)

Return as seconds the resolution of the POSIX high resolution timer specified by C<\$which>. All implementations that support POSIX high resolution timers are supposed to support at least the C<\$which> value

of C<CLOCK_REALTIME>, see L</clock_gettime>.

=item clock_nanosleep (\$which, \$nanoseconds, \$flags = 0)

Sleeps for the number of nanoseconds (1e9ths of a second) specified. Returns the number of nanoseconds actually slept. The \$which is the "clock id", as with clock_gettime() and clock_getres(). The flags default to zero but C<TIMER_ABSTIME> can specified (must be exported explicitly) which means that C<\$nanoseconds> is not a time interval (as is the default) but instead an absolute time. Can sleep for more than one second. Can also sleep for zero seconds, which often works like a I<thread yield>. See also C<Time::HiRes::sleep(>, C<Time::HiRes::usleep(>, and C<Time::HiRes::nanosleep(>.

Do not expect clock_nanosleep() to be exact down to one nanosecond. Getting even accuracy of one thousand nanoseconds is good.

=item clock()

Return as seconds the I<process time> (user + system time) spent by the process since the first call to clock() (the definition is B<not> "since the start of the process", though if you are lucky these times may be quite close to each other, depending on the system). What this means is that you probably need to store the result of your first call to clock(), and subtract that value from the following results of clock().

The time

returned also includes the process times of the terminated child processes for which wait() has been executed. This value is somewhat like the second value returned by the times() of core Perl, but not necessarily identical. Note that due to backward compatibility limitations the returned value may wrap around at about 2147 seconds or at about 36 minutes.

=item stat

=item stat FH

=item stat EXPR

As L<perlfunc/stat> but with the access/modify/change file timestamps in subsecond resolution, if the operating system and the filesystem both support such timestamps. To override the standard stat():

```
use Time::HiRes qw(stat);
```

Test for the value of &Time::HiRes::d_hires_stat to find out whether

the operating system supports subsecond file timestamps: a value larger than zero means yes. There are unfortunately no easy ways to find out whether the filesystem supports such timestamps. UNIX filesystems often do; NTFS does; FAT doesn't (FAT timestamp granularity is B<two> seconds).

A

zero return value of &Time::HiRes::d_hires_stat means that Time::HiRes::stat is a no-op passthrough for CORE::stat(), and therefore the timestamps will stay integers. The same thing will happen if the filesystem does not do subsecond timestamps, even if the &Time::HiRes::d_hires_stat is non-zero.

In any case do not expect nanosecond resolution, or even a microsecond resolution. Also note that the modify/access timestamps might have different resolutions, and that they need not be synchronized, e.g. if the operations are

```
write
stat # t1
read
stat # t2
```

the access time stamp from t2 need not be greater-than the modify time stamp from t1: it may be equal or I<less>.

=back

=head1 EXAMPLES

```
use Time::HiRes qw(usleep ualarm gettimeofday tv_interval);
```

```
$microseconds = 750_000;
usleep($microseconds);
```

```
# signal alarm in 2.5s & every .1s thereafter
ualarm(2_500_000, 100_000);
# cancel that ualarm
ualarm(0);
```

```
# get seconds and microseconds since the epoch
($s, $usec) = gettimeofday();
```

```
# measure elapsed time
# (could also do by subtracting 2 gettimeofday return values)
$t0 = [gettimeofday];
# do bunch of stuff here
$t1 = [gettimeofday];
```

```

# do more stuff here
$t0_t1 = tv_interval $t0, $t1;

$elapsed = tv_interval ($t0, [gettimeofday]);
$elapsed = tv_interval ($t0); # equivalent code

#
# replacements for time, alarm and sleep that know about
# floating seconds
#
use Time::HiRes;
$now_fractions = Time::HiRes::time;
Time::HiRes::sleep (2.5);
Time::HiRes::alarm (10.6666666);

use Time::HiRes qw ( time alarm sleep );
$now_fractions = time;
sleep (2.5);
alarm (10.6666666);

# Arm an interval timer to go off first at 10 seconds and
# after that every 2.5 seconds, in process virtual time

use Time::HiRes qw ( setitimer ITIMER_VIRTUAL time );

$SIG{VTALRM} = sub { print time, "\n" };
setitimer(ITIMER_VIRTUAL, 10, 2.5);

use Time::HiRes qw( clock_gettime clock_getres CLOCK_REALTIME );
# Read
the POSIX high resolution timer.
my $high = clock_getres(CLOCK_REALTIME);
# But how accurate we can be, really?
my $reso = clock_getres(CLOCK_REALTIME);

use Time::HiRes qw( clock_nanosleep TIMER_ABSTIME );
clock_nanosleep(CLOCK_REALTIME, 1e6);
clock_nanosleep(CLOCK_REALTIME, 2e9, TIMER_ABSTIME);

use Time::HiRes qw( clock );
my $clock0 = clock();
... # Do something.
my $clock1 = clock();
my $clockd = $clock1 - $clock0;

use Time::HiRes qw( stat );
my ($atime, $mtime, $ctime) = (stat("istics"))[8, 9, 10];

```

=head1 C API

In addition to the perl API described above, a C API is available for extension writers. The following C functions are available in the modglobal hash:

name	C prototype
-----	-----
Time::NVtime	double (*)()
Time::U2time	void (*) (pTHX_ UV ret[2])

Both functions return equivalent information (like C<gettimeofday>) but with different representations. The names C<NVtime> and C<U2time> were selected mainly because they are operating system independent. (C<gettimeofday> is Unix-centric, though some platforms like Win32 and VMS have emulations for it.)

Here is an example of using C<NVtime> from C:

```
double (*myNVtime()); /* Returns -1 on failure. */
SV **svp = hv_fetch(PL_modglobal, "Time::NVtime", 12, 0);
if (!svp) croak("Time::HiRes is required");
if (!SvIOK(*svp)) croak("Time::NVtime isn't a function pointer");
myNVtime = INT2PTR(double(*)(), SvIV(*svp));
printf("The current time is: %f\n", (*myNVtime)());
```

=head1 DIAGNOSTICS

=head2 useconds or interval more than ...

In ualarm() you tried to use number of microseconds or interval (also in microseconds) more than 1_000_000 and setitimer() is not available in your system to emulate that case.

=head2 negative time not invented yet

You tried to use a negative time argument.

=head2 internal error: useconds < 0 (unsigned ... signed ...)

Something went horribly wrong-- the number of microseconds that cannot become negative just became negative. Maybe your compiler is broken?

=head2 useconds or uinterval equal to or more than 1000000

In some platforms it is not possible to get an alarm with subsecond

resolution and later than one second.

=head2 unimplemented in this platform

Some calls simply aren't available, real or emulated, on every platform.

=head1 CAVEATS

Notice that the core C<time()> maybe rounding rather than truncating. What this means is that the core C<time()> may be reporting the time as one second later than C<gettimeofday()> and C<Time::HiRes::time()>.

Adjusting the system clock (either manually or by services like ntp) may cause problems, especially for long running programs that assume a monotonously increasing time (note that all platforms do not adjust time as gracefully as UNIX ntp does). For example in Win32 (and derived platforms like Cygwin and MinGW) the Time::HiRes::time() may temporarily drift off from the system clock (and the original time())

by up to 0.5

seconds. Time::HiRes will notice this eventually and recalibrate.

Note that since Time::HiRes 1.77 the clock_gettime(CLOCK_MONOTONIC) might help in this (in case your system supports CLOCK_MONOTONIC).

Some systems have APIs but not implementations: for example QNX and Haiku have the interval timer APIs but not the functionality.

=head1 SEE ALSO

Perl modules L<BSD::Resource>, L<Time::TAI64>.

Your system documentation for C<clock>, C<clock_gettime>, C<clock_getres>, C<clock_nanosleep>, C<clock_settime>, C<getitimer>, C<gettimeofday>, C<setitimer>, C<sleep>, C<stat>, C<ualarm>.

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* /opt/cola/permits/1150898783_1634082442.68/0/perl-Time-HiRes-1.9725-3.amzn2.0.2.src.rpm-cosi-expand-
archive-pN2prdIr/Time-HiRes-1.9725.tar.gz-cosi-expand-archive-J7vCgOEK/Time-HiRes-1.9725/HiRes.pm

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* /opt/cola/permits/1150898783_1634082442.68/0/perl-Time-HiRes-1.9725-3.amzn2.0.2.src.rpm-cosi-expand-
archive-pN2prdIr/perl-Time-HiRes.spec

1.81 pkg-config 0.27.1-4.amzn2.0.2

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=head1 NAME

constant - Perl pragma to declare constants

=head1 SYNOPSIS

```
use constant PI => 4 * atan2(1, 1);
```

```
use constant DEBUG => 0;
```

```
print "Pi equals ", PI, "\n" if DEBUG;
```

```
use constant {  
    SEC => 0,  
    MIN => 1,  
    HOUR => 2,  
    MDAY => 3,  
    MON => 4,  
    YEAR => 5,  
    WDAY => 6,  
    YDAY => 7,  
    ISDST => 8,  
};
```

```
use constant WEEKDAYS => qw(  
    Sunday Monday Tuesday Wednesday Thursday Friday Saturday  
);
```

```
print "Today is ", (WEEKDAYS)[ (localtime)[WDAY] ], "\n";
```

=head1 DESCRIPTION

This pragma allows you to declare constants at compile-time.

When you declare a constant such as C<PI> using the method shown above, each machine your script runs upon can have as many digits

of accuracy as it can use. Also, your program will be easier to read, more likely to be maintained (and maintained correctly), and far less likely to send a space probe to the wrong planet because nobody noticed the one equation in which you wrote `C<3.14195>`.

When a constant is used in an expression, Perl replaces it with its value at compile time, and may then optimize the expression further. In particular, any code in an `C<if (CONSTANT)>` block will be optimized away if the constant is false.

=head1 NOTES

As with all `C<use>` directives, defining a constant happens at compile time. Thus, it's probably not correct to put a constant declaration inside of a conditional statement (like `C<if ($foo) { use constant ... }>`).

Constants defined using this module cannot be interpolated into strings like variables. However, concatenation works just fine:

```
print "Pi equals PI...\n";    # WRONG: does not expand "PI"
print "Pi equals ".PI."...\n"; # right
```

Even though a reference may be declared as a constant, the reference may point to data which may be changed, as this code shows.

```
use constant ARRAY => [ 1,2,3,4 ];
print ARRAY->[1];
ARRAY->[1] = " be changed";
print ARRAY->[1];
```

Dereferencing constant references incorrectly (such as using an array subscript on a constant hash reference, or vice versa) will be trapped at compile time.

Constants belong to the package they are defined in. To refer to a constant defined in another package, specify the full package name, as in `C<Some::Package::CONSTANT>`. Constants may be exported by modules, and may also be called as either class or instance methods, that is, as `C<< Some::Package->CONSTANT >>` or as `C<< $obj->CONSTANT >>` where `C<$obj>` is an instance of `C<Some::Package>`. Subclasses may define their own constants to override those in their base class.

The use of all caps for constant names is merely a convention, although it is recommended in order to make constants stand out and to help avoid collisions with other barewords, keywords, and subroutine names. Constant names must begin with a letter or

underscore. Names beginning with a double underscore are reserved. Some poor choices for names will generate warnings, if warnings are enabled at compile time.

=head2 List constants

Constants may be lists of more (or less) than one value. A constant with no values evaluates to C<undef> in scalar context. Note that constants with more than one value do I<not> return their last value in scalar context as one might expect. They currently return the number of values, but B<this may change in the future>. Do not use constants with multiple values in scalar context.

B<NOTE:> This implies that the expression defining the value of a constant is evaluated in list context. This may produce surprises:

```
use constant TIMESTAMP => localtime;      # WRONG!
use constant TIMESTAMP => scalar localtime; # right
```

The first line above defines C<TIMESTAMP> as a 9-element list, as returned by C<localtime()> in list context. To set it to the string returned by C<localtime()> in scalar context, an explicit C<scalar> keyword is required.

List constants are lists, not arrays. To index or slice them, they must be placed in parentheses.

```
my @workdays = WEEKDAYS[1 .. 5];      # WRONG!
my @workdays = (WEEKDAYS)[1 .. 5];    # right
```

=head2 Defining multiple constants at once

Instead of writing multiple C<use constant> statements, you may define multiple constants in a single statement by giving, instead of the constant name, a reference to a hash where the keys are the names of the constants to be defined. Obviously, all constants defined using this method must have a single value.

```
use constant {
    FOO => "A single value",
    BAR => "This", "won't", "work!",    # Error!
};
```

This is a fundamental limitation of the way hashes are constructed in Perl. The error messages produced when this happens will often be quite cryptic -- in the worst case there may be none at all, and

you'll only later find that something is broken.

When defining multiple constants, you cannot use the values of other constants defined in the same declaration. This is because the calling package doesn't know about any constant within that group until I<after> the C<use> statement is finished.

```
use constant {
    BITMASK => 0xAFBAEBA8,
    NEGMASK => ~BITMASK,      # Error!
};
```

=head2 Magic constants

Magical values and references can be made into constants at compile time, allowing for way cool stuff like this. (These error numbers aren't totally portable, alas.)

```
use constant E2BIG => ($! = 7);
print E2BIG, "\n";      # something like "Arg list too long"
print 0+E2BIG, "\n";   # "7"
```

You can't produce a tied constant by giving a tied scalar as the value. References to tied variables, however, can be used as constants without any problems.

=head1 TECHNICAL NOTES

In the current implementation, scalar constants are actually inlinable subroutines. As of version 5.004 of Perl, the appropriate scalar constant is inserted directly in place of some subroutine calls, thereby saving the overhead of a subroutine call. See L<perlsub/"Constant Functions"> for details about how and when this happens.

In the rare case in which you need to discover at run time whether a particular constant has been declared via this module, you may use this function to examine the hash C<%constant::declared>. If the given constant name does not include a package name, the current package is used.

```
sub declared ($) {
    use constant 1.01;      # don't omit this!
    my $name = shift;
    $name =~ s/^\s*/main::/;
    my $pkg = caller;
```



```
my $full_name = $name =~ /::/? $name : "${pkg}::$name";
$constant::declared{$full_name};
}
```

=head1 CAVEATS

In the current version of Perl, list constants are not inlined and some symbols may be redefined without generating a warning.

It is not possible to have a subroutine or a keyword with the same name as a constant in the same package. This is probably a Good Thing.

A constant with a name in the list C<STDIN STDOUT STDERR ARGV ARGVOUT ENV INC SIG> is not allowed anywhere but in package C<main::>, for technical reasons.

Unlike constants in some languages, these cannot be overridden on the command line or via environment variables.

You can get into trouble if you use constants in a context which automatically quotes barewords (as is true for any subroutine call). For example, you can't say C<\$hash{CONSTANT}> because C<CONSTANT> will be interpreted as a string. Use C<\$hash{CONSTANT()}> or C<\$hash{+CONSTANT}> to prevent the bareword quoting mechanism from kicking in. Similarly, since the C<< => >> operator quotes a bareword immediately to its left, you have to say C<< CONSTANT() => 'value' >> (or simply use a comma in place of the big arrow) instead of C<< CONSTANT => 'value' >>.

=head1 SEE ALSO

L<Readonly> - Facility for creating read-only scalars, arrays, hashes.

L<Attribute::Constant> - Make read-only variables via attribute

L<Scalar::Readonly> - Perl extension to the C<SvREADONLY> scalar flag

L<Hash::Util> - A selection of general-utility hash subroutines (mostly to lock/unlock keys and values)

=head1 BUGS

Please report any bugs or feature requests via the `perlbug(1)` utility.

=head1 AUTHORS

Tom Phoenix, E<lt>F<rootbeer@redcat.com>E<gt>, with help from many other folks.

Multiple constant declarations at once added by Casey West, E<lt>F<casey@geeknest.com>E<gt>.

Documentation mostly rewritten by Ilmari Karonen, E<lt>F<perl@itz.pp.sci.fi>E<gt>.

This program is maintained by the Perl 5 Porters.
The CPAN distribution is maintained by SE<eacute>bastien Aperghis-Tramoni E<lt>F<sebastien@aperghis.net>E<gt>.

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=cut

Found in path(s):

* /opt/cola/permits/1150898810_1634080850.11/0/perl-constant-1.27-2.amzn2.0.1.src.rpm-cosi-expand-archive-AEHhz1LC/constant-1.27.tar.gz-cosi-expand-archive-ev5tPtsK/constant-1.27/lib/constant.pm

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

NAME

constant - Perl pragma to declare constants

DESCRIPTION

This pragma allows you to declare constants at compile-time.

When a constant is used in an expression, Perl replaces it with its value at compile time, and may then optimize the expression further. In particular, any code in an "if (CONSTANT)" block will be optimized away if the constant is false.

INSTALLATION

To install this module, run the following commands:

```
perl Makefile.PL
make
```

```
make test
make install
```

Alternatively, to install with `Module::Build`, you can use the following commands:

```
perl Build.PL
./Build
./Build test
./Build install
```

SUPPORT AND DOCUMENTATION

After installing, you can find documentation for this module with the `perldoc` command.

```
perldoc constant
```

You can also look for information at:

Search CPAN

<http://search.cpan.org/dist/constant>

CPAN Request Tracker:

<http://rt.cpan.org/Dist/Display.html?Name=constant>

AnnoCPAN, annotated CPAN documentation:

<http://annocpan.org/dist/constant>

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Found in path(s):

```
* /opt/cola/permits/1150898810_1634080850.11/0/perl-constant-1.27-2.amzn2.0.1.src.rpm-cosi-expand-archive-AEHhz1LC/constant-1.27.tar.gz-cosi-expand-archive-ev5tPtsK/constant-1.27/README
```

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

abstract: 'Perl pragma to declare constants'

author:
- 'SÃ©bastien Aperghis-Tramoni <sebastien@aperghis.net>'
build_requires:
Test::More: 0
configure_requires:
Module::Build: 0.2808
dynamic_config: 1
generated_by: 'Module::Build version 0.4003, CPAN::Meta::Converter version 2.120921'
license: perl
meta-spec:
url: <http://module-build.sourceforge.net/META-spec-v1.4.html>
version: 1.4
name: constant
provides:
constant:
file: lib/constant.pm
version: 1.27
resources:
license: <http://dev.perl.org/licenses/>
version: 1.27

Found in path(s):

* /opt/cola/permits/1150898810_1634080850.11/0/perl-constant-1.27-2.amzn2.0.1.src.rpm-cosi-expand-archive-AEHhz1LC/constant-1.27.tar.gz-cosi-expand-archive-ev5tPtsK/constant-1.27/META.yml

1.84 lz4 1.7.5-2.amzn2.0.1

1.84.1 Available under license :

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```

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

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Upstream-Name: liblz4

Upstream-Contact: Yann Collet <Cyan4973@github.com>

Source: <https://github.com/lz4/lz4>

Files: *

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1.85 kmod 25-3.amzn2.0.2

1.85.1 Available under license :

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Version 2.1, February 1999

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1.89 libtirpc 0.2.4-0.16.amzn2

1.89.1 Available under license :

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1.90 perl-threads-shared 1.43-6.amzn2.0.2

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abstract: 'Perl extension for sharing data structures between threads'

author:

- 'Artur Bergman, Jerry D. Hedden <jdhedden AT cpan DOT org>'

build_requires:

ExtUtils::MakeMaker: 0

configure_requires:

ExtUtils::MakeMaker: 0

dynamic_config: 1

generated_by: 'ExtUtils::MakeMaker version 6.64, CPAN::Meta::Converter version 2.120921'

license: perl

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: threads-shared

no_index:

directory:

- t

- inc

requires:

Carp: 0

Config: 0

ExtUtils::testlib: 0

Scalar::Util: 0

Test: 0

Test::More: 0

XSLoader: 0

strict: 0

threads: 1.73

warnings: 0

version: 1.43

Found in path(s):

```
* /opt/cola/permits/1150898438_1634082378.42/0/perl-threads-shared-1.43-6.amzn2.0.2.src.rpm-cosi-expand-
archive-xa0PhQ3z/threads-shared-1.43.tar.gz-cosi-expand-archive-D1jKl0Un/threads-shared-1.43/META.yml
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```

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Found in path(s):

```
* /opt/cola/permits/1150898438_1634082378.42/0/perl-threads-shared-1.43-6.amzn2.0.2.src.rpm-cosi-expand-
archive-xa0PhQ3z/threads-shared-1.43.tar.gz-cosi-expand-archive-D1jKl0Un/threads-shared-1.43/examples/class.pl
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```

```
Name:      perl-threads-shared
Version:   1.43
Release: 6%{ ?dist }.0.2
Summary:   Perl extension for sharing data structures between threads
License:   GPL+ or Artistic
Group:     Development/Libraries
URL:       http://search.cpan.org/dist/threads-shared/
Source0:   http://www.cpan.org/authors/id/J/JD/JDHEDDEN/threads-shared-%{ version }.tar.gz
BuildRequires: perl
BuildRequires: perl(Carp)
BuildRequires: perl(Config)
BuildRequires: perl(ExtUtils::MakeMaker)
BuildRequires: perl(ExtUtils::testlib)
BuildRequires: perl(File::Path)
BuildRequires: perl(File::Spec)
BuildRequires: perl(POSIX)
BuildRequires: perl(Scalar::Util)
BuildRequires: perl(strict)
BuildRequires: perl(Test::More)
BuildRequires: perl(threads) >= 1.73
BuildRequires: perl(warnings)
BuildRequires: perl(XSLoader)
Requires:   perl(:MODULE_COMPAT_$(eval "`perl -V:version`"; echo $version))
Requires:   perl(Carp)
Requires:
    perl(threads) >= 1.73
Requires:   perl(XSLoader)
```

```
%{ ?perl_default_filter }
```

```
%description
```

By default, variables are private to each thread, and each newly created thread gets a private copy of each existing variable. This module allows you to share variables across different threads (and pseudo-forks on

Win32). It is used together with the threads module.

```
%prep
%setup -q -n threads-shared-%{version}

%build
perl Makefile.PL INSTALLDIRS=vendor OPTIMIZE="$RPM_OPT_FLAGS"
make % {?_smp_mflags}

%install
make pure_install DESTDIR=$RPM_BUILD_ROOT
find $RPM_BUILD_ROOT -type f -name .packlist -exec rm -f {} \;
find $RPM_BUILD_ROOT -type f -name '*.bs' -size 0 -exec rm -f {} \;
%{_fixperms} $RPM_BUILD_ROOT/*

%check
make test

%files
%doc Changes README
%{perl_vendorarch}/auto/*
%{perl_vendorarch}/threads*
%{_mandir}/man3/*

%changelog
* Fri Jan 24 2014 Daniel Mach <dmach@redhat.com> - 1.43-6
- Mass rebuild 2014-01-24

* Fri Dec 27 2013 Daniel Mach <dmach@redhat.com> -
1.43-5
- Mass rebuild 2013-12-27

* Tue Jul 02 2013 Jitka Plesnikova <jplesnik@redhat.com> - 1.43-4
- Remove BR perl(Test)

* Tue Jul 02 2013 Jitka Plesnikova <jplesnik@redhat.com> - 1.43-3
- Specify all dependencies

* Thu Feb 14 2013 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 1.43-2
- Rebuilt for https://fedoraproject.org/wiki/Fedora\_19\_Mass\_Rebuild

* Tue Jan 15 2013 Petr Pisar <ppisar@redhat.com> - 1.43-1
- 1.43 bump

* Fri Nov 23 2012 Jitka Plesnikova <jplesnik@redhat.com> - 1.42-2
- Add BR perl(File::Spec)
- Replace PERL_INSTALL_ROOT with DESTDIR
- Remove deleting empty directories
```

- Remove defattr

- * Wed Oct 03 2012 Petr Písar <ppisar@redhat.com> - 1.42-1
 - 1.42 bump

- * Mon Sep 10 2012 Petr Písar <ppisar@redhat.com> - 1.41-1
 - 1.41 bump

- * Mon Aug 13 2012 Marcela Malov <mmlaslano@redhat.com> - 1.40-240
 - bump release to override sub-package from perl.spec

- * Fri Jul 20 2012 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 1.40-4
 - Rebuilt for https://fedoraproject.org/wiki/Fedora_18_Mass_Rebuild

- * Wed Jun 06 2012 Petr Písar <ppisar@redhat.com> - 1.40-3
 - Perl 5.16 rebuild

- * Sat Jan 14 2012 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 1.40-2
 - Rebuilt for https://fedoraproject.org/wiki/Fedora_17_Mass_Rebuild

- * Mon Sep 12 2011 Petr Písar <ppisar@redhat.com> - 1.40-1
 - 1.40 bump

- * Tue Sep 06 2011 Petr Písar <ppisar@redhat.com> - 1.39-1
 - 1.39 bump

- * Wed Aug 17 2011 Marcela Malov <mmlaslano@redhat.com> - 1.37-3
 - change path on vendor, so our debuginfo are not conflicting with perl core debuginfos

- * Mon Jun 20 2011 Marcela Malov <mmlaslano@redhat.com> - 1.37-2
 - Perl mass rebuild

- * Tue Apr 26 2011 Petr Písar <ppisar@redhat.com> - 1.37-1
 - 1.37 bump

- * Wed Feb 09 2011 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 1.36-2
 - Rebuilt for https://fedoraproject.org/wiki/Fedora_15_Mass_Rebuild

- * Mon Jan 03 2011 Petr Písar <ppisar@redhat.com> - 1.36-1
 - 1.36 bump

- * Mon Oct 11 2010 Petr Písar <ppisar@redhat.com> - 1.34-1
 - 1.34 bump

- * Thu Sep 23 2010 Petr Písar <ppisar@redhat.com> - 1.33-1

- Specfile autogenerated by cpansec 1.78.
- Fix dependencies
- Requires perl(Scalar::Util) is autodetected
- Do not provide private library
- Remove pre-F12 BuildRoot stuff

Found in path(s):

* /opt/cola/permits/1150898438_1634082378.42/0/perl-threads-shared-1.43-6.amzn2.0.2.src.rpm-cosi-expand-archive-xa0PhQ3z/perl-threads-shared.spec

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=head1 NAME

threads::shared - Perl extension for sharing data structures between threads

=head1 VERSION

This document describes threads::shared version 1.43

=head1 SYNOPSIS

```
use threads;
use threads::shared;
```

```
my $var :shared;
my %hsh :shared;
my @ary :shared;
```

```
my ($scalar, @array, %hash);
share($scalar);
share(@array);
share(%hash);
```

```
$var = $scalar_value;
$var = $shared_ref_value;
$var = shared_clone($non_shared_ref_value);
$var = shared_clone({'foo' => [qw/foo bar baz/]});
```

```
$hsh{'foo'} = $scalar_value;
$hsh{'bar'} = $shared_ref_value;
$hsh{'baz'} = shared_clone($non_shared_ref_value);
$hsh{'quz'} = shared_clone([1..3]);
```

```
$ary[0] = $scalar_value;
$ary[1] = $shared_ref_value;
$ary[2] = shared_clone($non_shared_ref_value);
$ary[3] = shared_clone([ {}, [] ]);
```

```
{ lock(%hash); ... }
```

```
cond_wait($scalar);  
cond_timedwait($scalar, time() + 30);  
cond_broadcast(@array);  
cond_signal(%hash);
```

```
my $lockvar :shared;  
# condition var != lock var  
cond_wait($var, $lockvar);  
cond_timedwait($var, time()+30, $lockvar);
```

=head1 DESCRIPTION

By default, variables are private to each thread, and each newly created thread gets a private copy of each existing variable. This module allows you to share variables across different threads (and pseudo-forks on Win32). It is used together with the L<threads> module.

This module supports the sharing of the following data types only: scalars and scalar refs, arrays and array refs, and hashes and hash refs.

=head1 EXPORT

The following functions are exported by this module: C<share>, C<shared_clone>, C<is_shared>, C<cond_wait>, C<cond_timedwait>, C<cond_signal> and C<cond_broadcast>

Note that if this module is imported when L<threads> has not yet been loaded, then these functions all become no-ops. This makes it possible to write modules that will work in both threaded and non-threaded environments.

=head1 FUNCTIONS

=over
4

=item share VARIABLE

C<share> takes a variable and marks it as shared:

```
my ($scalar, @array, %hash);  
share($scalar);  
share(@array);  
share(%hash);
```

C<share> will return the shared rvalue, but always as a reference.

Variables can also be marked as shared at compile time by using the `C<:shared>` attribute:

```
my ($var, %hash, @array) :shared;
```

Shared variables can only store scalars, refs of shared variables, or refs of shared data (discussed in next section):

```
my ($var, %hash, @array) :shared;
my $bork;
```

```
# Storing scalars
```

```
$var = 1;
$hash{ 'foo' } = 'bar';
$array[0] = 1.5;
```

```
# Storing shared refs
```

```
$var = \%hash;
$hash{ 'ary' } = \@array;
$array[1] = \$var;
```

```
# The following are errors:
```

```
# $var = $bork;           # ref of non-shared variable
# $hash{ 'bork' } = [];   # non-shared array ref
# push(@array, { 'x' => 1 }); # non-shared hash ref
```

=item `shared_clone` REF

`C<shared_clone>` takes a reference, and returns a shared version of its argument, performing a deep copy on any non-shared elements. Any shared elements in the argument are used as is (i.e., they are not cloned).

```
my $cpy = shared_clone({'foo' => [qw/foo bar baz/]});
```

Object status (i.e., the class an object is blessed into) is also cloned.

```
my $obj = {'foo' => [qw/foo bar baz/]};
bless($obj, 'Foo');
my $cpy = shared_clone($obj);
print(ref($cpy), "\n");    # Outputs 'Foo'
```

For cloning empty array or hash refs, the following may also be used:

```
$var = &share([]); # Same as $var = shared_clone([]);
$var = &share({}); # Same as $var = shared_clone({});
```

Not all Perl data types can be cloned (e.g., globs, code refs). By default,

C<shared_clone> will L<croak|Carp> if it encounters such items. To change this behaviour to a warning, then set the following:

```
$threads::shared::clone_warn = 1;
```

In this case, C<undef> will be substituted for the item to be cloned. If set to zero:

```
$threads::shared::clone_warn = 0;
```

then

the C<undef> substitution will be performed silently.

=item is_shared VARIABLE

C<is_shared> checks if the specified variable is shared or not. If shared, returns the variable's internal ID (similar to L<refaddr()|Scalar::Util/"refaddr EXPR">). Otherwise, returns C<undef>.

```
if (is_shared($var)) {
    print("\$var is shared\n");
} else {
    print("\$var is not shared\n");
}
```

When used on an element of an array or hash, C<is_shared> checks if the specified element belongs to a shared array or hash. (It does not check the contents of that element.)

```
my %hash :shared;
if (is_shared(%hash)) {
    print("%hash is shared\n");
}
```

```
$hash{'elem'} = 1;
if (is_shared($hash{'elem'})) {
    print("\$hash{'elem'} is in a shared hash\n");
}
```

=item lock VARIABLE

C<lock> places a B<advisory> lock on a variable until the lock goes out of scope. If the variable is locked by another thread, the C<lock> call will block until it's available. Multiple calls to C<lock> by the same thread from within dynamically nested scopes are safe -- the variable will remain locked until the outermost lock on the variable goes out of scope.

C<lock> follows references exactly I<one> level:

```
my %hash :shared;
my $ref = \%hash;
lock($ref);      # This is equivalent to lock(%hash)
```

Note that you cannot explicitly unlock a variable; you can only wait for the lock to go out of scope. This is most easily accomplished by locking the variable inside a block.

```
my $var :shared;
{
    lock($var);
    # $var is locked from here to the end of the block
    ...
}
# $var is now unlocked
```

As locks are advisory, they do not prevent data access or modification by another thread that does not itself attempt to obtain a lock on the variable.

You cannot lock the individual elements of a container variable:

```
my %hash :shared;
$hash{'foo'} = 'bar';
#lock($hash{'foo'});    # Error
lock(%hash);           # Works
```

If you need more fine-grained control over shared variable access, see L<Thread::Semaphore>.

=item cond_wait VARIABLE

=item cond_wait CONDVAR, LOCKVAR

The C<cond_wait> function takes a B<locked> variable as a parameter, unlocks the variable, and blocks until another thread does a C<cond_signal> or C<cond_broadcast> for that same locked variable. The variable that C<cond_wait> blocked on is re-locked after the C<cond_wait> is satisfied. If there are multiple threads C<cond_wait>ing on the same variable, all but one will re-block waiting to reacquire the lock on the variable. (So if you're only using C<cond_wait> for synchronization, give up the lock as soon as possible). The two actions of unlocking the variable and entering the blocked wait state are atomic, the two actions of exiting from the blocked wait state and re-locking the variable are not.

In its second form, C<cond_wait> takes a shared, B<unlocked> variable followed

by a shared, B<locked> variable. The second variable is unlocked and thread execution

suspended until another thread signals the first variable.

It is important to note that the variable can be notified even if no thread C<cond_signal> or C<cond_broadcast> on the variable. It is therefore important to check the value of the variable and go back to waiting if the requirement is not fulfilled. For example, to pause until a shared counter drops to zero:

```
{ lock($counter); cond_wait($counter) until $counter == 0; }
```

=item cond_timedwait VARIABLE, ABS_TIMEOUT

=item cond_timedwait CONDVAR, ABS_TIMEOUT, LOCKVAR

In its two-argument form, C<cond_timedwait> takes a B<locked> variable and an absolute timeout in I<epoch> seconds (see L<time() in perlfunc|perlfunc/time> for more) as parameters, unlocks the variable, and blocks until the timeout is reached or another thread signals the variable. A false value is returned if the timeout is reached, and a true value otherwise. In either case, the variable is re-locked upon return.

Like C<cond_wait>, this function may take a shared, B<locked> variable as an additional parameter; in this case the first parameter is an B<unlocked> condition variable protected by a distinct lock variable.

Again like C<cond_wait>, waking up and reacquiring the lock are not atomic, and you should always check your desired condition after this function returns. Since the timeout is an absolute value, however, it does not have to be recalculated with each pass:

```
lock($var);
my $abs = time() + 15;
until ($ok = desired_condition($var)) {
    last if !cond_timedwait($var, $abs);
}
# we got it if $ok, otherwise we timed out!
```

=item cond_signal VARIABLE

The C<cond_signal> function takes a B<locked> variable as a parameter and unblocks one thread that's C<cond_wait>ing on that variable. If more than one thread is blocked in a C<cond_wait> on that variable, only one (and which one is indeterminate) will be unblocked.

If there are no threads blocked in a C<cond_wait> on the variable, the signal

is discarded. By always locking before signaling, you can (with care), avoid signaling before another thread has entered `cond_wait()`.

`C<cond_signal>` will normally generate a warning if you attempt to use it on an unlocked variable. On the rare occasions where doing this may be sensible, you can suppress the warning with:

```
{ no warnings 'threads'; cond_signal($foo); }
```

=item `cond_broadcast` VARIABLE

The `C<cond_broadcast>` function works similarly to `C<cond_signal>`. `C<cond_broadcast>`, though, will unblock `B<all>` the threads that are blocked in a `C<cond_wait>` on the locked variable, rather than only one.

=back

=head1 OBJECTS

`L<threads::shared>` exports a version of `L<bless()|perlfunc/"bless REF">` that works on shared objects such that `I<blessings>` propagate across threads.

```
# Create a shared 'Foo' object
my $foo :shared = shared_clone({});
bless($foo, 'Foo');

# Create a shared 'Bar' object
my $bar :shared = shared_clone({});
bless($bar, 'Bar');

# Put 'bar' inside 'foo'
$foo->{'bar'} = $bar;

# Rebless the objects via a thread
threads->create(sub {
    # Rebless the outer object
    bless($foo, 'Yin');

    # Cannot directly rebless the inner object
    #bless($foo->{'bar'}, 'Yang');

    # Retrieve and rebless the inner object
    my $obj = $foo->{'bar'};
    bless($obj, 'Yang');
    $foo->{'bar'} = $obj;

})->join();
```

```
print(ref($foo),      "\n"); # Prints 'Yin'
print(ref($foo->{'bar'}), "\n"); # Prints 'Yang'
print(ref($bar),      "\n"); # Also prints 'Yang'
```

=head1 NOTES

L<threads::shared> is designed to disable itself silently if threads are not available. This allows you to write modules and packages that can be used in both threaded and non-threaded applications.

If you want access to threads, you must C<use threads> before you C<use threads::shared>. L<threads> will emit a warning if you use it after L<threads::shared>.

=head1 BUGS AND LIMITATIONS

When C<share> is used on arrays, hashes, array refs or hash refs, any data they contain will be lost.

```
my @arr = qw(foo bar baz);
share(@arr);
# @arr is now empty (i.e., == ());

# Create a 'foo' object
my $foo = { 'data' => 99 };
bless($foo, 'foo');

# Share the object
share($foo); # Contents are now wiped out
print("ERROR: \ $foo is empty\n")
    if (! exists($foo->{'data'}));
```

Therefore, populate such variables B<after> declaring them as shared. (Scalar and scalar refs are not affected by this problem.)

It is often not wise to share an object unless the class itself has been written to support sharing. For example, an object's destructor may get called multiple times, once for each thread's scope exit. Another danger is that the contents of hash-based objects will be lost due to the above mentioned limitation. See F<examples/class.pl> (in the CPAN distribution of this module) for how to create a class that supports object sharing.

Destructors may not be called on objects if those objects still exist at global destruction time. If the destructors must be called, make sure there are no circular references and that nothing is referencing the

objects, before the program ends.

Does not support C<splice> on arrays. Does not support explicitly changing array lengths via \$#array -- use C<push> and C<pop> instead.

Taking references to the elements of shared arrays and hashes does not autovivify the elements, and neither does slicing a shared array/hash over non-existent indices/keys autovivify the elements.

C<share()> allows you to C<< share(\$hashref->{key}) >> and C<< share(\$arrayref->[idx]) >> without giving any error message. But the C<< \$hashref->{key} >> or C<< \$arrayref->[idx] >> is B<not> shared, causing the error "lock can only be used on shared values" to occur when you attempt to C<< lock(\$hashref->{key}) >> or C<< lock(\$arrayref->[idx]) >> in another thread.

Using L<refaddr()|Scalar::Util/"refaddr EXPR"> is unreliable for testing whether or not two shared references are equivalent (e.g., when testing for circular references). Use L<is_shared()/"is_shared VARIABLE">, instead:

```
use threads;
use threads::shared;
use Scalar::Util qw(refaddr);

# If ref is shared, use threads::shared's internal ID.
# Otherwise, use refaddr().
my $addr1 = is_shared($ref1) || refaddr($ref1);
my $addr2 = is_shared($ref2) || refaddr($ref2);

if ($addr1 == $addr2) {
    # The refs are equivalent
}
```

L<each()|perlfunc/"each HASH"> does not work properly on shared references embedded in shared structures. For example:

```
my %foo :shared;
$foo{'bar'} = shared_clone({'a'=>'x', 'b'=>'y', 'c'=>'z'});

while (my ($key, $val) = each(%{$foo{'bar'}})) {
    ...
}
```

Either of the following will work instead:

```
my $ref = $foo{'bar'};
while (my ($key, $val) = each(%{$ref})) {
```

```

...
}

foreach my $key (keys(%{$foo{'bar'}})) {
    my $val = $foo{'bar'}{$key};
    ...
}

```

This module supports dual-valued variables created using `L<dualvar()` from `Scalar::Util|Scalar::Util/"dualvar NUM, STRING">`. However, while `C<$!>` acts like a dualvar, it is implemented as a tied SV. To propagate its value, use the follow construct, if needed:

```
my $errno :shared = dualvar($!, $!);
```

View existing bug reports at, and submit any new bugs, problems, patches, etc. to: [L<http://rt.cpan.org/Public/Dist/Display.html?Name=threads-shared>](http://rt.cpan.org/Public/Dist/Display.html?Name=threads-shared)

=head1 SEE ALSO

[L<threads::shared>](#) Discussion Forum on CPAN:
[L<http://www.cpanforum.com/dist/threads-shared>](http://www.cpanforum.com/dist/threads-shared)

[L<threads>](#), [L<perlthrtut>](#)

[L<http://www.perl.com/pub/a/2002/06/11/threads.html>](http://www.perl.com/pub/a/2002/06/11/threads.html) and
[L<http://www.perl.com/pub/a/2002/09/04/threads.html>](http://www.perl.com/pub/a/2002/09/04/threads.html)

Perl threads mailing list:
[L<http://lists.perl.org/list/ithreads.html>](http://lists.perl.org/list/ithreads.html)

=head1 AUTHOR

Artur Bergman [E<lt>sky AT crucially DOT netE<gt>](mailto:sky@crucially.net)

Documentation borrowed from the old Thread.pm.

CPAN version produced by Jerry D. Hedden [E<lt>jdhedden AT cpan DOT orgE<gt>](mailto:jdhedden@cpan.org).

=head1 LICENSE

`threads::shared` is released under the same license as Perl.

=cut

Found

in path(s):

* /opt/cola/permits/1150898438_1634082378.42/0/perl-threads-shared-1.43-6.amzn2.0.2.src.rpm-cosi-expand-archive-xa0PhQ3z/threads-shared-1.43.tar.gz-cosi-expand-archive-D1jKl0Un/threads-shared-1.43/lib/threads/shared.pm

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

/*

ppport.h -- Perl/Pollution/Portability Version 3.19

Automatically created by Devel::PPPort running under perl 5.010000.

Do NOT edit this file directly! -- Edit PPPort_pm.PL and the includes in parts/inc/ instead.

Use 'perldoc ppport.h' to view the documentation below.

SKIP

=pod

=head1 NAME

ppport.h - Perl/Pollution/Portability version 3.19

=head1 SYNOPSIS

perl ppport.h [options] [source files]

Searches current directory for files if no [source files] are given

--help show short help

--version show version

--patch=file write one patch file with changes

--copy=suffix write changed copies with suffix

--diff=program use diff program and options

--compat-version=version

 provide compatibility with Perl version

--cplusplus accept C++ comments

--quiet don't output anything except fatal errors

--nodiag don't show diagnostics

--nohints don't show hints
--nochanges don't suggest changes
--nofilter don't filter input files

--strip strip all script and doc functionality from
 ppport.h

--list-provided list provided API
--list-unsupported list unsupported API
--api-info=name show Perl API portability information

=head1 COMPATIBILITY

This version of F<ppport.h> is designed to support operation with Perl installations back to 5.003, and has been tested up to 5.10.0.

=head1 OPTIONS

=head2 --help

Display a brief usage summary.

=head2 --version

Display the version of F<ppport.h>.

=head2 --patch=I<file>

If this option is given, a single patch file will be created if any changes are suggested. This requires a working diff program to be installed on your system.

=head2 --copy=I<suffix>

If this option is given, a copy of each file will be saved with the given suffix that contains the suggested changes. This does not require any external programs. Note that this does not automagially add a dot between the original filename and the suffix. If you want the dot, you have to include it in the option argument.

If neither C<--patch> or C<--copy> are given, the default is to simply print the diffs for each file. This requires either C<Text::Diff> or a C<diff> program to be installed.

=head2 --diff=I<program>

Manually set the diff program and options to use. The default is to use C<Text::Diff>, when installed, and output unified context diffs.

=head2 --compat-version=I<version>

Tell F<ppport.h> to check for compatibility with the given Perl version. The default is to check for compatibility with Perl version 5.003.

You can use this option to reduce the output of F<ppport.h> if you intend to be backward compatible only down to a certain Perl version.

=head2 --cplusplus

Usually, F<ppport.h> will detect C++ style comments and replace them with C style comments for portability reasons. Using this option instructs F<ppport.h> to leave C++ comments untouched.

=head2 --quiet

Be quiet. Don't print anything except fatal errors.

=head2 --nodiag

Don't output any diagnostic messages. Only portability alerts will be printed.

=head2 --nohints

Don't output any hints. Hints often contain useful portability notes. Warnings will still be displayed.

=head2 --nochanges

Don't suggest any changes. Only give diagnostic output and hints unless these are also deactivated.

=head2 --nofilter

Don't filter the list of input files. By default, files not looking like source code (i.e. not *.xs, *.c, *.cc, *.cpp or *.h) are skipped.

=head2 --strip

Strip all script and documentation functionality from F<ppport.h>. This

reduces the size of F<ppport.h> dramatically and may be useful if you want to include F<ppport.h> in smaller modules without increasing their distribution size too much.

The stripped F<ppport.h> will have a C<--unstrip> option that allows you to undo the stripping, but only if an appropriate C<Devel::PPPport> module is installed.

=head2 --list-provided

Lists the API elements for which compatibility is provided by F<ppport.h>. Also lists if it must be explicitly requested, if it has dependencies, and if there are hints or warnings for it.

=head2 --list-unsupported

Lists the API elements that are known not to be supported by F<ppport.h> and below which version of Perl they probably won't be available or work.

=head2 --api-info=I<name>

Show portability information for API elements matching I<name>. If I<name> is surrounded by slashes, it is interpreted as a regular expression.

=head1 DESCRIPTION

In order for a Perl extension (XS) module to be as portable as possible across differing versions of Perl itself, certain steps need to be taken.

=over 4

=item *

Including this header is the first major one. This alone will give you access to a large part of the Perl API that hasn't been available in earlier Perl releases. Use

```
perl ppport.h --list-provided
```

to see which API elements are provided by ppport.h.

=item *

You should avoid using deprecated parts of the API. For example, using global Perl variables without the C<PL_> prefix is deprecated. Also,

some API functions used to have a C<perl_> prefix. Using this form is also deprecated. You can safely use the supported API, as F<ppport.h> will provide wrappers for older Perl versions.

=item *

If you use one of a few functions or variables that were not present in earlier versions of Perl, and that can't be provided using a macro, you have to explicitly request support for these functions by adding one or more C<#define>s in your source code before the inclusion of F<ppport.h>.

These functions or variables will be marked C<explicit> in the list shown by C<--list-provided>.

Depending on whether your module has a single or multiple files that use such functions or variables, you want either C<static> or global variants.

For a C<static> function or variable (used only in a single source file), use:

```
#define NEED_function
#define NEED_variable
```

For a global function or variable (used in multiple source files), use:

```
#define NEED_function_GLOBAL
#define NEED_variable_GLOBAL
```

Note that you mustn't have more than one global request for the same function or variable in your project.

Function / Variable	Static Request	Global Request
PL_parser	NEED_PL_parser	NEED_PL_parser_GLOBAL
PL_signals	NEED_PL_signals	NEED_PL_signals_GLOBAL
eval_pv()	NEED_eval_pv	NEED_eval_pv_GLOBAL
grok_bin()	NEED_grok_bin	NEED_grok_bin_GLOBAL
grok_hex()	NEED_grok_hex	NEED_grok_hex_GLOBAL
grok_number()	NEED_grok_number	NEED_grok_number_GLOBAL
grok_numeric_radix()	NEED_grok_numeric_radix	NEED_grok_numeric_radix_GLOBAL
grok_oct()	NEED_grok_oct	NEED_grok_oct_GLOBAL
load_module()	NEED_load_module	NEED_load_module_GLOBAL
my_snprintf()	NEED_my_snprintf	NEED_my_snprintf_GLOBAL
my_sprintf()	NEED_my_sprintf	NEED_my_sprintf_GLOBAL
my_strlcat()	NEED_my_strlcat	NEED_my_strlcat_GLOBAL

my_strncpy()	NEED_my_strncpy	NEED_my_strncpy_GLOBAL
newCONSTSUB()	NEED_newCONSTSUB	NEED_newCONSTSUB_GLOBAL
newRV_noinc()	NEED_newRV_noinc	NEED_newRV_noinc_GLOBAL
newSV_type()	NEED_newSV_type	NEED_newSV_type_GLOBAL
newSVpvn_flags()	NEED_newSVpvn_flags	NEED_newSVpvn_flags_GLOBAL
newSVpvn_share()	NEED_newSVpvn_share	NEED_newSVpvn_share_GLOBAL
pv_display()	NEED_pv_display	NEED_pv_display_GLOBAL
pv_escape()	NEED_pv_escape	NEED_pv_escape_GLOBAL
pv_pretty()	NEED_pv_pretty	NEED_pv_pretty_GLOBAL
sv_2pv_flags()	NEED_sv_2pv_flags	NEED_sv_2pv_flags_GLOBAL
sv_2pvbyte()	NEED_sv_2pvbyte	NEED_sv_2pvbyte_GLOBAL
sv_catpvf_mg()	NEED_sv_catpvf_mg	NEED_sv_catpvf_mg_GLOBAL
sv_catpvf_mg_nocontext()	NEED_sv_catpvf_mg_nocontext	NEED_sv_catpvf_mg_nocontext_GLOBAL
sv_pvn_force_flags()	NEED_sv_pvn_force_flags	NEED_sv_pvn_force_flags_GLOBAL
sv_setpvf_mg()	NEED_sv_setpvf_mg	
NEED_sv_setpvf_mg_GLOBAL		
sv_setpvf_mg_nocontext()	NEED_sv_setpvf_mg_nocontext	NEED_sv_setpvf_mg_nocontext_GLOBAL
vload_module()	NEED_vload_module	NEED_vload_module_GLOBAL
vnewSVpvf()	NEED_vnewSVpvf	NEED_vnewSVpvf_GLOBAL
warn()	NEED_warner	NEED_warner_GLOBAL

To avoid namespace conflicts, you can change the namespace of the explicitly exported functions / variables using the C<DPPP_NAMESPACE> macro. Just C<#define> the macro before including C<ppport.h>:

```
#define DPPP_NAMESPACE MyOwnNamespace_
#include "ppport.h"
```

The default namespace is C<DPPP_>.

=back

The good thing is that most of the above can be checked by running F<ppport.h> on your source code. See the next section for details.

=head1 EXAMPLES

To verify whether F<ppport.h> is needed for your module, whether you should make any changes to your code, and whether any special defines should be used, F<ppport.h> can be run as a Perl script to check your source code. Simply say:

```
perl ppport.h
```

The result will usually be a list of patches suggesting changes that should at least be acceptable, if not necessarily the most

efficient solution, or a fix for all possible problems.

If you know that your XS module uses features only available in newer Perl releases, if you're aware that it uses C++ comments, and if you want all suggestions as a single patch file, you could use something like this:

```
perl ppport.h --compat-version=5.6.0 --cplusplus --patch=test.diff
```

If you only want your code to be scanned without any suggestions for changes, use:

```
perl ppport.h --nochanges
```

You can specify a different C<diff> program or options, using the C<--diff> option:

```
perl ppport.h --diff='diff -C 10'
```

This would output context diffs with 10 lines of context.

If you want to create patched copies of your files instead, use:

```
perl ppport.h --copy=.new
```

To display portability information for the C<newSVpv> function, use:

```
perl ppport.h --api-info=newSVpv
```

Since the argument to C<--api-info> can be a regular expression, you can use

```
perl ppport.h --api-info=/_nomg$/
```

to display portability information for all C<_nomg> functions or

```
perl ppport.h --api-info=/.//
```

to display information for all known API elements.

=head1 BUGS

If this version of F<ppport.h> is causing failure during the compilation of this module, please check if newer versions of either this module or C<Devel::PPPort> are available on CPAN before sending a bug report.

If `F<ppport.h>` was generated using the latest version of `C<Devel::PPPort>` and is causing failure of this module, please file a bug report using the CPAN Request Tracker at [L<http://rt.cpan.org/>](http://rt.cpan.org/).

Please include the following information:

`=over 4`

`=item 1.`

The complete output from running `"perl -V"`

`=item 2.`

This file.

`=item 3.`

The name and version of the module you were trying to build.

`=item 4.`

A full log of the build that failed.

`=item`

5.

Any other information that you think could be relevant.

`=back`

For the latest version of this code, please get the `C<Devel::PPPort>` module from CPAN.

`=head1 COPYRIGHT`

Version 3.x, Copyright (c) 2004-2009, Marcus Holland-Moritz.

Version 2.x, Copyright (C) 2001, Paul Marquess.

Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

`=head1 SEE ALSO`

See L<Devel::PPP>.

=cut

use strict;

Disable broken TRIE-optimization

BEGIN { eval '\${^RE_TRIE_MAXBUF} = -1' if \$] >= 5.009004 && \$] <= 5.009005 }

my \$VERSION = 3.19;

```
my %opt = (  
  quiet => 0,  
  diag  => 1,  
  hints => 1,  
  changes => 1,  
  cplusplus => 0,  
  filter => 1,  
  strip  => 0,  
  version => 0,  
);
```

my(\$ppport) = \$0 =~ /([\w.]+)/;

my \$LF = '(?:\r\n|[\r\n])'; # line feed

my \$HS = "[\t]"; # horizontal whitespace

Never use C comments in this file!

my \$ccs = '/!.*';

my

\$cce = '!.*/';

my \$rcs = quotemeta \$ccs;

my \$rcce = quotemeta \$cce;

eval {

require Getopt::Long;

Getopt::Long::GetOptions(\%opt, qw(

help quiet diag! filter! hints! changes! cplusplus strip version

patch=s copy=s diff=s compat-version=s

list-provided list-unsupported api-info=s

)) or usage();

};

if (\$@ and grep /^-/, @ARGV) {

usage() if "@ARGV" =~ /^--?h(?:elp)?\$/;

die "Getopt::Long not found. Please don't use any options.\n";

}

if (\$opt{version}) {

```

print "This is $0 $VERSION.\n";
exit 0;
}

usage() if $opt{help};
strip() if $opt{strip};

if (exists $opt{'compat-version'}) {
my($r,$v,$s) = eval { parse_version($opt{'compat-version'}) };
if ($@) {
    die "Invalid version number format: '$opt{'compat-version'}'\n";
}
die "Only Perl 5 is supported\n" if $r != 5;
die "Invalid version number: '$opt{'compat-version'}'\n" if $v >= 1000 || $s >= 1000;
$opt{'compat-version'} = sprintf "%d.%03d%03d", $r, $v, $s;
}
else {
    $opt{'compat-version'} = 5;
}

my
%API = map { /^(w+)(([^\w]*)|([^\w]*)|(\w*))$/
    ? ( $1 => {
        ($2          ? ( base    => $2 ) : ()),
        ($3          ? ( todo    => $3 ) : ()),
        (index($4, 'v') >= 0 ? ( varargs => 1 ) : ()),
        (index($4, 'p') >= 0 ? ( provided => 1 ) : ()),
        (index($4, 'n') >= 0 ? ( nothxarg => 1 ) : ()),
    } )
    : die "invalid spec: $_" } qw(
AvFILLp|5.004050||p
AvFILL|||
CLASS|||n
CPERLscope|5.005000||p
CX_CURPAD_SAVE|||
CX_CURPAD_SV|||
CopFILEAV|5.006000||p
CopFILEGV_set|5.006000||p
CopFILEGV|5.006000||p
CopFILESV|5.006000||p
CopFILE_set|5.006000||p
CopFILE|5.006000||p
CopSTASHPV_set|5.006000||p
CopSTASHPV|5.006000||p
CopSTASH_eq|5.006000||p
CopSTASH_set|5.006000||p
CopSTASH|5.006000||p
CopyD|5.009002||p

```


Copy|||
CvPADLIST|||
CvSTASH|||
CvWEAKOUTSIDE|||
DEFSV_set|5.011000||p
DEFSV|5.004050||p
END_EXTERN_C|5.005000||p
ENTER|||
ERRSV|5.004050||p
EXTEND|||
EXTERN_C|5.005000||p
F0convert|||n
FREEMPS|||
GIMME_V|5.004000|n
GIMME|||n
GROK_NUMERIC_RADIX|5.007002||p
G_ARRAY|||
G_DISCARD|||
G_EVAL|||
G_METHOD|5.006001||p
G_NOARGS|||
G_SCALAR|||
G_VOID||5.004000|
GetVars|||
GvSVn|5.009003||p
GvSV|||
Gv_AMupdate|||
HEf_SVKEY||5.004000|
HeHASH||5.004000|
HeKEY||5.004000|
HeKLEN||5.004000|
HePV||5.004000|
HeSVKEY_force||5.004000|
HeSVKEY_set||5.004000|
HeSVKEY||5.004000|
HeUTF8||5.011000|
HeVAL||5.004000|
HvNAMELEN_get|5.009003||p
HvNAME_get|5.009003||p
HvNAME|||
INT2PTR|5.006000||p
IN_LOCALE_COMPILETIME|5.007002||p
IN_LOCALE_RUNTIME|5.007002||p
IN_LOCALE|5.007002||p
IN_PERL_COMPILETIME|5.008001||p
IS_NUMBER_GREATER_THAN_UV_MAX|5.007002||p
IS_NUMBER_INFINITY|5.007002||p
IS_NUMBER_IN_UV|5.007002||p

IS_NUMBER_NAN|5.007003|p
IS_NUMBER_NEG|5.007002|p
IS_NUMBER_NOT_INT|5.007002|p
IVSIZE|5.006000|p
IVTYPE|5.006000|p
IVdf|5.006000|p
LEAVE|||
LVRET|||
MARK|||
MULTICALL||5.011000|
MY_CXT_CLONE|5.009002|p
MY_CXT_INIT|5.007003|p
MY_CXT|5.007003|p
MoveD|5.009002|p
Move|||
NOOP|5.005000|p
NUM2PTR|5.006000|p
NVTYPE|5.006000|p
NVef|5.006001|p
NVff|5.006001|p
NVgf|5.006001|p
Newxc|5.009003|p
Newxz|5.009003|p
Newx|5.009003|p
Nullav|||
Nullch|||
Nullcv|||
Nullhv|||
Nullsv|||
ORIGMARK|||
PAD_BASE_SV|||
PAD_CLONE_VARS|||
PAD_COMPNAME_FLAGS|||
PAD_COMPNAME_GEN_set|||
PAD_COMPNAME_GEN|||
PAD_COMPNAME_OURSTASH|||
PAD_COMPNAME_PV|||
PAD_COMPNAME_TYPE|||
PAD_DUP|||
PAD_RESTORE_LOCAL|||
PAD_SAVE_LOCAL|||
PAD_SAVE_SETNULLPAD|||
PAD_SETSV|||
PAD_SET_CUR_NOSAVE|||
PAD_SET_CUR|||
PAD_SV1|||
PAD_SV|||
PERLIO_FUNCS_CAST|5.009003|p

PERLIO_FUNCS_DECL|5.009003||p
PERL_ABS|5.008001||p
PERL_BCDVERSION|5.011000||p
PERL_GCC_BRACE_GROUPS_FORBIDDEN|5.008001||p
PERL_HASH|5.004000||p
PERL_INT_MAX|5.004000||p
PERL_INT_MIN|5.004000||p
PERL_LONG_MAX|5.004000||p
PERL_LONG_MIN|5.004000||p
PERL_MAGIC_arylen|5.007002||p
PERL_MAGIC_backref|5.007002||p
PERL_MAGIC_bm|5.007002||p
PERL_MAGIC_collxfrm|5.007002||p
PERL_MAGIC_dbfile|5.007002||p
PERL_MAGIC_dbline|5.007002||p
PERL_MAGIC_defelem|5.007002||p
PERL_MAGIC_envelem|5.007002||p
PERL_MAGIC_env|5.007002||p
PERL_MAGIC_ext|5.007002||p
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stack_grow||
start_force||
start_glob||
start_subparse||5.004000|
stashpv_hvname_match||5.011000|
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strGE||
strGT||
strLE||
strLT||
strNE||
str_to_version||5.006000|

strip_return|||
strnEQ|||
strnNE|||
study_chunk|||
sub_crush_depth|||
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sublex_push|||
sublex_start|||
sv_2bool|||
sv_2cv|||
sv_2io|||
sv_2iuv_common|||
sv_2iuv_non_preserve|||
sv_2iv_flags|5.009001|
sv_2iv|||
sv_2mortal|||
sv_2num|||
sv_2nv|||
sv_2pv_flags|5.007002|p
sv_2pv_nolen|5.006000|p
sv_2pvbyte_nolen|5.006000|p
sv_2pvbyte|5.006000|p
sv_2pvutf8_nolen|5.006000|
sv_2pvutf8|5.006000|
sv_2pv|||
sv_2uv_flags|5.009001|
sv_2uv|5.004000|p
sv_add_arena|||
sv_add_backref|||
sv_backoff|||
sv_bless|||
sv_cat_decode|5.008001|
sv_catpv_mg|5.004050|p
sv_catpvf_mg_nocontext|||pv
sv_catpvf_mg|5.006000|5.004000|pv
sv_catpvf_nocontext|||vn
sv_catpvf|5.004000|v
sv_catpvn_flags|5.007002|
sv_catpvn_mg|5.004050|p
sv_catpvn_nomg|5.007002|p
sv_catpvn|||
sv_catpvs|5.009003|p
sv_catpv|||
sv_catsv_flags|5.007002|
sv_catsv_mg|5.004050|p
sv_catsv_nomg|5.007002|p
sv_catsv|||
sv_catxmlpv|||

sv_catxmlsv|||
sv_chop|||
sv_clean_all|||
sv_clean_objs|||
sv_clear|||
sv_cmp_locale|5.004000|
sv_cmp|||
sv_collxfrm|||
sv_compile_2op|5.008001|
sv_copypv|5.007003|
sv_dec|||
sv_del_backref|||
sv_derived_from|5.004000|
sv_destroyable|5.010000|
sv_does|5.009004|
sv_dump|||
sv_dup_inc_multiple|||
sv_dup|||
sv_eq|||
sv_exp_grow|||
sv_force_normal_flags|5.007001|
sv_force_normal|5.006000|
sv_free2|||
sv_free_arenas|||
sv_free|||
sv_gets|5.004000|
sv_grow|||
sv_i_ncmp|||
sv_inc|||
sv_insert_flags|5.011000|
sv_insert|||
sv_isa|||
sv_isobject|||
sv_iv|5.005000|
sv_kill_backrefs|||
sv_len_utf8|5.006000|
sv_len|||
sv_magic_portable|5.011000|5.004000|p
sv_magicext|5.007003|
sv_magic|||
sv_mortalcopy|||
sv_ncmp|||
sv_newmortal|||
sv_newref|||
sv_nolocking|5.007003|
sv_nosharing|5.007003|
sv_nounlocking|||
sv_nv|5.005000|

sv_peek|5.005000|
sv_pos_b2u_midway|||
sv_pos_b2u|5.006000|
sv_pos_u2b_cached|||
sv_pos_u2b_forwards|||n
sv_pos_u2b_midway|||n
sv_pos_u2b|5.006000|
sv_pvbyten_force|5.006000|
sv_pvbyten|5.006000|
sv_pvbyte|5.006000|
sv_pvn_force_flags|5.007002||p
sv_pvn_force|||
sv_pvn_nomg|5.007003|5.005000|p
sv_pvn|5.005000|
sv_pvutf8n_force|5.006000|
sv_pvutf8n|5.006000|
sv_pvutf8|5.006000|
sv_pv|5.006000|
sv_recode_to_utf8|5.007003|
sv_reftype|||
sv_release_COW|||
sv_replace|||
sv_report_used|||
sv_reset|||
sv_rvweaken|5.006000|
sv_setiv_mg|5.004050||p
sv_setiv|||
sv_setnv_mg|5.006000||p
sv_setnv|||
sv_setpv_mg|5.004050||p
sv_setpvf_mg_nocontext|||pvn
sv_setpvf_mg|5.006000|5.004000|pv
sv_setpvf_nocontext|||vn
sv_setpvf|5.004000|v
sv_setpviv_mg|5.008001|
sv_setpviv|5.008001|
sv_setpvn_mg|5.004050||p
sv_setpvn|||
sv_setpvs|5.009004||p
sv_setpv|||
sv_setref_iv|||
sv_setref_nv|||
sv_setref_pvn|||
sv_setref_pv|||
sv_setref_uv|5.007001|
sv_setsv_cow|||
sv_setsv_flags|5.007002|
sv_setsv_mg|5.004050||p

sv_setsv_nomg|5.007002|p
sv_setsv||
sv_setuv_mg|5.004050|p
sv_setuv|5.004000|p
sv_tainted|5.004000|
sv_taint|5.004000|
sv_true|5.005000|
sv_unglob||
sv_uni_display||5.007003|
sv_unmagic||
sv_unref_flags||5.007001|
sv_unref||
sv_untaint||5.004000|
sv_upgrade||
sv_usepvn_flags||5.009004|
sv_usepvn_mg|5.004050|p
sv_usepvn||
sv_utf8_decode||5.006000|
sv_utf8_downgrade||5.006000|
sv_utf8_encode||5.006000|
sv_utf8_upgrade_flags_grow||5.011000|
sv_utf8_upgrade_flags||5.007002|
sv_utf8_upgrade_nomg||5.007002|
sv_utf8_upgrade||5.007001|
sv_uv|5.005000|p
sv_vcatpvf_mg|5.006000|5.004000|p
sv_vcatpvfn||5.004000|
sv_vcatpvf|5.006000|5.004000|p
sv_vsetpvf_mg|5.006000|5.004000|p
sv_vsetpvfn||5.004000|
sv_vsetpvf|5.006000|5.004000|p
sv_xmlpeek||
svtype||
swallow_bom||
swap_match_buff||
swash_fetch||5.007002|
swash_get||
swash_init||5.006000|
sys_init3||5.010000|n
sys_init||5.010000|n
sys_intern_clear||
sys_intern_dup||
sys_intern_init||
sys_term||5.010000|n
taint_env||
taint_proper||
tmps_grow||5.006000|
toLOWER||

toUPPER|||
to_byte_substr|||
to_uni_fold||5.007003|
to_uni_lower_lc||5.006000|
to_uni_lower||5.007003|
to_uni_title_lc||5.006000|
to_uni_title||5.007003|
to_uni_upper_lc||5.006000|
to_uni_upper||5.007003|
to_utf8_case||5.007003|
to_utf8_fold||5.007003|
to_utf8_lower||5.007003|
to_utf8_substr|||
to_utf8_title||5.007003|
to_utf8_upper||5.007003|
token_free|||
token_getmad|||
tokenize_use|||
tokeq|||
tokereport|||
too_few_arguments|||
too_many_arguments|||
uiv_2buf|||n
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unpack_str||5.007003|
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upg_version||5.009005|
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utf8_to_bytes||5.006001|
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utf8_to_uvuni||5.007001|
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utf8n_to_uvuni||5.007001|
utilize|||
uvchr_to_utf8_flags||5.007003|
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uvuni_to_utf8_flags|5.007003|
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vcroak|5.006000|
vdeb|5.007003|
vdie_common|||
vdie_croak_common|||
vdie|||
vform|5.006000|
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vivify_defelem|||
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vload_module|5.006000|p
vmess|5.006000|
vnewSVpvf|5.006000|5.004000|p
vnormal|5.009002|
vnumify|5.009000|
vstringify|5.009000|
vverify|5.009003|
vwarner|5.006000|
vwarn|5.006000|
wait4pid|||
warn_nocontext|||vn
warner_nocontext|||vn
warner|5.006000|5.004000|pv
warn|||v
watch|||
whichsig|||
write_no_mem|||
write_to_stderr|||
xmldump_all|||
xmldump_attr|||
xmldump_eval|||
xmldump_form|||
xmldump_indent|||v
xmldump_packsubs|||
xmldump_sub|||
xmldump_vindent|||
yyerror|||
yylex|||
yyparse|||
yywarn|||
);

if

```

(exists $opt{'list-unsupported'}) {
my $f;
for $f (sort { lc $a cmp lc $b } keys %API) {
  next unless $API{$f}{todo};
  print "$f ", '!x(40-length($f)), " ", format_version($API{$f}{todo}), "\n";
}
exit 0;
}

```

Scan for possible replacement candidates

```

my(%replace, %need, %hints, %warnings, %depends);
my $replace = 0;
my($hint, $define, $function);

```

```

sub find_api
{
my $code = shift;
$code =~ s{
  /(?: \*[^*]*\*+(?:[^\$ccs][^*]*\*+)* /|/[\r\n]*
| "[^"]*"(?:\\.["\\])*"
| '[^']*'(?:\\.['\\])*' )} }egsx;
grep { exists $API{$_} } $code =~ /(\w+)/mg;
}

```

```

while (<DATA>) {
if ($hint) {
my $h = $hint->[0] eq 'Hint' ? \%hints : \%warnings;
if (m{^\s*\s(.*)\s*$}) {
for (@{$hint->[1]}) {
$h->{$_} ||= ""; # suppress warning with older
perls
$h->{$_} .= "$1\n";
}
}
else { undef $hint }
}
}

```

```

$hint = [$1, [split /,?\s+/, $2]]
if m{^\s*$rccs\s+(Hint|Warning):\s+(\w+(?:,\s+\w+)*)\s*$};

```

```

if ($define) {
if ($define->[1] =~ /\$/) {
$define->[1] .= $_;
}
else {
if (exists $API{$define->[0]} && $define->[1] !~ /^DPPP_\(/) {
my @n = find_api($define->[1]);
}
}
}

```

```

    push @{$depends{$define->[0]}}, @n if @n
  }
  undef $define;
}
}

$define = [$1, $2] if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(.*)};

if ($function) {
  if (/^/) {
    if (exists $API{$function->[0]}) {
      my @n = find_api($function->[1]);
      push @{$depends{$function->[0]}}, @n if @n
    }
    undef $function;
  }
  else {
    $function->[1] .= $_;
  }
}

$function = [$1, ""] if m{^DPPP_(my_(\w+))};

$replace = $1 if m{^\s*$rccs\s+Replace:\s+(\d+)\s+$rcces*$};
$replace{$2} = $1 if $replace and m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+)};
$replace{$2} = $1 if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+).*rcces\s+Replace\s+$rcces};
$replace{$1} = $2 if m{^\s*$rccs\s+Replace (\w+) with (\w+)\s+$rcces*$};

if (m{^\s*$rccs\s+(\w+(\s*,\s*\w+)*)\s+depends\s+on\s+(\w+(\s*,\s*\w+)*)\s+$rcces*$}) {
  my @deps = map { s/\s+//g; $_ } split /,/, $3;
  my $d;
  for $d (map { s/\s+//g; $_ } split /,/, $1) {
    push @{$depends{$d}}, @deps;
  }
}

$need{$1} = 1 if m{^#\s+defined\((NEED_(\w+)(?:_GLOBAL)?)\)};
}

for (values %depends) {
  my %s;
  $_ = [sort grep !${$_}++, @$_];
}

if (exists $opt{'api-info'}) {
  my $f;
  my $count = 0;
  my $match = $opt{'api-info'} =~ m!^(.+)/$! ? $1 : "\Q$opt{'api-info'}\E$";

```

```

for $f (sort { lc $a cmp lc $b } keys %API) {
    next unless $f =~ /$match/;
    print "\n=== $f ===\n\n";
    my $info = 0;
    if ($API{$f}{base} || $API{$f}{todo}) {
        my $base = format_version($API{$f}{base} || $API{$f}{todo});
        print "Supported at least starting from perl-$base.\n";
        $info++;
    }
    if ($API{$f}{provided}) {
        my $todo = $API{$f}{todo} ? format_version($API{$f}{todo}) : "5.003";
        print "Support by $ppport provided back to perl-$todo.\n";
        print "Support needs to be explicitly requested by NEED_$f.\n" if exists $need{$f};
        print "Depends on: ", join(', ', @{$depends{$f}}), ".\n" if exists $depends{$f};
        print "\n$hints{$f}" if exists $hints{$f};
        print "\nWARNING:\n$warnings{$f}" if exists $warnings{$f};
        $info++;
    }
    print "No portability information available.\n" unless $info;
    $count++;
}
$count or print "Found no API matching '$opt{api-info}'.";
print "\n";
exit 0;
}

```

```

if (exists $opt{'list-provided'}) {
    my $f;
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $API{$f}{provided};
        my @flags;
        push @flags, 'explicit' if exists $need{$f};
        push @flags, 'depend' if exists $depends{$f};
        push @flags, 'hint' if exists $hints{$f};
        push @flags, 'warning'
        if exists $warnings{$f};
        my $flags = @flags ? '[' . join(', ', @flags) . ']' : '';
        print "$f$flags\n";
    }
    exit 0;
}

```

```

my @files;
my @srcext = qw( .xs .c .h .cc .cpp -c.inc -xs.inc );
my $srcext = join '|', map { quotemeta $_ } @srcext;

```

```

if (@ARGV) {
    my %seen;

```

```

for (@ARGV) {
  if (-e) {
    if (-f) {
      push @files, $_ unless $seen{$_}++;
    }
    else { warn "'$_' is not a file.\n" }
  }
  else {
    my @new = grep { -f } glob $_
      or warn "'$_' does not exist.\n";
    push @files, grep { !$seen{$_}++ } @new;
  }
}
else {
  eval {
    require File::Find;
    File::Find::find(sub {
      $File::Find::name =~ /($srcext)$/i
      and push @files, $File::Find::name;
    }, '.');
  };
  if ($@) {
    @files = map { glob ".*$_" } @srcext;
  }
}

if (!@ARGV || $opt{filter}) {
  my(@in, @out);
  my %xsc = map { /\.(.*)\.xs$/ ? ("1.c" => 1, "1.cc" => 1) : () } @files;
  for (@files) {
    my $out = exists $xsc{$_} || /\bQ$ppport\E$/i || !/($srcext)$/i;
    push @ { $out ? \@out : \@in }, $_;
  }
  if (@ARGV && @out) {
    warning("Skipping the following files (use --nofilter to avoid this):\n| ", join "\n| ", @out);
  }
  @files = @in;
}

die "No input files given!\n" unless @files;

my(%files, %global, %revreplace);
%revreplace = reverse %replace;
my $filename;
my $patch_opened = 0;

for $filename (@files) {

```

```

unless (open IN, "<$filename") {
    warn "Unable to read from $filename: $!\n";
    next;
}

info("Scanning $filename ...");

my $c = do { local $/; <IN> };
close IN;

my %file = (orig => $c, changes => 0);

# Temporarily remove C/XS comments and strings from the code
my @ccom;

$c =~ s{
    ( ^$HS*\#$HS*include\b[^\r\n]+\b(?:\Q$ppport\E|XSUB\.h)\b[^\r\n]*
    | ^$HS*\#$HS*(?:define|elif|if(?:def?))\b[^\r\n]* )
| ( ^$HS*\#[^\r\n]*
    | "[^"\\]*(?:\\.[^"\\])*"
    | '[^"\\]*(?:\\.[^"\\])*'
    | /(?:\*[^\*]*\*+(?:\^[^$ccs][^*]*\*+)* /|/[^\r\n]* ) )
}{ defined $2 and push @ccom, $2;
    defined
    $1 ? $1 : "$ccs$#ccom$cce" }mgsex;

$file{ccom} = \@ccom;
$file{code} = $c;
$file{has_inc_ppport} = $c =~ /^$HS*\#$HS*include[^\r\n]+\b\Q$ppport\E\b/m;

my $func;

for $func (keys %API) {
    my $match = $func;
    $match .= "$$revreplace{$func}" if exists $revreplace{$func};
    if ($c =~ /\b(?:Perl)?($match)\b/) {
        $file{uses_replace}{$1}++ if exists $revreplace{$func} && $1 eq $revreplace{$func};
        $file{uses_Perl}{$func}++ if $c =~ /\bPerl_$func\b/;
        if (exists $API{$func}{provided}) {
            $file{uses_provided}{$func}++;
            if (!exists $API{$func}{base} || $API{$func}{base} > $opt{'compat-version'}) {
                $file{uses}{$func}++;
                my @deps = rec_depend($func);
                if (@deps) {
                    $file{uses_deps}{$func} = \@deps;
                    for (@deps) {
                        $file{uses}{$_} = 0 unless exists $file{uses}{$_};
                    }
                }
            }
        }
    }
}

```

```

    }
    for ($func, @deps) {
        $file{needs}{$_} = 'static' if exists $need{$_};
    }
}
}
if (exists $API{$func}{todo} && $API{$func}{todo} > $opt{'compat-version'}) {
    if ($c =~ /\b$func\b/) {
        $file{uses_todo}{$func}++;
    }
}
}
}

while ($c =~ /^$HS*#$HS*define$HS+(NEED_(\w+?)(_GLOBAL)?)\b/mg) {
    if (exists $need{$2}) {
        $file{defined $3 ? 'needed_global' : 'needed_static'}{$2}++;
    }
    else { warning("Possibly wrong #define $1 in $filename") }
}

for (qw(uses needs uses_todo needed_global needed_static)) {
    for $func (keys %{$file{$_}}) {
        push @{$global{$_}{$func}}, $filename;
    }
}

$files{$filename} = \%file;
}

# Globally resolve NEED_'s
my $need;
for $need (keys %{$global{needs}}) {
    if (@{$global{needs}{$need}} > 1) {
        my @targets = @{$global{needs}{$need}};
        my @t = grep $files{$_}{needed_global}{$need}, @targets;
        @targets = @t if @t;
        @t = grep /\.xs$/i, @targets;
        @targets = @t if @t;
        my $target = shift @targets;
        $files{$target}{needs}{$need}
    = 'global';
    for (@{$global{needs}{$need}}) {
        $files{$_}{needs}{$need} = 'extern' if $_ ne $target;
    }
}
}
}

```

```

for $filename (@files) {
    exists $files{$filename} or next;

    info("=== Analyzing $filename ===");

    my %file = %{$files{$filename}};
    my $func;
    my $c = $file{code};
    my $warnings = 0;

    for $func (sort keys %{$file{uses_Perl}}) {
        if ($API{$func}{varargs}) {
            unless ($API{$func}{nothxarg}) {
                my $changes = ($c =~ s{\b(Perl_?func\s*(\s*)(?!aTHX_?)(\)|[^\s])*\s*)}
                    { $1 . ($2 eq '|') ? 'aTHX': 'aTHX_' . $2 }ge);
                if ($changes) {
                    warning("Doesn't pass interpreter argument aTHX to Perl_$func");
                    $file{changes} += $changes;
                }
            }
        }
        else {
            warning("Uses Perl_$func instead of $func");
            $file{changes} += ($c =~ s{\bPerl_?func(\s*)(\s*aTHX_?)?\s*}
                {$func$1}g);
        }
    }

    for $func (sort keys %{$file{uses_replace}}) {
        warning("Uses
        $func instead of $replace{$func}");
        $file{changes} += ($c =~ s/\b$func\b/$replace{$func}/g);
    }

    for $func (sort keys %{$file{uses_provided}}) {
        if ($file{uses}{$func}) {
            if (exists $file{uses_deps}{$func}) {
                diag("Uses $func, which depends on ", join(', ', @{$file{uses_deps}{$func}}));
            }
            else {
                diag("Uses $func");
            }
        }
    }
    $warnings += hint($func);
}

unless ($opt{quiet}) {
    for $func (sort keys %{$file{uses_todo}}) {

```



```

print "*** WARNING: Uses $func, which may not be portable below perl ",
      format_version($API{$func}{todo}), ", even with '$ppport\n";
$warnings++;
}
}

for $func (sort keys %{$file{needed_static}}) {
  my $message = "";
  if (not exists $file{uses}{$func}) {
    $message = "No need to define NEED_$func if $func is never used";
  }
  elsif (exists $file{needs}{$func} && $file{needs}{$func} ne 'static') {
    $message = "No need to define NEED_$func when already
needed globally";
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_$func\b.*$LF//mg);
  }
}

for $func (sort keys %{$file{needed_global}}) {
  my $message = "";
  if (not exists $global{uses}{$func}) {
    $message = "No need to define NEED_${func}_GLOBAL if $func is never used";
  }
  elsif (exists $file{needs}{$func}) {
    if ($file{needs}{$func} eq 'extern') {
      $message = "No need to define NEED_${func}_GLOBAL when already needed globally";
    }
    elsif ($file{needs}{$func} eq 'static') {
      $message = "No need to define NEED_${func}_GLOBAL when only used in this file";
    }
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_${func}_GLOBAL\b.*$LF//mg);
  }
}

$file{needs_inc_ppport} = keys %{$file{uses}};

if ($file{needs_inc_ppport}) {
  my $pp = "";

  for $func (sort keys %{$file{needs}}) {
    my $type = $file{needs}{$func};

```

```

next if $type eq 'extern';
my $suffix = $type eq 'global' ? '_GLOBAL' : '';
unless (exists $file{"needed_$type"}{$func}) {
  if ($type eq 'global') {
    diag("Files [ @{$global{needs}}{$func} ] need $func, adding global request");
  }
  else {
    diag("File needs $func, adding static request");
  }
  $pp .= "#define NEED_$func$suffix\n";
}
}

if ($pp && ($c =~ s/^(?=$HS*#$HS*define$HS+NEED_\w+)/$pp/m)) {
  $pp = "";
  $file{changes}++;
}

unless ($file{has_inc_ppport}) {
  diag("Needs to include '$ppport'");
  $pp .= qq(#include "$ppport"\n)
}

if ($pp) {
  $file{changes} += ($c =~ s/^(($HS*#$HS*define$HS+NEED_\w+.*?)/$1$pp/ms)
    || ($c =~ s/^(?=$HS*#$HS*include.*\Q$ppport\E)/$pp/m)
    || ($c =~ s/^(($HS*#$HS*include.*XSUB.*\s*?)/$1$pp/m)
    || ($c =~ s/^\$pp/);
}
}
else {
  if ($file{has_inc_ppport})
  {
    diag("No need to include '$ppport'");
    $file{changes} += ($c =~ s/^(($HS*#$HS*include.*\Q$ppport\E.*?)$LF//m);
  }
}

# put back in our C comments
my $ix;
my $cppc = 0;
my @ccom = @{$file{ccom}};
for $ix (0 .. $#ccom) {
  if (!$opt{plusplus} && $ccom[$ix] =~ s!^/!!) {
    $cppc++;
    $file{changes} += $c =~ s/$rcs$ix$rcce/$ccs$ccom[$ix] $cce/;
  }
}
else {

```

```

    $c =~ s/$rccs$ix$rcce/$scom[$ix]/;
  }
}

if ($cppc) {
  my $s = $cppc != 1 ? 's' : '';
  warning("Uses $cppc C++ style comment$s, which is not portable");
}

my $s = $warnings != 1 ? 's' : '';
my $warn = $warnings ? " ($warnings warning$s)" : '';
info("Analysis completed$warn");

if ($file{changes}) {
  if (exists $opt{copy}) {
    my $newfile = "$filename$opt{copy}";
    if (-e $newfile) {
      error("$newfile' already exists, refusing to write copy of '$filename'");
    }
    else {
      local *F;
      if (open F, ">$newfile") {
        info("Writing
copy of '$filename' with changes to '$newfile'");
        print F $c;
        close F;
      }
      else {
        error("Cannot open '$newfile' for writing: $!");
      }
    }
  }
  elsif (exists $opt{patch} || $opt{changes}) {
    if (exists $opt{patch}) {
      unless ($patch_opened) {
        if (open PATCH, ">$opt{patch}") {
          $patch_opened = 1;
        }
        else {
          error("Cannot open '$opt{patch}' for writing: $!");
          delete $opt{patch};
          $opt{changes} = 1;
          goto fallback;
        }
      }
      mydiff(\*PATCH, $filename, $c);
    }
    else {

```

```

fallback:
    info("Suggested changes:");
    mydiff(\*STDOUT, $filename, $c);
}
}
else {
    my $s = $file{changes} == 1 ? " : 's';
    info("$file{changes} potentially required change$s detected");
}
}
else {
    info("Looks good");
}
}

close PATCH if $patch_opened;

exit 0;

sub try_use { eval
"use @_;" ; return $@ eq " }

sub mydiff
{
    local *F = shift;
    my($file, $str) = @_ ;
    my $diff;

    if (exists $opt{diff}) {
        $diff = run_diff($opt{diff}, $file, $str);
    }

    if (!defined $diff and try_use("Text::Diff")) {
        $diff = Text::Diff::diff($file, \$str, { STYLE => 'Unified' });
        $diff = <<HEADER . $diff;
        --- $file
        +++ $file.patched
        HEADER
    }

    if (!defined $diff) {
        $diff = run_diff('diff -u', $file, $str);
    }

    if (!defined $diff) {
        $diff = run_diff('diff', $file, $str);
    }
}

```

```

if (!defined $diff) {
    error("Cannot generate a diff. Please install Text::Diff or use --copy.");
    return;
}

print F $diff;
}

sub run_diff
{
    my($prog, $file, $str) = @_;
    my $tmp = 'dppptemp';
    my $suf = 'aaa';
    my $diff = "";
    local *F;

    while (-e "$tmp.$suf") { $suf++ }
    $tmp = "$tmp.$suf";

    if (open F, ">$tmp") {
        print F $str;
        close F;

        if (open F, "$prog $file $tmp |") {
            while (<F>) {
                s/\Q$tmp\E/$file.patched/;
                $diff
            }
            .= $_;
        }
        close F;
        unlink $tmp;
        return $diff;
    }

    unlink $tmp;
}
else {
    error("Cannot open '$tmp' for writing: $!");
}

return undef;
}

sub rec_depend
{
    my($func, $seen) = @_;
    return () unless exists $depends{$func};
}

```

```

$seen = {% {$seen||{}}};
return () if $seen->{$func}++;
my %s;
grep !$s{$_}++, map { ($_, rec_depend($_, $seen)) } @{$depends{$func}};
}

```

```

sub parse_version

```

```

{
my $ver = shift;

if ($ver =~ /^(d+)\.(d+)\.(d+)$/) {
return ($1, $2, $3);
}
elsif ($ver !~ /^(d+)\.[d_]+$/) {
die "cannot parse version '$ver'\n";
}

```

```

$ver =~ s/_//g;

```

```

$ver =~ s/$/000000/;

```

```

my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

```

```

$v = int $v;

```

```

$s = int $s;

```

```

if ($r < 5 || ($r == 5 && $v < 6)) {
if ($s % 10) {
die "cannot parse version '$ver'\n";
}
}

```

```

return ($r, $v, $s);

```

```

}

```

```

sub format_version

```

```

{
my $ver = shift;

```

```

$ver =~ s/$/000000/;

```

```

my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

```

```

$v = int $v;

```

```

$s =

```

```

int $s;

```

```

if ($r < 5 || ($r == 5 && $v < 6)) {

```

```

if ($s % 10) {

```

```

die "invalid version '$ver'\n";
}
}

```

```

}
$s /= 10;

$ver = sprintf "%d.%03d", $r, $v;
$s > 0 and $ver .= sprintf "_%02d", $s;

return $ver;
}

return sprintf "%d.%d.%d", $r, $v, $s;
}

sub info
{
    $opt{quiet} and return;
    print @_, "\n";
}

sub diag
{
    $opt{quiet} and return;
    $opt{diag} and print @_, "\n";
}

sub warning
{
    $opt{quiet} and return;
    print "*** ", @_, "\n";
}

sub error
{
    print "*** ERROR: ", @_, "\n";
}

my %given_hints;
my %given_warnings;
sub hint
{
    $opt{quiet} and return;
    my $func = shift;
    my $rv = 0;
    if (exists $warnings{$func} && !$given_warnings{$func}++) {
        my $warn = $warnings{$func};
        $warn =~ s/^\!*** !mg;
        print "*** WARNING: $func\n", $warn;
        $rv++;
    }
}

```

```

if ($opt{hints} && exists $hints{$func} && !$given_hints{$func}++) {
    my $hint = $hints{$func};
    $hint =~ s/^/ /mg;
    print " --- hint for $func ---\n", $hint;
}
$rv;
}

sub
usage
{
my($usage) = do { local(@ARGV,$/)=($0); <> } =~ /^=head\d$HS+SYNOPSIS\s*^(.*?)\s*^=/ms;
my %M = ( 'T' => '*' );
$usage =~ s/^\s*perl\s+\S+/$^X $0/;
$usage =~ s/([A-Z])<([>]+)>/M{$1}$2M{$1}/g;

print <<ENDUSAGE;

Usage: $usage

See perldoc $0 for details.

ENDUSAGE

exit 2;
}

sub strip
{
my $self = do { local(@ARGV,$/)=($0); <> };
my($copy) = $self =~ /^=head\d\s+COPYRIGHT\s*^(.*?)^=\w+/ms;
$copy =~ s/^(?=\S+)/ /gms;
$self =~ s/^\$HS+Do NOT edit.*?(?=\^)/$copy/ms;
$self =~ s/^\$SKIP.*(?=\^__DATA__)/SKIP
if (\@ARGV && $ARGV[0] eq '--unstrip') {
    eval { require Devel::PPPport };
    \@ and die "Cannot require Devel::PPPport, please install.\n";
    if (eval \$Devel::PPPport::VERSION < $VERSION) {
        die "$0 was originally generated with Devel::PPPport $VERSION.\n"
            . "Your Devel::PPPport is only version \$Devel::PPPport::VERSION.\n"
            . "Please install a newer version, or --unstrip will not work.\n";
    }
    Devel::PPPport::WriteFile(\$0);
    exit 0;
}
print
<<END;

```


Sorry, but this is a stripped version of \\$.

To be able to use its original script and doc functionality,
please try to regenerate this file using:

```
\$^X \$0 --unstrip
```

```
END
```

```
/ms;
```

```
my($pl, $c) = $self =~ /(.*^__DATA__)(.*)/ms;
```

```
$c =~ s{
```

```
 /(?: \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* /|/^\r\n*)
```

```
 | ("^\\"*?(?:\\.["\\"]*)*)
```

```
 | '^\\"*?(?:\\.["\\"]*)*)
```

```
 | ($HS+) }{ defined $2 ? '': ($1 || ") }gsex;
```

```
$c =~ s!\s+!!mg;
```

```
$c =~ s!$LF!!mg;
```

```
$c =~ s!\s*#\s*!#!mg;
```

```
$c =~ s!\s+!!mg;
```

```
open OUT, ">$0" or die "cannot strip $0: $!\n";
```

```
print OUT "$pl$c\n";
```

```
exit 0;
```

```
}
```

```
__DATA__
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1150898438_1634082378.42/0/perl-threads-shared-1.43-6.amzn2.0.2.src.rpm-cosi-expand-  
archive-xa0PhQ3z/threads-shared-1.43.tar.gz-cosi-expand-archive-D1jK10Un/threads-shared-1.43/ppport.h
```

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

```
/* shared.xs
```

```
*
```

```
* Copyright (c) 2001-2002, 2006 Larry Wall
```

```
*
```

```
* You may distribute under the terms of either the GNU General Public
```

```
* License or the Artistic License, as specified in the README file.
```

```
*
```

```
* "Hand any two wizards a piece of rope and they would instinctively pull in
```

```
* opposite directions."
```

```
* --Sourcery
```

```
*
```

```
* Contributed by Artur Bergman <sky AT crucially DOT net>
```

```
* Pulled in the (an)other direction by Nick Ing-Simmons
```

```
* <nick AT ing-simmons DOT net>
```

```

* CPAN version produced by Jerry D. Hedden <jdhedden AT cpan DOT org>
*/

/*
* Shared variables are implemented by a scheme similar to tying.
* Each thread has a proxy SV with attached magic -- "private SVs" --
* which all point to a single SV in a separate shared interpreter
* (PL_sharesv_space) -- "shared SVs".
*
* The shared SV holds the variable's true values, and its state is
* copied between the
shared and private SVs with the usual
* mg_get()/mg_set() arrangement.
*
* Aggregates (AVs and HVs) are implemented using tie magic, except that
* the vtable used is one defined in this file rather than the standard one.
* This means that where a tie function like FETCH is normally invoked by
* the tie magic's mg_get() function, we completely bypass the calling of a
* perl-level function, and directly call C-level code to handle it. On
* the other hand, calls to functions like PUSH are done directly by code
* in av.c, etc., which we can't bypass. So the best we can do is to provide
* XS versions of these functions. We also have to attach a tie object,
* blessed into the class threads::shared::tie, to keep the method-calling
* code happy.
*
* Access to aggregate elements is done the usual tied way by returning a
* proxy PVLV element with attached element magic.
*
* Pointers to the shared SV are squirreled away in the mg->mg_ptr field
* of magic (with mg_len == 0), and
in the IV2PTR(SvIV(sv)) field of tied
* object SVs. These pointers have to be hidden like this because they
* cross interpreter boundaries, and we don't want sv_clear() and friends
* following them.
*
* The three basic shared types look like the following:
*
* -----
*
* Shared scalar (my $s : shared):
*
* SV = PVMG(0x7ba238) at 0x7387a8
* FLAGS = (PADMY,GMG,SMG)
* MAGIC = 0x824d88
* MG_TYPE = PERL_MAGIC_shared_scalar(n)
* MG_PTR = 0x810358      <<<< pointer to the shared SV
*
* -----

```

```

*
* Shared aggregate (my @a : shared; my %h : shared):
*
* SV = PVAV(0x7175d0) at 0x738708
*  FLAGS = (PADMY,RMG)
*  MAGIC = 0x824e48
*  MG_TYPE = PERL_MAGIC_tied(P)
*  MG_OBJ = 0x7136e0      <<<< ref to the tied object
*  SV = RV(0x7136f0) at 0x7136e0
*  RV = 0x738640
*  SV = PVMG(0x7ba238) at 0x738640 <<<< the tied object
*  FLAGS = (OBJECT,IOK,pIOK)
*  IV = 8455000
<<<< pointer to the shared AV
*  STASH = 0x80abf0 "threads::shared::tie"
*  MG_PTR = 0x810358 ""      <<<< another pointer to the shared AV
*  ARRAY = 0x0
*
* -----
*
* Aggregate element (my @a : shared; $a[0])
*
* SV = PVLV(0x77f628) at 0x713550
*  FLAGS = (GMG,SMG,RMG,pIOK)
*  MAGIC = 0x72bd58
*  MG_TYPE = PERL_MAGIC_shared_scalar(n)
*  MG_PTR = 0x8103c0 ""      <<<< pointer to the shared element
*  MAGIC = 0x72bd18
*  MG_TYPE = PERL_MAGIC_tiedelem(p)
*  MG_OBJ = 0x7136e0      <<<< ref to the tied object
*  SV = RV(0x7136f0) at 0x7136e0
*  RV = 0x738660
*  SV = PVMG(0x7ba278) at 0x738660 <<<< the tied object
*  FLAGS = (OBJECT,IOK,pIOK)
*  IV = 8455064      <<<< pointer to the shared AV
*  STASH = 0x80ac30 "threads::shared::tie"
*  TYPE = t
*
* Note that PERL_MAGIC_tiedelem(p) magic doesn't have a pointer to a
* shared SV in mg_ptr; instead this is used
to store the hash key,
* if any, like normal tied elements. Note also that element SVs may have
* pointers to both the shared aggregate and the shared element.
*
*
* Userland locks:
*
* If a shared variable is used as a perl-level lock or condition

```

```

* variable, then PERL_MAGIC_ext magic is attached to the associated
* *shared* SV, whose mg_ptr field points to a malloc'ed structure
* containing the necessary mutexes and condition variables.
*
* Nomenclature:
*
* In this file, any variable name prefixed with 's' (e.g., ssv, stmp or sobj)
* usually represents a shared SV which corresponds to a private SV named
* without the prefix (e.g., sv, tmp or obj).
*/

```

```

#define PERL_NO_GET_CONTEXT
#include "EXTERN.h"
#include "perl.h"
#include "XSUB.h"
#ifdef HAS_PPPORT_H
# define NEED_sv_2pv_flags
# define NEED_vnewSVpvf
# define NEED_warner
# define NEED_newSVpvn_flags
# include "ppport.h"
# include "shared.h"
#endif

```

```

#ifdef USE_ITHREADS

```

```

/* Magic signature(s) for mg_private
to make PERL_MAGIC_ext magic safer */
#define UL_MAGIC_SIG 0x554C /* UL = user lock */

```

```

/*

```

```

* The shared things need an interpreter to live in ...

```

```

*/

```

```

PerlInterpreter *PL_sharesv_space; /* The shared sv space */

```

```

/* To access shared space we fake aTHX in this scope and thread's context */

```

```

/* Bug #24255: We include ENTER+SAVETMPS/FREETMPS+LEAVE with

```

```

* SHARED_CONTEXT/CALLER_CONTEXT macros, so that any mortals, etc. created

```

```

* while in the shared interpreter context don't languish */

```

```

#define SHARED_CONTEXT \
    STMT_START { \
        PERL_SET_CONTEXT((aTHX = PL_sharesv_space)); \
        ENTER; \
        SAVETMPS; \
    } STMT_END

```

```

/* So we need a way to switch back to the caller's context... */

```

```

/* So we declare _another_ copy of the aTHX variable ... */
#define dTHXc PerlInterpreter *caller_perl = aTHX

/* ... and use
it to switch back */
#define CALLER_CONTEXT \
    STMT_START { \
        FREEMPS; \
        LEAVE; \
        PERL_SET_CONTEXT((aTHX = caller_perl)); \
    } STMT_END

/*
* Only one thread at a time is allowed to mess with shared space.
*/

typedef struct {
    perl_mutex      mutex;
    PerlInterpreter *owner;
    I32             locks;
    perl_cond       cond;
#ifdef DEBUG_LOCKS
    char *          file;
    int             line;
#endif
} recursive_lock_t;

recursive_lock_t PL_sharesv_lock; /* Mutex protecting the shared sv space */

void
recursive_lock_init(pTHX_ recursive_lock_t *lock)
{
    Zero(lock, 1, recursive_lock_t);
    MUTEX_INIT(&lock->mutex);
    COND_INIT(&lock->cond);
}

void
recursive_lock_destroy(pTHX_ recursive_lock_t *lock)
{
    MUTEX_DESTROY(&lock->mutex);
    COND_DESTROY(&lock->cond);
}

void
recursive_lock_release(pTHX_
recursive_lock_t *lock)
{

```

```

MUTEX_LOCK(&lock->mutex);
if (lock->owner == aTHX) {
    if (--lock->locks == 0) {
        lock->owner = NULL;
        COND_SIGNAL(&lock->cond);
    }
}
MUTEX_UNLOCK(&lock->mutex);
}

void
recursive_lock_acquire(pTHX_ recursive_lock_t *lock, char *file, int line)
{
    PERL_UNUSED_ARG(file);
    PERL_UNUSED_ARG(line);
    assert(aTHX);
    MUTEX_LOCK(&lock->mutex);
    if (lock->owner == aTHX) {
        lock->locks++;
    } else {
        while (lock->owner) {
#ifdef DEBUG_LOCKS
            Perl_warn(aTHX_ " %p waiting - owned by %p %s:%d\n",
                    aTHX, lock->owner, lock->file, lock->line);
#endif
#ifdef COND_WAIT
            COND_WAIT(&lock->cond,&lock->mutex);
#endif
        }
        lock->locks = 1;
        lock->owner = aTHX;
#ifdef DEBUG_LOCKS
        lock->file = file;
        lock->line = line;
#endif
    }
    MUTEX_UNLOCK(&lock->mutex);
    SAVEDESTRUCTOR_X(recursive_lock_release,lock);
}

#define ENTER_LOCK \
    STMT_START { \
        ENTER; \
        recursive_lock_acquire(aTHX_ &PL_sharesv_lock, __FILE__, __LINE__); \
    } STMT_END

/* The unlocking is done automatically at scope exit */
#define LEAVE_LOCK LEAVE

```

```

/* A common idiom is to acquire access and switch in ... */
#define SHARED_EDIT \
    STMT_START { \
        ENTER_LOCK; \
        SHARED_CONTEXT; \
    } STMT_END

/* ... then switch out and release access. */
#define SHARED_RELEASE \
    STMT_START { \
        CALLER_CONTEXT; \
        LEAVE_LOCK; \
    } STMT_END

/* User-level locks:
   This structure is attached (using ext magic) to any shared SV that
   is used by user-level locking or condition code
*/

typedef struct {
    recursive_lock_t lock; /* For user-level locks
*/
    perl_cond user_cond; /* For user-level conditions */
} user_lock;

/* Magic used for attaching user_lock structs to shared SVs

   The vtable used has just one entry - when the SV goes away
   we free the memory for the above.
*/

int
sharedsv_userlock_free(pTHX_ SV *sv, MAGIC *mg)
{
    user_lock *ul = (user_lock *) mg->mg_ptr;
    PERL_UNUSED_ARG(sv);
    assert(aTHX == PL_sharedsv_space);
    if (ul) {
        recursive_lock_destroy(aTHX_ &ul->lock);
        COND_DESTROY(&ul->user_cond);
        PerlMemShared_free(ul);
        mg->mg_ptr = NULL;
    }
    return (0);
}

```

```

MGVTBL sharedsv_userlock_vtbl = {
    0,          /* get */
    0,          /* set */
    0,          /* len */
    0,          /* clear */
    sharedsv_userlock_free, /* free */
    0,          /* copy */
    0,          /* dup */
#ifdef MGf_LOCAL
    0,          /* local */
#endif
};

/*
Support for dual-valued variables */
#ifdef SVf_IVisUV
# define DUALVAR_FLAGS(sv)          \
    ((SvPOK(sv))                    \
     ? ((SvNOK(sv) || SvNOKp(sv)) ? SVf_NOK      \
       : ((SvIsUV(sv)) ? (SVf_IOK | SVf_IVisUV)   \
         : ((SvIOK(sv) || SvIOKp(sv)) ? SVf_IOK : 0))) \
     : 0)
#else
# define DUALVAR_FLAGS(sv)          \
    ((SvPOK(sv))                    \
     ? ((SvNOK(sv) || SvNOKp(sv)) ? SVf_NOK      \
       : ((SvIOK(sv) || SvIOKp(sv)) ? SVf_IOK : 0)) \
     : 0)
#endif

/*
* Access to shared things is heavily based on MAGIC
* - in mg.h/mg.c/sv.c sense
*/

/* In any thread that has access to a shared thing there is a "proxy"
for it in its own space which has 'MAGIC' associated which accesses
the shared thing.
*/

extern MGVTBL sharedsv_scalar_vtbl; /* Scalars have this vtable */
extern MGVTBL sharedsv_array_vtbl;
/* Hashes and arrays have this
- like 'tie' */
extern MGVTBL sharedsv_elem_vtbl; /* Elements of hashes and arrays have
this _AS WELL AS_ the scalar magic:

```



```

The sharedsv_elem_vtbl associates the element with the array/hash and
the sharedsv_scalar_vtbl associates it with the value
*/

/* Get shared aggregate SV pointed to by threads::shared::tie magic object */

#define SHARED_SV_FROM_OBJ(sv) ((SvROK(sv)) ? INT2PTR(SV *, SvIV(SvRV(sv))) : NULL)

/* Return the user_lock structure (if any) associated with a shared SV.
* If create is true, create one if it doesn't exist
*/
STATIC user_lock *
S_get_userlock(pTHX_ SV* ssv, bool create)
{
    MAGIC *mg;
    user_lock *ul = NULL;

    assert(ssv);
    /* XXX Redesign the storage of user locks so we don't need a global
    * lock to access them ??? DAPM */
    ENTER_LOCK;

    /* Version of mg_find that also checks the private signature */

    for (mg = SvMAGIC(ssv); mg; mg = mg->mg_moremagic) {
        if ((mg->mg_type == PERL_MAGIC_ext) &&
            (mg->mg_private == UL_MAGIC_SIG))
        {
            break;
        }
    }

    if (mg) {
        ul = (user_lock*)(mg->mg_ptr);
    } else if (create) {
        dTHXc;
        SHARED_CONTEXT;
        ul = (user_lock *) PerlMemShared_malloc(sizeof(user_lock));
        Zero(ul, 1, user_lock);
        /* Attach to shared SV using ext magic */
        mg = sv_magicext(ssv, NULL, PERL_MAGIC_ext, &sharedsv_userlock_vtbl,
            (char *)ul, 0);
        mg->mg_private = UL_MAGIC_SIG; /* Set private signature */
        recursive_lock_init(aTHX_ &ul->lock);
        COND_INIT(&ul->user_cond);
        CALLER_CONTEXT;
    }
}

```

```

    }
    LEAVE_LOCK;
    return (ul);
}

/* Given a private side SV tries to find if the SV has a shared backend,
 * by looking for the magic.
 */
SV *
Perl_sharesv_find(pTHX_ SV *sv)
{
    MAGIC *mg;
    if (SvTYPE(sv) >= SVt_PVMG) {
        switch(SvTYPE(sv))
        {
            case SVt_PVAV:
            case SVt_PVHV:
                if ((mg = mg_find(sv, PERL_MAGIC_tied))
                    && mg->mg_virtual == &sharesv_array_vtbl) {
                    return ((SV *)mg->mg_ptr);
                }
                break;
            default:
                /* This should work for elements as well as they
                 * have scalar magic as well as their element magic
                 */
                if ((mg = mg_find(sv, PERL_MAGIC_shared_scalar))
                    && mg->mg_virtual == &sharesv_scalar_vtbl) {
                    return ((SV *)mg->mg_ptr);
                }
                break;
        }
    }
    /* Just for tidyness of API also handle tie objects */
    if (SvROK(sv) && sv_derived_from(sv, "threads::shared::tie")) {
        return (SHAREDSV_FROM_OBJ(sv));
    }
    return (NULL);
}

/* Associate a private SV with a shared SV by pointing the appropriate
 * magics at it.
 * Assumes lock is held.
 */
void
Perl_sharesv_associate(pTHX_ SV *sv, SV *ssv)

```

```

{

MAGIC *mg = 0;

/* If we are asked for any private ops we need a thread */
assert ( aTHX != PL_sharesv_space );

/* To avoid need for recursive locks require caller to hold lock */
assert ( PL_sharesv_lock.owner == aTHX );

switch(SvTYPE(sv)) {
case SVt_PVAV:
case SVt_PVHV:
    if (!(mg = mg_find(sv, PERL_MAGIC_tied))
        || mg->mg_virtual != &sharesv_array_vtbl
        || (SV*) mg->mg_ptr != ssv)
    {
        SV *obj = newSV(0);
        sv_setref_iv(obj, "threads::shared::tie", PTR2IV(ssv));
        if (mg) {
            sv_unmagic(sv, PERL_MAGIC_tied);
        }
        mg = sv_magicext(sv, obj, PERL_MAGIC_tied, &sharesv_array_vtbl,
            (char *)ssv, 0);
        mg->mg_flags |= (MGf_COPY|MGf_DUP);
        SvREFCNT_inc_void(ssv);
        SvREFCNT_dec(obj);
    }
    break;

default:
    if ((SvTYPE(sv) < SVt_PVMG)
        || !(mg = mg_find(sv, PERL_MAGIC_shared_scalar))
        || mg->mg_virtual != &sharesv_scalar_vtbl
        || (SV*) mg->mg_ptr != ssv)
    {
        if (mg) {
            sv_unmagic(sv, PERL_MAGIC_shared_scalar);
        }
        mg = sv_magicext(sv, Nullsv, PERL_MAGIC_shared_scalar,
            &sharesv_scalar_vtbl, (char *)ssv, 0);
        mg->mg_flags |= (MGf_DUP
#ifdef MGf_LOCAL
            |MGf_LOCAL
#endif
        );
        SvREFCNT_inc_void(ssv);
    }
}

```

```

        break;
    }

    assert ( Perl_sharesv_find(aTHX_ sv) == ssv );
}

/* Given a private SV, create and return an associated shared SV.
 * Assumes lock is held.
 */
STATIC SV *
S_sharesv_new_shared(pTHX_ SV *sv)
{
    dTHXc;
    SV *ssv;

    assert(PL_sharesv_lock.owner == aTHX);
    assert(aTHX != PL_sharesv_space);

    SHARED_CONTEXT;
    ssv = newSV(0);
    SvREFCNT(ssv) = 0; /* Will be upped to 1 by Perl_sharesv_associate */
    sv_upgrade(ssv,
SvTYPE(sv));
    CALLER_CONTEXT;
    Perl_sharesv_associate(aTHX_ sv, ssv);
    return (ssv);
}

/* Given a shared SV, create and return an associated private SV.
 * Assumes lock is held.
 */
STATIC SV *
S_sharesv_new_private(pTHX_ SV *ssv)
{
    SV *sv;

    assert(PL_sharesv_lock.owner == aTHX);
    assert(aTHX != PL_sharesv_space);

    sv = newSV(0);
    sv_upgrade(sv, SvTYPE(ssv));
    Perl_sharesv_associate(aTHX_ sv, ssv);
    return (sv);
}

```

```
/* A threadsafe version of SvREFCNT_dec(ssv) */
```

```
STATIC void  
S_sharesv_dec(pTHX_ SV* ssv)  
{  
    if (! ssv)  
        return;  
    ENTER_LOCK;  
    if (SvREFCNT(ssv) > 1) {  
        /* No side effects, so can do it lightweight */  
        SvREFCNT_dec(ssv);  
    } else {  
        dTHXc;  
        SHARED_CONTEXT;  
        SvREFCNT_dec(ssv);  
        CALLER_CONTEXT;  
    }  
    LEAVE_LOCK;  
}
```

```
/* Implements Perl-level share() and :shared */
```

```
void  
Perl_sharesv_share(pTHX_ SV *sv)  
{  
    switch(SvTYPE(sv)) {  
    case SVt_PVGV:  
        Perl_croak(aTHX_  
"Cannot share globs yet");  
        break;  
  
    case SVt_PVCV:  
        Perl_croak(aTHX_ "Cannot share subs yet");  
        break;  
  
    default:  
        ENTER_LOCK;  
        (void) S_sharesv_new_shared(aTHX_ sv);  
        LEAVE_LOCK;  
        SvSETMAGIC(sv);  
        break;  
    }  
}
```

```
#ifdef WIN32
```

```
/* Number of milliseconds from 1/1/1601 to 1/1/1970 */
```

```

#define EPOCH_BIAS    11644473600000.

/* Returns relative time in milliseconds. (Adapted from Time::HiRes.) */
STATIC DWORD
S_abs_2_rel_milli(double abs)
{
    double rel;

    /* Get current time (in units of 100 nanoseconds since 1/1/1601) */
    union {
        FILETIME ft;
        __int64 i64; /* 'signed' to keep compilers happy */
    } now;

    GetSystemTimeAsFileTime(&now.ft);

    /* Relative time in milliseconds */
    rel = (abs * 1000.) - (((double)now.i64 / 10000.) - EPOCH_BIAS);
    if (rel <= 0.0) {
        return (0);
    }
    return (DWORD)rel;
}

#else
# if defined(OS2)
#  define ABS2RELMILLI(abs) \
do { \
    abs -= (double)time(NULL); \
    if (abs > 0) { abs *= 1000; } \
    else { abs = 0; } \
} while (0)
# endif /* OS2 */
#endif /* WIN32 */

/* Do OS-specific condition timed wait */

bool
Perl_sharesv_cond_timedwait(perl_cond *cond, perl_mutex *mut, double abs)
{
    #if defined(NETWARE) || defined(FAKE_THREADS) || defined(L_MACH_CTHREADS)
    Perl_croak_nocontext("cond_timedwait not supported on this platform");
    #else
    # ifdef WIN32
    int got_it = 0;

    cond->waiters++;
    #endif
    #endif

```

```

MUTEX_UNLOCK(mut);
/* See comments in win32/win32thread.h COND_WAIT vis-a-vis race */
switch (WaitForSingleObject(cond->sem, S_abs_2_rel_milli(abs))) {
    case WAIT_OBJECT_0: got_it = 1; break;
    case WAIT_TIMEOUT: break;
    default:
        /* WAIT_FAILED? WAIT_ABANDONED? others? */
        Perl_croak_nocontext("panic: cond_timedwait (%ld)",GetLastError());
        break;
}
MUTEX_LOCK(mut);
cond->waiters--;
return (got_it);
# else
# ifdef OS2
int rc, got_it = 0;
STRLEN n_a;

ABS2RELMILLI(abs);

if ((rc = DosResetEventSem(*cond,&n_a) && (rc != ERROR_ALREADY_RESET))
    Perl_rc = rc, croak_with_os2error("panic: cond_timedwait-reset");
MUTEX_UNLOCK(mut);
if (CheckOSError(DosWaitEventSem(*cond,abs)
    && (rc != ERROR_INTERRUPT))
    croak_with_os2error("panic: cond_timedwait");
if (rc == ERROR_INTERRUPT) errno = EINTR;
MUTEX_LOCK(mut);
return (got_it);
# else /* Hope you're I_PTHREAD! */
struct timespec ts;
int got_it = 0;

ts.tv_sec = (long)abs;
abs -= (NV)ts.tv_sec;
ts.tv_nsec = (long)(abs * 1000000000.0);

switch (pthread_cond_timedwait(cond, mut, &ts)) {
    case 0: got_it = 1; break;
    case ETIMEDOUT: break;
#ifdef OEMVS
    case -1:
        if (errno == ETIMEDOUT || errno == EAGAIN)
            break;
#endif
}

default:
    Perl_croak_nocontext("panic: cond_timedwait");

```

```

        break;
    }
    return (got_it);
# endif /* OS2 */
# endif /* WIN32 */
#endif /* NETWARE || FAKE_THREADS || I_MACH_CTHREADS */
}

/* Given a thingy referenced by a shared RV, copy it's value to a private
 * RV, also copying the object status of the referent.
 * If the private side is already an appropriate RV->SV combination, keep
 * it if possible.
 */
STATIC void
S_get_RV(pTHX_ SV *sv, SV *sobj) {
    SV *obj;
    if (! (SvROK(sv) &&
          ((obj = SvRV(sv)) &&
           (Perl_sharesv_find(aTHX_ obj) == sobj) &&
           (SvTYPE(obj) == SvTYPE(sobj))))))
    {
        /* Can't reuse obj */
        if (SvROK(sv)) {
            SvREFCNT_dec(SvRV(sv));
        } else {
            assert(SvTYPE(sv) >= SVt_RV);
            sv_setsv_nomg(sv, &PL_sv_undef);
            SvROK_on(sv);
        }
        obj = S_sharesv_new_private(aTHX_ sobj);
        SvRV_set(sv, obj);
    }

    if (SvOBJECT(obj))
    {
        /* Remove any old blessing */
        SvREFCNT_dec(SvSTASH(obj));
        SvOBJECT_off(obj);
    }
    if (SvOBJECT(sobj)) {
        /* Add any new old blessing */
        STRLEN len;
        char* stash_ptr = SvPV((SV*) SvSTASH(sobj), len);
        HV* stash = gv_stashpvn(stash_ptr, len, TRUE);
        SvOBJECT_on(obj);
        SvSTASH_set(obj, (HV*)SvREFCNT_inc(stash));
    }
}

```



```

}

/* Every caller of S_get_RV needs this incantation (which cannot go inside
   S_get_RV itself, as we do not want recursion beyond one level): */
#define get_RV(sv, subj) \
    S_get_RV(aTHX_ sv, subj); \
    /* Look ahead for refs of refs */ \
    if (SvROK(subj)) { \
        SvROK_on(SvRV(sv)); \
        S_get_RV(aTHX_ SvRV(sv), SvRV(subj)); \
    }

/* ----- PERL_MAGIC_shared_scalar(n) functions ----- */

/* Get magic for PERL_MAGIC_shared_scalar(n) */

int
sharingsv_scalar_mg_get(pTHX_
SV *sv, MAGIC *mg)
{
    SV *ssv = (SV *) mg->mg_ptr;
    assert(ssv);

    ENTER_LOCK;
    if (SvROK(ssv)) {
        get_RV(sv, SvRV(ssv));
    } else {
        sv_setsv_nomg(sv, ssv);
    }
    LEAVE_LOCK;
    return (0);
}

/* Copy the contents of a private SV to a shared SV.
 * Used by various mg_set()-type functions.
 * Assumes lock is held.
 */
void
sharingsv_scalar_store(pTHX_ SV *sv, SV *ssv)
{
    dTHXc;
    bool allowed = TRUE;

    assert(PL_sharingsv_lock.owner == aTHX);
    if (!PL_dirty && SvROK(ssv) && SvREFCNT(SvRV(ssv)) == 1) {
        SV *sv = sv_newmortal();
        sv_upgrade(sv, SVt_RV);
    }
}

```

```

    get_RV(sv, SvRV(ssv));
}
if (SvROK(sv)) {
    SV *obj = SvRV(sv);
    SV *sobj = Perl_sharesv_find(aTHX_ obj);
    if (sobj) {
        SHARED_CONTEXT;
        (void)SvUPGRADE(ssv, SVt_RV);
        sv_setsv_nomg(ssv, &PL_sv_undef);

        SvRV_set(ssv, SvREFCNT_inc(sobj));
        SvROK_on(ssv);
        if (SvOBJECT(sobj)) {

            /* Remove any old blessing */
            SvREFCNT_dec(SvSTASH(sobj));
            SvOBJECT_off(sobj);
        }
        if (SvOBJECT(obj)) {
            SV* fake_stash = newSVpv(HvNAME_get(SvSTASH(obj)),0);
            SvOBJECT_on(sobj);
            SvSTASH_set(sobj, (HV*)fake_stash);
        }
        CALLER_CONTEXT;
    } else {
        allowed = FALSE;
    }
} else {
    SvTEMP_off(sv);
    SHARED_CONTEXT;
    sv_setsv_nomg(ssv, sv);
    if (SvOBJECT(ssv)) {
        /* Remove any old blessing */
        SvREFCNT_dec(SvSTASH(ssv));
        SvOBJECT_off(ssv);
    }
    if (SvOBJECT(sv)) {
        SV* fake_stash = newSVpv(HvNAME_get(SvSTASH(sv)),0);
        SvOBJECT_on(ssv);
        SvSTASH_set(ssv, (HV*)fake_stash);
    }
    CALLER_CONTEXT;
}
if (!allowed) {
    Perl_croak(aTHX_ "Invalid value for shared scalar");
}
}

```

```

/* Set magic for PERL_MAGIC_shared_scalar(n)
*/

int
sharedsv_scalar_mg_set(pTHX_ SV *sv, MAGIC *mg)
{
    SV *ssv = (SV*)(mg->mg_ptr);
    assert(ssv);
    ENTER_LOCK;
    if (SvTYPE(ssv) < SvTYPE(sv)) {
        dTHXc;
        SHARED_CONTEXT;
        sv_upgrade(ssv, SvTYPE(sv));
        CALLER_CONTEXT;
    }
    sharedsv_scalar_store(aTHX_ sv, ssv);
    LEAVE_LOCK;
    return (0);
}

/* Free magic for PERL_MAGIC_shared_scalar(n) */

int
sharedsv_scalar_mg_free(pTHX_ SV *sv, MAGIC *mg)
{
    PERL_UNUSED_ARG(sv);
    ENTER_LOCK;
    if (!PL_dirty
        && SvROK((SV *)mg->mg_ptr) && SvREFCNT(SvRV((SV *)mg->mg_ptr)) == 1) {
        SV *sv = sv_newmortal();
        sv_upgrade(sv, SVt_RV);
        get_RV(sv, SvRV((SV *)mg->mg_ptr));
    }
    S_sharedsv_dec(aTHX_ (SV*)mg->mg_ptr);
    LEAVE_LOCK;
    return (0);
}

/*
* Called during cloning of PERL_MAGIC_shared_scalar(n) magic in new thread
*/

int
sharedsv_scalar_mg_dup(pTHX_ MAGIC *mg, CLONE_PARAMS *param)
{
    PERL_UNUSED_ARG(param);
    SvREFCNT_inc_void(mg->mg_ptr);
    return

```

```

(0);
}

#ifdef MGf_LOCAL
/*
 * Called during local $shared
 */
int
sharedsv_scalar_mg_local(pTHX_ SV* nsv, MAGIC *mg)
{
    MAGIC *nmg;
    SV *ssv = (SV *) mg->mg_ptr;
    if (ssv) {
        ENTER_LOCK;
        SvREFCNT_inc_void(ssv);
        LEAVE_LOCK;
    }
    nmg = sv_magicext(nsv, mg->mg_obj, mg->mg_type, mg->mg_virtual,
                    mg->mg_ptr, mg->mg_len);
    nmg->mg_flags = mg->mg_flags;
    nmg->mg_private = mg->mg_private;

    return (0);
}
#endif

MGVTBL sharedsv_scalar_vtbl = {
    sharedsv_scalar_mg_get, /* get */
    sharedsv_scalar_mg_set, /* set */
    0, /* len */
    0, /* clear */
    sharedsv_scalar_mg_free, /* free */
    0, /* copy */
    sharedsv_scalar_mg_dup, /* dup */
#ifdef MGf_LOCAL
    sharedsv_scalar_mg_local, /* local */
#endif
};

/* ----- PERL_MAGIC_tiedelem(p) functions ----- */

/* Get magic for PERL_MAGIC_tiedelem(p) */

int
sharedsv_elem_mg_FETCH(pTHX_
SV *sv, MAGIC *mg)
{
    dTHXc;

```

```

SV *saggregate = SHARED_SV_FROM_OBJ(mg->mg_obj);
SV** svp = NULL;

ENTER_LOCK;
if (saggregate) { /* During global destruction, underlying
    aggregate may no longer exist */
    if (SvTYPE(saggregate) == SVt_PVAV) {
        assert ( mg->mg_ptr == 0 );
        SHARED_CONTEXT;
        svp = av_fetch((AV*) saggregate, mg->mg_len, 0);
    } else {
        char *key = mg->mg_ptr;
        I32 len = mg->mg_len;
        assert ( mg->mg_ptr != 0 );
        if (mg->mg_len == HEf_SVKEY) {
            STRLEN slen;
            key = SvPV((SV *)mg->mg_ptr, slen);
            len = slen;
            if (SvUTF8((SV *)mg->mg_ptr)) {
                len = -len;
            }
        }
        SHARED_CONTEXT;
        svp = hv_fetch((HV*) saggregate, key, len, 0);
    }
    CALLER_CONTEXT;
}
if (svp) {
    /* Exists
in the array */
    if (SvROK(*svp)) {
        get_RV(sv, SvRV(*svp));
    } else {
        /* $ary->[elem] or $ary->{elem} is a scalar */
        Perl_sharesv_associate(aTHX_ sv, *svp);
        sv_setsv(sv, *svp);
    }
} else {
    /* Not in the array */
    sv_setsv(sv, &PL_sv_undef);
}
LEAVE_LOCK;
return (0);
}

/* Set magic for PERL_MAGIC_tiedelem(p) */

int

```

```

sharedsv_elem_mg_STORE(pTHX_ SV *sv, MAGIC *mg)
{
    dTHXc;
    SV *saggregate = SHARED_SV_FROM_OBJ(mg->mg_obj);
    SV **svp;
    U32 dualvar_flags = DUALVAR_FLAGS(sv);

    /* Theory - SV itself is magically shared - and we have ordered the
       magic such that by the time we get here it has been stored
       to its shared counterpart
    */
    ENTER_LOCK;
    assert(saggregate);
    if (SvTYPE(saggregate) == SVt_PVAV) {
        assert ( mg->mg_ptr == 0 );
        SHARED_CONTEXT;
        svp = av_fetch((AV*) saggregate, mg->mg_len, 1);
    } else {
        char
        *key = mg->mg_ptr;
        I32 len = mg->mg_len;
        assert ( mg->mg_ptr != 0 );
        if (mg->mg_len == HEf_SVKEY) {
            STRLEN slen;
            key = SvPV((SV *)mg->mg_ptr, slen);
            len = slen;
            if (SvUTF8((SV *)mg->mg_ptr)) {
                len = -len;
            }
        }
        SHARED_CONTEXT;
        svp = hv_fetch((HV*) saggregate, key, len, 1);
    }
    CALLER_CONTEXT;
    Perl_sharedsv_associate(aTHX_ sv, *svp);
    sharedsv_scalar_store(aTHX_ sv, *svp);
    SvFLAGS(*svp) |= dualvar_flags;
    LEAVE_LOCK;
    return (0);
}

/* Clear magic for PERL_MAGIC_tiedelem(p) */

```

```

int
sharedsv_elem_mg_DELETE(pTHX_ SV *sv, MAGIC *mg)
{
    dTHXc;
    MAGIC *shmg;

```

```

SV *saggregate = SHARED_SV_FROM_OBJ(mg->mg_obj);

/* Object may not exist during global destruction */
if (!saggregate) {
    return (0);
}

ENTER_LOCK;
sharedsv_elem_mg_FETCH(aTHX_ sv, mg);
if ((shmg = mg_find(sv, PERL_MAGIC_shared_scalar)))
    sharedsv_scalar_mg_get(aTHX_
sv, shmg);
if (SvTYPE(saggregate) == SVt_PVAV) {
    SHARED_CONTEXT;
    av_delete((AV*)saggregate, mg->mg_len, G_DISCARD);
} else {
    char *key = mg->mg_ptr;
    I32 len = mg->mg_len;
    assert (mg->mg_ptr != 0);
    if (mg->mg_len == HEf_SVKEY) {
        STRLEN slen;
        key = SvPV((SV*)mg->mg_ptr, slen);
        len = slen;
        if (SvUTF8((SV*)mg->mg_ptr)) {
            len = -len;
        }
    }
    SHARED_CONTEXT;
    (void) hv_delete((HV*)saggregate, key, len, G_DISCARD);
}
CALLER_CONTEXT;
LEAVE_LOCK;
return (0);
}

/* Called during cloning of PERL_MAGIC_tiedelem(p) magic in new
* thread */

int
sharedsv_elem_mg_dup(pTHX_ MAGIC *mg, CLONE_PARAMS *param)
{
    PERL_UNUSED_ARG(param);
    SvREFCNT_inc_void(SHARED_SV_FROM_OBJ(mg->mg_obj));
    assert(mg->mg_flags & MGf_DUP);
    return (0);
}

MGVTBL sharedsv_elem_vtbl = {

```

```

    sharedsv_elem_mg_FETCH, /* get
*/
    sharedsv_elem_mg_STORE, /* set */
    0, /* len */
    sharedsv_elem_mg_DELETE, /* clear */
    0, /* free */
    0, /* copy */
    sharedsv_elem_mg_dup, /* dup */
#ifdef MGf_LOCAL
    0, /* local */
#endif
};

/* ----- PERL_MAGIC_tied(P) functions ----- */

/* Len magic for PERL_MAGIC_tied(P) */

U32
sharedsv_array_mg_FETCHSIZE(pTHX_ SV *sv, MAGIC *mg)
{
    dTHXc;
    SV *ssv = (SV *) mg->mg_ptr;
    U32 val;
    PERL_UNUSED_ARG(sv);
    SHARED_EDIT;
    if (SvTYPE(ssv) == SVt_PVAV) {
        val = av_len((AV*) ssv);
    } else {
        /* Not actually defined by tie API but ... */
        val = HvUSEDKEYS((HV*) ssv);
    }
    SHARED_RELEASE;
    return (val);
}

/* Clear magic for PERL_MAGIC_tied(P) */

int
sharedsv_array_mg_CLEAR(pTHX_ SV *sv, MAGIC *mg)
{
    dTHXc;
    SV *ssv = (SV *) mg->mg_ptr;
    const bool isav = SvTYPE(ssv) == SVt_PVAV;
    PERL_UNUSED_ARG(sv);
    SHARED_EDIT;
    if (!PL_dirty) {
        SV **svp = isav ? AvARRAY((AV *)ssv) : NULL;
        I32 items = isav ? AvFILLp((AV *)ssv) + 1 : 0;

```



```

HE *iter;
if (!isav) hv_iterinit((HV *)ssv);
while (isav ? items-- : !(iter = hv_iternext((HV *)ssv))) {
    SV *sv = isav ? *svp++ : HeVAL(iter);
    if (!sv) continue;
    if ( (SvOBJECT(sv) || (SvROK(sv) && (sv = SvRV(sv))))
        && SvREFCNT(sv) == 1 ) {
        SV *tmp = Perl_sv_newmortal(caller_perl);
        PERL_SET_CONTEXT((aTHX = caller_perl));
        sv_upgrade(tmp, SVt_RV);
        get_RV(tmp, sv);
        PERL_SET_CONTEXT((aTHX = PL_sharesv_space));
    }
}
}
if (isav) av_clear((AV*) ssv);
else hv_clear((HV*) ssv);
SHARED_RELEASE;
return (0);
}

```

```

/* Free magic for PERL_MAGIC_tied(P) */

```

```

int
sharesv_array_mg_free(pTHX_
SV *sv, MAGIC *mg)
{
    PERL_UNUSED_ARG(sv);
    S_sharesv_dec(aTHX_ (SV*)mg->mg_ptr);
    return (0);
}

```

```

/*

```

```

* Copy magic for PERL_MAGIC_tied(P)
* This is called when perl is about to access an element of
* the array -
*/

```

```

#if PERL_VERSION >= 11

```

```

int
sharesv_array_mg_copy(pTHX_ SV *sv, MAGIC* mg,
SV *nsv, const char *name, I32 namlen)

```

```

#else

```

```

int
sharesv_array_mg_copy(pTHX_ SV *sv, MAGIC* mg,
SV *nsv, const char *name, int namlen)

```

```

#endif

```

```

{
    MAGIC *nmg = sv_magicext(nsv,mg->mg_obj,

```

```

        toLOWER(mg->mg_type),&sharedsv_elem_vtbl,
        name, namlen);
    PERL_UNUSED_ARG(sv);
    nmg->mg_flags |= MGf_DUP;
    return (1);
}

/* Called during cloning of PERL_MAGIC_tied(P) magic in new thread */

int
sharedsv_array_mg_dup(pTHX_ MAGIC *mg, CLONE_PARAMS *param)
{
    PERL_UNUSED_ARG(param);
    SvREFCNT_inc_void((SV*)mg->mg_ptr);
    assert(mg->mg_flags & MGf_DUP);
    return (0);
}

MGVTBL
sharedsv_array_vtbl = {
    0,          /* get */
    0,          /* set */
    sharedsv_array_mg_FETCHSIZE, /* len */
    sharedsv_array_mg_CLEAR, /* clear */
    sharedsv_array_mg_free, /* free */
    sharedsv_array_mg_copy, /* copy */
    sharedsv_array_mg_dup, /* dup */
#ifdef MGf_LOCAL
    0,          /* local */
#endif
};

/* Recursively unlocks a shared sv. */

void
Perl_sharedsv_unlock(pTHX_ SV *ssv)
{
    user_lock *ul = S_get_userlock(aTHX_ ssv, 0);
    assert(ul);
    recursive_lock_release(aTHX_ &ul->lock);
}

/* Recursive locks on a sharedsv.
 * Locks are dynamically scoped at the level of the first lock.
 */
void

```

```

Perl_sharesv_lock(pTHX_ SV *ssv)
{
    user_lock *ul;
    if (! ssv)
        return;
    ul = S_get_userlock(aTHX_ ssv, 1);
    recursive_lock_acquire(aTHX_ &ul->lock, __FILE__, __LINE__);
}

/* Handles calls from lock() builtin via PL_lockhook */

void
Perl_sharesv_locksv(pTHX_ SV *sv)
{
    SV *ssv;

    if (SvROK(sv))
        sv = SvRV(sv);
    ssv = Perl_sharesv_find(aTHX_ sv);
    if (!ssv)
        croak("lock can only be used on shared values");
    Perl_sharesv_lock(aTHX_ ssv);
}

/* Can a shared object be destroyed?
 * True if not a shared,
 * or if destroying last proxy on a shared object
 */
#ifdef PL_destroyhook
bool
Perl_shared_object_destroy(pTHX_ SV *sv)
{
    SV *ssv;

    if (SvROK(sv))
        sv = SvRV(sv);
    ssv = Perl_sharesv_find(aTHX_ sv);
    return (!ssv || (SvREFCNT(ssv) <= 1));
}
#endif

/* veto signal dispatch if we have the lock */

#ifdef PL_signalhook

STATIC dispatch_signals_proc_t prev_signal_hook = NULL;

```

```

STATIC void
S_shared_signal_hook(pTHX) {
    int us;
    MUTEX_LOCK(&PL_sharesv_lock.mutex);
    us = (PL_sharesv_lock.owner == aTHX);
    MUTEX_UNLOCK(&PL_sharesv_lock.mutex);
    if (us)
        return; /* try again later */
    prev_signal_hook(aTHX);
}
#endif

/* Saves a space for keeping SVs wider than an interpreter. */

void
Perl_sharesv_init(pTHX)
{
    dTHXc;
    /* This pair leaves us in shared context ... */
    PL_sharesv_space = perl_alloc();
    perl_construct(PL_sharesv_space);
    LEAVE; /* This balances the ENTER at the end of perl_construct. */
    PERL_SET_CONTEXT((aTHX = caller_perl));
    recursive_lock_init(aTHX_ &PL_sharesv_lock);
    PL_lockhook = &Perl_sharesv_locksv;
    PL_sharehook = &Perl_sharesv_share;
#ifdef PL_destroyhook
    PL_destroyhook = &Perl_shared_object_destroy;
#endif
#ifdef PL_signalhook
    if (!prev_signal_hook) {
        prev_signal_hook = PL_signalhook;
        PL_signalhook = &S_shared_signal_hook;
    }
#endif
}

#endif /* USE_ITHREADS */

MODULE = threads::shared    PACKAGE = threads::shared::tie

PROTOTYPES: DISABLE

#ifdef USE_ITHREADS

void
PUSH(SV *obj, ...)
    CODE:

```

```

dTHXc;
SV *sobj = SHARED_SV_FROM_OBJ(obj);
int ii;
for (ii = 1; ii < items; ii++) {
    SV* tmp = newSVsv(ST(ii));
    SV *stmp;

    U32 dualvar_flags = DUALVAR_FLAGS(tmp);
    ENTER_LOCK;
    stmp = S_sharesv_new_shared(aTHX_ tmp);
    sharesv_scalar_store(aTHX_ tmp, stmp);
    SvFLAGS(stmp) |= dualvar_flags;
    SHARED_CONTEXT;
    av_push((AV*) sobj, stmp);
    SvREFCNT_inc_void(stmp);
    SHARED_RELEASE;
    SvREFCNT_dec(tmp);
}

```

```

void
UNSHIFT(SV *obj, ...)
CODE:
    dTHXc;
    SV *sobj = SHARED_SV_FROM_OBJ(obj);
    int ii;
    ENTER_LOCK;
    SHARED_CONTEXT;
    av_unshift((AV*)sobj, items - 1);
    CALLER_CONTEXT;
    for (ii = 1; ii < items; ii++) {
        SV *tmp = newSVsv(ST(ii));
        U32 dualvar_flags = DUALVAR_FLAGS(tmp);
        SV *stmp = S_sharesv_new_shared(aTHX_ tmp);
        sharesv_scalar_store(aTHX_ tmp, stmp);
        SHARED_CONTEXT;
        SvFLAGS(stmp) |= dualvar_flags;
        av_store((AV*) sobj, ii - 1, stmp);
        SvREFCNT_inc_void(stmp);
        CALLER_CONTEXT;
        SvREFCNT_dec(tmp);
    }
    LEAVE_LOCK;

```

```

void
POP(SV *obj)
CODE:

```

```
dTHXc;
SV *sobj = SHARED_SV_FROM_OBJ(obj);
SV* ssv;
ENTER_LOCK;
SHARED_CONTEXT;
ssv = av_pop((AV*)sobj);
CALLER_CONTEXT;
ST(0) = sv_newmortal();
Perl_sharesv_associate(aTHX_ ST(0), ssv);
SvREFCNT_dec(ssv);
LEAVE_LOCK;
/* XSRETURN(1); - implied */
```

void

SHIFT(SV *obj)

CODE:

```
dTHXc;
SV *sobj = SHARED_SV_FROM_OBJ(obj);
SV* ssv;
ENTER_LOCK;
SHARED_CONTEXT;
ssv = av_shift((AV*)sobj);
CALLER_CONTEXT;
ST(0) = sv_newmortal();
Perl_sharesv_associate(aTHX_ ST(0), ssv);
SvREFCNT_dec(ssv);
LEAVE_LOCK;
/* XSRETURN(1); - implied */
```

void

EXTEND(SV *obj, IV count)

CODE:

```
dTHXc;
SV *sobj = SHARED_SV_FROM_OBJ(obj);
SHARED_EDIT;
av_extend((AV*)sobj,
count);
SHARED_RELEASE;
```

void

STORESIZE(SV *obj, IV count)

CODE:

```
dTHXc;
SV *sobj = SHARED_SV_FROM_OBJ(obj);
SHARED_EDIT;
```

```
av_fill((AV*) subj, count);
SHARED_RELEASE;
```

void

EXISTS(SV *obj, SV *index)

CODE:

```
dTHXc;
SV *sobj = SHAREDSV_FROM_OBJ(obj);
bool exists;
if (SvTYPE(sobj) == SVt_PVAV) {
    SHARED_EDIT;
    exists = av_exists((AV*) sobj, SvIV(index));
} else {
    I32 len;
    STRLEN slen;
    char *key = SvPVutf8(index, slen);
    len = slen;
    if (SvUTF8(index)) {
        len = -len;
    }
    SHARED_EDIT;
    exists = hv_exists((HV*) sobj, key, len);
}
SHARED_RELEASE;
ST(0) = (exists) ? &PL_sv_yes : &PL_sv_no;
/* XSRETURN(1); - implied */
```

void

FIRSTKEY(SV *obj)

CODE:

```
dTHXc;
SV *sobj = SHAREDSV_FROM_OBJ(obj);
char* key = NULL;

I32 len = 0;
HE* entry;
ENTER_LOCK;
SHARED_CONTEXT;
hv_iterinit((HV*) sobj);
entry = hv_iternext((HV*) sobj);
if (entry) {
    I32 utf8 = HeKUTF8(entry);
    key = hv_iterkey(entry, &len);
    CALLER_CONTEXT;
    ST(0) = newSVpvn_flags(key, len, SVs_TEMP | (utf8 ? SVf_UTF8 : 0));
} else {
```

```

    CALLER_CONTEXT;
    ST(0) = &PL_sv_undef;
}
LEAVE_LOCK;
/* XSRETURN(1); - implied */

```

void

NEXTKEY(SV *obj, SV *oldkey)

CODE:

```

    dTHXc;
    SV *sobj = SHARED_SV_FROM_OBJ(obj);
    char* key = NULL;
    I32 len = 0;
    HE* entry;

    PERL_UNUSED_VAR(oldkey);

    ENTER_LOCK;
    SHARED_CONTEXT;
    entry = hv_iternext((HV*) sobj);
    if (entry) {
        I32 utf8 = HeKUTF8(entry);
        key = hv_iterkey(entry, &len);
        CALLER_CONTEXT;
        ST(0) = newSVpvn_flags(key, len, SVs_TEMP | (utf8 ? SVf_UTF8
: 0));
    } else {
        CALLER_CONTEXT;
        ST(0) = &PL_sv_undef;
    }
    LEAVE_LOCK;
    /* XSRETURN(1); - implied */

```

MODULE = threads::shared PACKAGE = threads::shared

PROTOTYPES: ENABLE

void

_id(SV *myref)

PROTOTYPE: \[\$@%]

PREINIT:

SV *ssv;

CODE:

```

    myref = SvRV(myref);
    if (SvMAGICAL(myref))
        mg_get(myref);

```



```

if (SvROK(myref))
    myref = SvRV(myref);
ssv = Perl_sharesv_find(aTHX_ myref);
if (! ssv)
    XSRETURN_UNDEF;
ST(0) = sv_2mortal(newSVuv(PTR2UV(ssv)));
/* XSRETURN(1); - implied */

```

void

```

_refcnt(SV *myref)
PROTOTYPE: \[$@%]
PREINIT:
    SV *ssv;
CODE:
    myref = SvRV(myref);
    if (SvROK(myref))
        myref = SvRV(myref);
    ssv = Perl_sharesv_find(aTHX_ myref);
    if (! ssv) {
        if (ckWARN(WARN_THREADS)) {
            Perl_warner(aTHX_ packWARN(WARN_THREADS),

                "% " SVf " is not shared", ST(0));
        }
        XSRETURN_UNDEF;
    }
    ST(0) = sv_2mortal(newSViv(SvREFCNT(ssv)));
/* XSRETURN(1); - implied */

```

void

```

share(SV *myref)
PROTOTYPE: \[$@%]
CODE:
    if (! SvROK(myref))
        Perl_croak(aTHX_ "Argument to share needs to be passed as ref");
    myref = SvRV(myref);
    if (SvROK(myref))
        myref = SvRV(myref);
    Perl_sharesv_share(aTHX_ myref);
    ST(0) = sv_2mortal(newRV_inc(myref));
/* XSRETURN(1); - implied */

```

void

```

cond_wait(SV *ref_cond, SV *ref_lock = 0)
PROTOTYPE: \[$@%];\[$@%]

```

```

PREINIT:
    SV *ssv;
    perl_cond* user_condition;
    int locks;
    user_lock *ul;
CODE:
    if (!SvROK(ref_cond))
        Perl_croak(aTHX_ "Argument to cond_wait needs to be passed as ref");
    ref_cond = SvRV(ref_cond);
    if (SvROK(ref_cond))
        ref_cond = SvRV(ref_cond);
    ssv = Perl_sharesv_find(aTHX_
ref_cond);
    if (! ssv)
        Perl_croak(aTHX_ "cond_wait can only be used on shared values");
    ul = S_get_userlock(aTHX_ ssv, 1);

    user_condition = &ul->user_cond;
    if (ref_lock && (ref_cond != ref_lock)) {
        if (!SvROK(ref_lock))
            Perl_croak(aTHX_ "cond_wait lock needs to be passed as ref");
        ref_lock = SvRV(ref_lock);
        if (SvROK(ref_lock)) ref_lock = SvRV(ref_lock);
        ssv = Perl_sharesv_find(aTHX_ ref_lock);
        if (! ssv)
            Perl_croak(aTHX_ "cond_wait lock must be a shared value");
        ul = S_get_userlock(aTHX_ ssv, 1);
    }
    if (ul->lock.owner != aTHX)
        croak("You need a lock before you can cond_wait");

    /* Stealing the members of the lock object worries me - NI-S */
    MUTEX_LOCK(&ul->lock.mutex);
    ul->lock.owner = NULL;
    locks = ul->lock.locks;
    ul->lock.locks = 0;

    /* Since we are
releasing the lock here, we need to tell other
    * people that it is ok to go ahead and use it */
    COND_SIGNAL(&ul->lock.cond);
    COND_WAIT(user_condition, &ul->lock.mutex);
    while (ul->lock.owner != NULL) {
        /* OK -- must reacquire the lock */
        COND_WAIT(&ul->lock.cond, &ul->lock.mutex);
    }
    ul->lock.owner = aTHX;
    ul->lock.locks = locks;

```

```
MUTEX_UNLOCK(&ul->lock.mutex);
```

```
int
```

```
cond_timedwait(SV *ref_cond, double abs, SV *ref_lock = 0)
```

```
PROTOTYPE: \[$@%]$\; \[$@%]
```

```
PREINIT:
```

```
SV *ssv;
```

```
perl_cond* user_condition;
```

```
int locks;
```

```
user_lock *ul;
```

```
CODE:
```

```
if (! SvROK(ref_cond))
```

```
Perl_croak(aTHX_ "Argument to cond_timedwait needs to be passed as ref");
```

```
ref_cond = SvRV(ref_cond);
```

```
if (SvROK(ref_cond))
```

```
ref_cond = SvRV(ref_cond);
```

```
ssv = Perl_sharesv_find(aTHX_ ref_cond);
```

```
if (! ssv)
```

```
Perl_croak(aTHX_ "cond_timedwait  
can only be used on shared values");
```

```
ul = S_get_userlock(aTHX_ ssv, 1);
```

```
user_condition = &ul->user_cond;
```

```
if (ref_lock && (ref_cond != ref_lock)) {
```

```
if (! SvROK(ref_lock))
```

```
Perl_croak(aTHX_ "cond_timedwait lock needs to be passed as ref");
```

```
ref_lock = SvRV(ref_lock);
```

```
if (SvROK(ref_lock)) ref_lock = SvRV(ref_lock);
```

```
ssv = Perl_sharesv_find(aTHX_ ref_lock);
```

```
if (! ssv)
```

```
Perl_croak(aTHX_ "cond_timedwait lock must be a shared value");
```

```
ul = S_get_userlock(aTHX_ ssv, 1);
```

```
}
```

```
if (ul->lock.owner != aTHX)
```

```
Perl_croak(aTHX_ "You need a lock before you can cond_wait");
```

```
MUTEX_LOCK(&ul->lock.mutex);
```

```
ul->lock.owner = NULL;
```

```
locks = ul->lock.locks;
```

```
ul->lock.locks = 0;
```

```
/* Since we are releasing the lock here, we need to tell other
```

```
* people that it is ok to go ahead and use it */
```

```
COND_SIGNAL(&ul->lock.cond);
```

```
RETVAL = Perl_sharesv_cond_timedwait(user_condition, &ul->lock.mutex, abs);
```

```
while (ul->lock.owner != NULL) {
```

```
/* OK -- must reacquire the lock... */
```

```
COND_WAIT(&ul->lock.cond, &ul->lock.mutex);
```

```

}
ul->lock.owner = aTHX;
ul->lock.locks = locks;
MUTEX_UNLOCK(&ul->lock.mutex);

```

```

if (RETVAL == 0)
    XSRETURN_UNDEF;

```

OUTPUT:

RETVAL

void

cond_signal(SV *myref)

PROTOTYPE: \[\$@%]

PREINIT:

```

SV *ssv;
user_lock *ul;

```

CODE:

```

if (! SvROK(myref))
    Perl_croak(aTHX_ "Argument to cond_signal needs to be passed as ref");
myref = SvRV(myref);
if (SvROK(myref))
    myref = SvRV(myref);
ssv = Perl_sharesv_find(aTHX_ myref);
if (! ssv)
    Perl_croak(aTHX_ "cond_signal can only be used on shared values");
ul = S_get_userlock(aTHX_ ssv, 1);
if (ckWARN(WARN_THREADS) && ul->lock.owner != aTHX) {

    Perl_warner(aTHX_ packWARN(WARN_THREADS),
                "cond_signal() called on unlocked variable");
}
COND_SIGNAL(&ul->user_cond);

```

void

cond_broadcast(SV *myref)

PROTOTYPE: \[\$@%]

PREINIT:

```

SV *ssv;
user_lock *ul;

```

CODE:

```

if (! SvROK(myref))
    Perl_croak(aTHX_ "Argument to cond_broadcast needs to be passed as ref");
myref = SvRV(myref);
if (SvROK(myref))
    myref = SvRV(myref);
ssv = Perl_sharesv_find(aTHX_ myref);

```

```

if (! ssv)
    Perl_croak(aTHX_ "cond_broadcast can only be used on shared values");
ul = S_get_userlock(aTHX_ ssv, 1);
if (ckWARN(WARN_THREADS) && ul->lock.owner != aTHX) {
    Perl_warner(aTHX_ packWARN(WARN_THREADS),
                "cond_broadcast() called on unlocked variable");
}
COND_BROADCAST(&ul->user_cond);

```

```

void
bless(SV* myref, ...)
    PROTOTYPE: $;$
    PREINIT:
        HV*
stash;
    SV *ssv;
CODE:
    if (items == 1) {
        stash = CopSTASH(PL_curcop);
    } else {
        SV* classname = ST(1);
        STRLEN len;
        char *ptr;

        if (classname &&
            ! SvGMAGICAL(classname) &&
            ! SvAMAGIC(classname) &&
            SvROK(classname))
        {
            Perl_croak(aTHX_ "Attempt to bless into a reference");
        }
        ptr = SvPV(classname, len);
        if (ckWARN(WARN_MISC) && len == 0) {
            Perl_warner(aTHX_ packWARN(WARN_MISC),
                        "Explicit blessing to " (assuming package main));
        }
        stash = gv_stashpvn(ptr, len, TRUE);
    }
    SvREFCNT_inc_void(myref);
    (void)sv_bless(myref, stash);
    ST(0) = sv_2mortal(myref);
    ssv = Perl_sharesv_find(aTHX_ myref);
    if (ssv) {
        dTHXc;
        ENTER_LOCK;
        SHARED_CONTEXT;
        {

```

```

        SV* fake_stash = newSVpv(HvNAME_get(stash), 0);
        (void)sv_bless(ssv, (HV*)fake_stash);
    }
    CALLER_CONTEXT;
    LEAVE_LOCK;
}
/* XSRETURN(1); - implied */

#endif /* USE_ITHREADS */

BOOT:
{
#ifdef USE_ITHREADS
    Perl_sharesv_init(aTHX);
#endif /* USE_ITHREADS */
}

Found in path(s):
* /opt/cola/permits/1150898438_1634082378.42/0/perl-threads-shared-1.43-6.amzn2.0.2.src.rpm-cosi-expand-
archive-xa0PhQ3z/threads-shared-1.43.tar.gz-cosi-expand-archive-D1jKl0Un/threads-shared-1.43/shared.xs

```

1.91 perl-encode 2.51-7.amzn2.0.2

1.91.1 Available under license :

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

```

---
abstract: unknown
author:
- unknown
build_requires:
ExtUtils::MakeMaker: 0
configure_requires:
ExtUtils::MakeMaker: 0
dynamic_config: 1
generated_by: 'ExtUtils::MakeMaker version 6.66, CPAN::Meta::Converter version 2.130880'
license: perl
meta-spec:
url: http://module-build.sourceforge.net/META-spec-v1.4.html
version: 1.4
name: Encode
no_index:
directory:
- t
- inc
requires: {}

```

version: 2.51

Found in path(s):

* /opt/cola/permits/1150898667_1634081264.27/0/perl-Encode-2.51-7.amzn2.0.2.src.rpm-cosi-expand-archive-QlJwYAqk/Encode-2.51.tar.gz-cosi-expand-archive-Iq04yQJg/Encode-2.51/META.yml

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

=head1 NAME

Encode::Supported -- Encodings supported by Encode

=head1 DESCRIPTION

=head2 Encoding Names

Encoding names are case insensitive. White space in names is ignored. In addition, an encoding may have aliases.

Each encoding has one "canonical" name. The "canonical" name is chosen from the names of the encoding by picking the first in the following sequence (with a few exceptions).

=over 2

=item *

The name used by the Perl community. That includes 'utf8' and 'ascii'. Unlike aliases, canonical names directly reach the method so such frequently used words like 'utf8' don't need to do alias lookups.

=item *

The MIME name as defined in IETF RFCs. This includes all "iso-"s.

=item *

The name in the IANA registry.

=item *

The name used by the organization that defined it.

=back

In case I<de jure> canonical names differ from that of the Encode module, they are always aliased if it ever be implemented.

So you can safely tell if a given encoding is implemented or not just by passing the canonical name.

Because of all the alias issues, and because in the general case encodings have state, "Encode" uses an encoding object internally once an operation is in progress.

=head1 Supported Encodings

As of Perl 5.8.0, at least the following encodings are recognized. Note that unless otherwise specified, they are all case insensitive (via alias) and all occurrence of spaces are replaced with '-'. In other words, "ISO 8859 1" and "iso-8859-1" are identical.

Encodings are categorized and implemented in several different modules but you don't have to `C<use Encode::XX>` to make them available for most cases. `Encode.pm` will automatically load those modules on demand.

=head2 Built-in Encodings

The following encodings are always available.

Canonical	Aliases	Comments & References
ascii	US-ascii	
ISO-646-US		[ECMA]
ascii-ctrl		Special Encoding
iso-8859-1	latin1	[ISO]
null		Special Encoding
utf8	UTF-8	[RFC2279]

`I<null>` and `I<ascii-ctrl>` are special. "null" fails for all character so when you set fallback mode to `PERLQQ`, `HTMLCREF` or `XMLCREF`, `ALL CHARACTERS` will fall back to character references. Ditto for "ascii-ctrl" except for control characters. For fallback modes, see `L<Encode>`.

=head2 Encode::Unicode -- other Unicode encodings

Unicode coding schemes other than native utf8 are supported by `Encode::Unicode`, which will be autoloaded on demand.

UCS-2BE	UCS-2, iso-10646-1	[IANA, UC]
UCS-2LE		[UC]
UTF-16		[UC]
UTF-16BE		[UC]
UTF-16LE		[UC]

UTF-32	[UC]
UTF-32BE UCS-4	[UC]
UTF-32LE	[UC]
UTF-7	[RFC2152]

To find how (UCS-2|UTF-(16|32))(LE|BE)? differ from one another, see L<Encode::Unicode>.

UTF-7 is a special encoding which "re-encodes" UTF-16BE into a 7-bit encoding. It is implemented separately by Encode::Unicode::UTF7.

=head2 Encode::Byte -- Extended ASCII

Encode::Byte implements most single-byte encodings except for Symbols and EBCDIC. The following encodings are based on single-byte encodings implemented as extended ASCII. Most of them map \x80-\xff (upper half) to non-ASCII characters.

=over 2

=item ISO-8859 and corresponding vendor mappings

Since there are so many, they are presented in table format with languages and corresponding encoding names by vendors. Note that the table is sorted in order of ISO-8859 and the corresponding vendor mappings are slightly different from that of ISO. See L<<http://czyborra.com/charsets/iso8859.html>> for details.

Lang/Regions	ISO/Other	Std.	DOS	Windows	Macintosh	Others
--------------	-----------	------	-----	---------	-----------	--------

N. America	(ASCII)	cp437		AdobeStandardEncoding		
		cp863 (DOSCanadaF)				
W. Europe	iso-8859-1	cp850	cp1252	MacRoman	nextstep	
		hp-roman8				
		cp860 (DOSPortuguese)				
Cntrl. Europe	iso-8859-2	cp852	cp1250	MacCentralEurRoman		
		MacCroatian				
		MacRomanian				
		MacRumanian				
Latin3[1]	iso-8859-3					
Latin4[2]	iso-8859-4					
Cyrillics	iso-8859-5	cp855	cp1251	MacCyrillic		
	(See also next section)	cp866		MacUkrainian		
Arabic	iso-8859-6	cp864	cp1256	MacArabic		
		cp1006		MacFarsi		

Greek	iso-8859-7	cp737	cp1253	MacGreek
		cp869	(DOSGreek2)	
Hebrew	iso-8859-8	cp862	cp1255	MacHebrew
Turkish	iso-8859-9	cp857	cp1254	MacTurkish
Nordics	iso-8859-10	cp865		
		cp861		MacIcelandic
				MacSami
Thai	iso-8859-11[3]	cp874		MacThai
	(iso-8859-12 is nonexistent. Reserved for Indics?)			
Baltics	iso-8859-13	cp775		cp1257
Celtics	iso-8859-14			
Latin9 [4]	iso-8859-15			
Latin10	iso-8859-16			
Vietnamese	viscii		cp1258	MacVietnamese

-
- [1] Esperanto, Maltese, and Turkish. Turkish is now on 8859-9.
 - [2] Baltics. Now on 8859-10, except for Latvian.
 - [3] TIS 620 + Non-Breaking Space (0xA0 / U+00A0)
 - [4] Nicknamed Latin0; the Euro sign as well as French and Finnish letters that are missing from 8859-1 were added.

All cp* are also available as ibm-*, ms-*, and windows-*. See also L<<http://czyborra.com/charsets/codepages.html>>.

Macintosh encodings don't seem to be registered in such entities as IANA. "Canonical" names in Encode are based upon Apple's Tech Note 1150. See L<<http://developer.apple.com/technotes/tn/tn1150.html>> for details.

=item KOI8 - De Facto Standard for the Cyrillic world

Though ISO-8859 does have ISO-8859-5, the KOI8 series is far more popular in the Net. L<Encode> comes with the following KOI charsets. For gory details, see L<<http://czyborra.com/charsets/cyrillic.html>>

koi8-f	
koi8-r	cp878 [RFC1489]
koi8-u	[RFC2319]

=back

=head2 gsm0338 - Hentai Latin 1

GSM0338 is for GSM handsets. Though it shares alphanumerals with

ASCII, control character ranges and other parts are mapped very differently, mainly to store Greek characters. There are also escape sequences (starting with 0x1B) to cover e.g. the Euro sign.

This was once handled by L<Encode::Bytes> but because of all those unusual specifications, Encode 2.20 has relocated the support to L<Encode::GSM0338>. See L<Encode::GSM0338> for details.

=over 2

=item gsm0338 support before 2.19

Some special cases like a trailing 0x00 byte or a lone 0x1B byte are not well-defined and decode() will return an empty string for them. One possible workaround is

```
$gsm =~ s/\x00\z/\x00\x00/;
$uni = decode("gsm0338", $gsm);
$uni .= "\xA0" if $gsm =~ /\x1B\z/;
```

Note that the Encode implementation of GSM0338 does not implement the reuse of Latin capital letters as Greek capital letters (for example, the 0x5A is U+005A (LATIN CAPITAL LETTER Z), not U+0396 (GREEK CAPITAL LETTER ZETA)).

The GSM0338 is also covered in Encode::Byte even though it is not an "extended ASCII" encoding.

=back

=head2 CJK: Chinese, Japanese, Korean (Multibyte)

Note that Vietnamese is listed above. Also read "Encoding vs Charset" below. Also note that these are implemented in distinct modules by countries, due to the size concerns (simplified Chinese is mapped to 'CN', continental China, while traditional Chinese is mapped to 'TW', Taiwan). Please refer to their respective documentation pages.

=over 2

=item Encode::CN -- Continental China

Standard	DOS/Win Macintosh	Comment/Reference
euc-cn [1]	MacChineseSimp	
(gbk) cp936 [2]		
gb12345-raw		{ GB12345 without CES }

gb2312-raw { GB2312 without CES }

hz

iso-ir-165

[1] GB2312 is aliased to this. See L<Microsoft-related naming mess>

[2] gbk is aliased to this. See L<Microsoft-related naming mess>

=item Encode::JP -- Japan

Standard	DOS/Win Macintosh	Comment/Reference
----------	-------------------	-------------------

euc-jp

shiftjis cp932 macJapanese

7bit-jis

iso-2022-jp [RFC1468]

iso-2022-jp-1 [RFC2237]

jis0201-raw { JIS X 0201 (roman + halfwidth kana) without CES }

jis0208-raw { JIS X 0208 (Kanji + fullwidth kana) without CES }

jis0212-raw { JIS X 0212
(Extended Kanji) without CES }

=item Encode::KR -- Korea

Standard	DOS/Win Macintosh	Comment/Reference
----------	-------------------	-------------------

euc-kr MacKorean [RFC1557]

cp949 [1]

iso-2022-kr [RFC1557]

johab [KS X 1001:1998, Annex 3]

ksc5601-raw { KSC5601 without CES }

[1] ks_c_5601-1987, (x-)?windows-949, and uhc are aliased to this.

See below.

=item Encode::TW -- Taiwan

Standard	DOS/Win Macintosh	Comment/Reference
----------	-------------------	-------------------

big5-eten cp950 MacChineseTrad {big5 aliased to big5-eten}

big5-hkscs

=item Encode::HanExtra -- More Chinese via CPAN

Due to the size concerns, additional Chinese encodings below are distributed separately on CPAN, under the name Encode::HanExtra.

Standard	DOS/Win Macintosh	Comment/Reference
big5ext		CMEX's Big5e Extension
big5plus		CMEX's Big5+ Extension
ccii	Chinese Character Code for Information Interchange	
euc-tw		EUC (Extended Unix Character)
gb18030		GBK with Traditional Characters

=item Encode::JIS2K -- JIS X 0213 encodings via CPAN

Due to size concerns, additional Japanese encodings below are distributed separately on CPAN, under the name Encode::JIS2K.

Standard	DOS/Win Macintosh	Comment/Reference
----------	-------------------	-------------------

euc-jisx0213		
shiftjisx0123		
iso-2022-jp-3		
jis0213-1-raw		
jis0213-2-raw		

=back

=head2 Miscellaneous encodings

=over 2

=item Encode::EBCDIC

See L<perlebcdic> for details.

cp37		
cp500		
cp875		
cp1026		
cp1047		
posix-bc		

=item Encode::Symbols

For symbols and dingbats.

symbol
dingbats
MacDingbats
AdobeZdingbat
AdobeSymbol

=item Encode::MIME::Header

Strictly speaking, MIME header encoding documented in RFC 2047 is more of encapsulation than encoding. However, their support in modern world is imperative so they are supported.

MIME-Header [RFC2047]
MIME-B [RFC2047]
MIME-Q [RFC2047]

=item Encode::Guess

This one is not a name of encoding but a utility that lets you pick up the most appropriate encoding for a data out of given I<suspects>. See L<Encode::Guess> for details.

=back

=head1 Unsupported encodings

The following encodings are not supported as yet; some because they are rarely used, some because of technical difficulties. They may be supported by external modules via CPAN in the future, however.

=over 2

=item ISO-2022-JP-2 [RFC1554]

Not very popular yet. Needs Unicode Database or equivalent to implement encode() (because it includes JIS X 0208/0212, KSC5601, and GB2312 simultaneously, whose code points in Unicode overlap. So you need to lookup the database to determine to what character set a given Unicode character should belong).

=item ISO-2022-CN [RFC1922]

Not very popular. Needs CNS 11643-1 and -2 which are not available in this module. CNS 11643 is supported (via euc-tw) in Encode::HanExtra. Autrijus Tang may add support for this encoding in his module in future.

=item Various HP-UX encodings

The following are unsupported due to the lack of mapping data.

'8' - arabic8, greek8, hebrew8, kana8, thai8, and turkish8

'15' - japanese15, korean15, and roi15

=item Cyrillic encoding ISO-IR-111

Anton Tagunov doubts its usefulness.

=item ISO-8859-8-1 [Hebrew]

None of the Encode team knows Hebrew enough (ISO-8859-8, cp1255 and MacHebrew are supported because and just because there were mappings available at [L<http://www.unicode.org/>](http://www.unicode.org/)). Contributions welcome.

=item ISIRI 3342, Iran System, ISIRI 2900 [Farsi]

Ditto.

=item Thai encoding TCVN

Ditto.

=item Vietnamese encodings VPS

Though

Jungshik Shin has reported that Mozilla supports this encoding, it was too late before 5.8.0 for us to add it. In the future, it may be available via a separate module. See

[L<http://lxr.mozilla.org/seamoney/source/intl/uconv/ucvlatin/vps.uf>](http://lxr.mozilla.org/seamoney/source/intl/uconv/ucvlatin/vps.uf)

and

[L<http://lxr.mozilla.org/seamoney/source/intl/uconv/ucvlatin/vps.ut>](http://lxr.mozilla.org/seamoney/source/intl/uconv/ucvlatin/vps.ut)

if you are interested in helping us.

=item Various Mac encodings

The following are unsupported due to the lack of mapping data.

MacArmenian, MacBengali, MacBurmese, MacEthiopic

MacExtArabic, MacGeorgian, MacKannada, MacKhmer

MacLaotian, MacMalayalam, MacMongolian, MacOriya

MacSinhalese, MacTamil, MacTelugu, MacTibetan
MacVietnamese

The rest which are already available are based upon the vendor mappings at [L<http://www.unicode.org/Public/MAPPINGS/VENDORS/APPLE/>](http://www.unicode.org/Public/MAPPINGS/VENDORS/APPLE/) .

=item (Mac) Indic encodings

The maps for the following are available at [L<http://www.unicode.org/>](http://www.unicode.org/) but remain unsupported because those encodings need an algorithmical approach, currently unsupported by F<enc2xs>:

MacDevanagari
MacGurmukhi
MacGujarati

For details, please see C<Unicode mapping issues and notes:> at [L<http://www.unicode.org/Public/MAPPINGS/VENDORS/APPLE/DEVANAGA.TXT>](http://www.unicode.org/Public/MAPPINGS/VENDORS/APPLE/DEVANAGA.TXT) .

I believe this issue is prevalent not only for Mac Indics but also in other Indic encodings, but the above were the only Indic encodings maps that I could find at [L<http://www.unicode.org/>](http://www.unicode.org/) .

=back

=head1 Encoding vs. Charset -- terminology

We are used to using the term (character) I<encoding> and I<character set> interchangeably. But just as confusing the terms byte and character is dangerous and the terms should be differentiated when needed, we need to differentiate I<encoding> and I<character set>.

To understand that, here is a description of how we make computers grok our characters.

=over 2

=item *

First we start with which characters to include. We call this collection of characters I<character repertoire>.

=item *

Then we have to give each character a unique ID so your computer can tell the difference between 'a' and 'A'. This itemized character

repertoire is now a I<character set>.

=item *

If your computer can grow the character set without further processing, you can go ahead and use it. This is called a I<coded character set> (CCS) or I<raw character encoding>. ASCII is used this way for most cases.

=item *

But in many cases, especially multi-byte CJK encodings, you have to tweak a little more. Your network connection may not accept any data with the Most Significant Bit set, and your computer may not be able to tell if a given byte is a whole character or just half of it. So you have to I<encode> the character set to use it.

A I<character encoding scheme> (CES) determines how to encode a given character set, or a set of multiple character sets. 7bit ISO-2022 is an example of a CES. You switch between character sets via I<escape sequences>.

=back

Technically, or mathematically, speaking, a character set encoded in such a CES that maps character by character may form a CCS. EUC is such an example. The CES of EUC is as follows:

=over 2

=item *

Map ASCII unchanged.

=item *

Map such a character set that consists of 94 or 96 powered by N members by adding 0x80 to each byte.

=item *

You can also use 0x8e and 0x8f to indicate that the following sequence of characters belongs to yet another character set. To each following byte is added the value 0x80.

=back

By carefully looking at the encoded byte sequence, you can find that the byte sequence conforms to a unique number. In that sense, EUC is a CCS generated by a CES above from up to four CCS (complicated?). UTF-8 falls into this category. See [L<perlUnicode/"UTF-8">](#) to find out how UTF-8 maps Unicode to a byte sequence.

You may also have found out by now why 7bit ISO-2022 cannot comprise a CCS. If you look at a byte sequence `\x21\x21`, you can't tell if it is two '!'s or IDEOGRAPHIC SPACE. EUC maps the latter to `\xA1\xA1` so you have no trouble differentiating between "!!". and `S<" ">`.

=head1 Encoding Classification (by Anton Tagunov and Dan Kogai)

This section tries to classify the supported encodings by their applicability for information exchange over the Internet and to choose the most suitable aliases to name them in the context of such communication.

=over 2

=item *

To (en|de)code encodings marked by `C<(*)>`, you need `C<Encode::HanExtra>`, available from CPAN.

=back

Encoding names

US-ASCII UTF-8 ISO-8859-* KOI8-R
Shift_JIS EUC-JP ISO-2022-JP ISO-2022-JP-1
EUC-KR Big5 GB2312

are registered with IANA as preferred MIME names and may be used over the Internet.

`C<Shift_JIS>` has been officialized by JIS X 0208:1997.
[L<Microsoft-related naming mess>](#) gives details.

`C<GB2312>` is the IANA name for `C<EUC-CN>`.
See [L<Microsoft-related naming mess>](#) for details.

`C<GB_2312-80>` I<raw> encoding is available as `C<gb2312-raw>` with Encode. See [L<Encode::CN>](#) for details.

EUC-CN
KOI8-U

[RFC2319]

have not been registered with IANA (as of March 2002) but seem to be supported by major web browsers. The IANA name for C<EUC-CN> is C<GB2312>.

KS_C_5601-1987

is heavily misused.

See L<Microsoft-related naming mess> for details.

C<KS_C_5601-1987> I<raw> encoding is available as C<kcs5601-raw> with Encode. See L<Encode::KR> for details.

UTF-16 UTF-16BE UTF-16LE

are IANA-registered C<charset>s. See [RFC 2781] for details. Jungshik Shin reports that UTF-16 with a BOM is well accepted by MS IE 5/6 and NS 4/6. Beware however that

=over 2

=item *

C<UTF-16> support in any software you're going to be using/interoperating with has probably been less tested than C<UTF-8> support

=item *

C<UTF-8> coded data seamlessly passes traditional command piping (C<cat>, C<more>, etc.) while C<UTF-16> coded data is likely to cause confusion (with its zero bytes, for example)

=item *

it is beyond the power of words to describe the way HTML browsers encode non-C<ASCII> form

data. To get a general impression, visit

L<<http://www.alanflavell.org.uk/charset/form-i18n.html>>.

While encoding of form data has stabilized for C<UTF-8> encoded pages (at least IE 5/6, NS 6, and Opera 6 behave consistently), be sure to expect fun (and cross-browser discrepancies) with C<UTF-16> encoded pages!

=back

The rule of thumb is to use C<UTF-8> unless you know what you're doing and unless you really benefit from using C<UTF-16>.

ISO-IR-165 [RFC1345]

VISCII

GB 12345

GB 18030 (**) (see links bellow)

EUC-TW (**)

are totally valid encodings but not registered at IANA.

The names under which they are listed here are probably the most widely-known names for these encodings and are recommended names.

BIG5PLUS (**)

is a proprietary name.

=head2 Microsoft-related naming mess

Microsoft products misuse the following names:

=over 2

=item KS_C_5601-1987

Microsoft extension to C<EUC-KR>.

Proper names: C<CP949>, C<UHC>, C<x-windows-949> (as used by Mozilla).

See

L<<http://lists.w3.org/Archives/Public/ietf-charsets/2001AprJun/0033.html>> for details.

Encode aliases C<KS_C_5601-1987> to C<cp949> to reflect this common misuse. I<Raw> C<KS_C_5601-1987> encoding is available as C<kcs5601-raw>.

See L<Encode::KR> for details.

=item GB2312

Microsoft extension to C<EUC-CN>.

Proper names: C<CP936>, C<GBK>.

C<GB2312> has been registered in the C<EUC-CN> meaning at IANA. This has partially repaired the situation: Microsoft's

C<GB2312> has become a superset of the official C<GB2312>.

Encode aliases C<GB2312> to C<euc-cn> in full agreement with IANA registration. C<cp936> is supported separately. I<Raw> C<GB_2312-80> encoding is available as C<gb2312-raw>.

See L<Encode::CN> for details.

=item Big5

Microsoft extension to C<Big5>.

Proper name: C<CP950>.

Encode separately supports C<Big5> and C<cp950>.

=item Shift_JIS

Microsoft's understanding of C<Shift_JIS>.

JIS has not endorsed the full Microsoft standard however. The official C<Shift_JIS> includes only JIS X 0201 and JIS X 0208 character sets, while Microsoft has always used C<Shift_JIS> to encode a wider character repertoire. See C<IANA> registration for C<Windows-31J>.

As a historical predecessor, Microsoft's variant probably has more rights for the name, though it may be objected that Microsoft shouldn't have used JIS as part of the name in the first place.

Unambiguous name: C<CP932>. C<IANA> name (also used by Mozilla, and provided as an alias by Encode): C<Windows-31J>.

Encode separately supports C<Shift_JIS> and C<cp932>.

=back

=head1 Glossary

=over 2

=item character repertoire

A collection of unique characters. A I<character> set in the strictest sense. At this stage, characters are not numbered.

=item coded character set (CCS)

A character set that is mapped in a way computers can use directly. Many character encodings, including EUC, fall in this category.

=item character encoding scheme (CES)

An algorithm to map a character set to a byte sequence.

You don't

have to be able to tell which character set a given byte sequence belongs to. 7-bit ISO-2022 is a CES but it cannot be a CCS. EUC is an example of being both a CCS and CES.

=item charset (in MIME context)

has long been used in the meaning of C<encoding>, CES.

While the word combination C<character set> has lost this meaning in MIME context since [RFC 2130], the C<charset> abbreviation has retained it. This is how [RFC 2277] and [RFC 2278] bless C<charset>:

This document uses the term "charset" to mean a set of rules for mapping from a sequence of octets to a sequence of characters, such as the combination of a coded character set and a character encoding scheme; this is also what is used as an identifier in MIME "charset=" parameters, and registered in the IANA charset registry ... (Note that this is NOT a term used by other standards bodies, such as ISO). [RFC 2277]

=item EUC

Extended Unix Character. See ISO-2022.

=item ISO-2022

A CES that was carefully designed to coexist with ASCII. There are a 7 bit version and an 8 bit version.

The 7 bit version switches character set via escape sequence so it cannot form a CCS. Since this is more difficult to handle in programs than the 8 bit version, the 7 bit version is not very popular except for iso-2022-jp, the I<de facto> standard CES for e-mails.

The 8 bit version can form a CCS. EUC and ISO-8859 are two examples thereof. Pre-5.6 perl could use them as string literals.

=item UCS

Short for I<Universal Character Set>. When you say just UCS, it means I<Unicode>.

=item UCS-2

ISO/IEC 10646 encoding form: Universal Character Set coded in two octets.

=item Unicode

A character set that aims to include all character repertoires of the world. Many character sets in various national as well as industrial standards have become, in a way, just subsets of Unicode.

=item UTF

Short for I<Unicode Transformation Format>. Determines how to map a Unicode character into a byte sequence.

=item
UTF-16

A UTF in 16-bit encoding. Can either be in big endian or little endian. The big endian version is called UTF-16BE (equal to UCS-2 + surrogate support) and the little endian version is called UTF-16LE.

=back

=head1 See Also

L<Encode>,
L<Encode::Byte>,
L<Encode::CN>, L<Encode::JP>, L<Encode::KR>, L<Encode::TW>,
L<Encode::EBCDIC>, L<Encode::Symbol>
L<Encode::MIME::Header>, L<Encode::Guess>

=head1 References

=over 2

=item ECMA

European Computer Manufacturers Association
L<<http://www.ecma.ch>>

=over 2

=item ECMA-035 (eq C<ISO-2022>)

L<<http://www.ecma.ch/ecma1/STAND/ECMA-035.HTM>>

The specification of ISO-2022 is available from the link above.

=back

=item IANA

Internet Assigned Numbers Authority

L<<http://www.iana.org/>>

=over 2

=item Assigned Charset Names by IANA

L<<http://www.iana.org/assignments/character-sets>>

Most of the C<canonical names> in Encode derive from this list so you can directly apply the string you have extracted from MIME header of mails and web pages.

=back

=item ISO

International Organization for Standardization

L<<http://www.iso.ch/>>

=item RFC

Request For Comments -- need I say more?

L<<http://www.rfc-editor.org/>>, L<<http://www.ietf.org/rfc.html>>,

L<<http://www.faqs.org/rfcs/>>

=item UC

Unicode Consortium

L<<http://www.unicode.org/>>

=over 2

=item Unicode Glossary

L<<http://www.unicode.org/glossary/>>

The glossary of this document is based upon this site.

=back

=back

=head2 Other Notable Sites

=over 2

=item czyborra.com

L<<http://czyborra.com/>>

Contains a lot of useful information, especially gory details of ISO vs. vendor mappings.

=item CJK.inf

L<<http://examples.oreilly.com/cjkvinfo/doc/cjk.inf>>

Somewhat obsolete (last update in 1996), but still useful. Also try

L<ftp://ftp.oreilly.com/pub/examples/nutshell/cjkv/pdf/GB18030_Summary.pdf>

You will find brief info on C<EUC-CN>, C<GBK> and mostly on C<GB 18030>.

=item Jungshik Shin's Hangul FAQ

L<<http://jshin.net/faq>>

And especially its subject 8.

L<<http://jshin.net/faq/qa8.html>>

A comprehensive overview of the Korean (C<KS *>) standards.

=item debian.org: "Introduction to i18n"

A brief description for most of the mentioned CJK encodings is contained in

L<<http://www.debian.org/doc/manuals/intro-i18n/ch-codes.en.html>>

=back

=head2 Offline sources

=over 2

=item C<CJKV Information Processing> by Ken Lunde

CJKV Information Processing

1999 O'Reilly & Associates, ISBN : 1-56592-224-7

The modern successor of C<CJK.inf>.

Features a comprehensive coverage of CJKV character sets and encodings along with many other issues faced by anyone trying to better support CJKV languages/scripts in all the areas of information processing.

To purchase this book, visit

L<<http://oreilly.com/catalog/9780596514471/>>

or your favourite bookstore.

=back

=cut

Found in path(s):

* /opt/cola/permits/1150898667_1634081264.27/0/perl-Encode-2.51-7.amzn2.0.2.src.rpm-cosi-expand-archive-QIJwYAqk/Encode-2.51.tar.gz-cosi-expand-archive-Iq04yQJg/Encode-2.51/lib/Encode/Supported.pod

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

License: GPL+ or Artistic

Found in path(s):

* /opt/cola/permits/1150898667_1634081264.27/0/perl-Encode-2.51-7.amzn2.0.2.src.rpm-cosi-expand-archive-QIJwYAqk/perl-Encode.spec

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

=head1 NAME

Encode - character encodings in Perl

=head1 SYNOPSIS

```
use Encode qw(decode encode);
$characters = decode('UTF-8', $octets, Encode::FB_CROAK);
$octets     = encode('UTF-8', $characters, Encode::FB_CROAK);
```

=head2 Table of Contents

Encode consists of a collection of modules whose details are too extensive to fit in one document. This one itself explains the top-level APIs

and general topics at a glance. For other topics and more details, see the documentation for these modules:

=over 2

=item L<Encode::Alias> - Alias definitions to encodings

=item L<Encode::Encoding> - Encode Implementation Base Class

=item L<Encode::Supported> - List of Supported Encodings

=item L<Encode::CN> - Simplified Chinese Encodings

=item L<Encode::JP> - Japanese Encodings

=item L<Encode::KR> - Korean Encodings

=item L<Encode::TW> - Traditional Chinese Encodings

=back

=head1 DESCRIPTION

The C<Encode> module provides the interface between Perl strings and the rest of the system. Perl strings are sequences of I<characters>.

The repertoire of characters that Perl can represent is a superset of those defined by the Unicode Consortium. On most platforms the ordinal values of a character as returned by C<ord(I<S>)> is the I<Unicode codepoint> for that character. The exceptions are platforms where the legacy encoding is some variant of EBCDIC rather than a superset of ASCII; see L<perlebcdic>.

During recent history, data is moved around a computer in 8-bit chunks, often called "bytes" but also known as "octets" in standards documents. Perl is widely used to manipulate data of many types: not only strings of characters representing human or computer languages, but also "binary" data, being the machine's representation of numbers, pixels in an image, or just about anything.

When Perl is processing "binary data", the programmer wants Perl to process "sequences of bytes". This is not a problem for Perl: because a byte has 256 possible values, it easily fits in Perl's much larger "logical character".

This document mostly explains the [I<how>](#). [L<perlunitut>](#) and [L<perlunifaq>](#) explain the [I<why>](#).

=head2 TERMINOLOGY

=head3 character

A character in the range 0 .. 2**32-1 (or more);
what Perl's strings are made of.

=head3 byte

A character in the range 0..255;
a special case of a Perl character.

=head3 octet

8 bits of data, with ordinal values 0..255;
term for bytes passed to or from a non-Perl context, such as a disk file,
standard I/O stream, database, command-line argument, environment variable,
socket etc.

=head1 THE PERL ENCODING API

=head2 Basic methods

=head3 encode

```
$octets = encode(ENCODING, STRING[, CHECK])
```

Encodes the scalar value [I<STRING>](#) from Perl's internal form into [I<ENCODING>](#) and returns a sequence of octets. [I<ENCODING>](#) can be either a canonical name or an alias. For encoding names and aliases, see [L</"Defining Aliases">](#). For [CHECK](#), see [L</"Handling Malformed Data">](#).

For example, to convert a string from Perl's internal format into ISO-8859-1, also known as Latin1:

```
$octets = encode("iso-8859-1", $string);
```

B<CAVEAT>: When you run `C<$octets = encode("utf8", $string)>`, then `$octets` [I<might not be equal to>](#) `$string`. Though both contain the same data, the UTF8 flag for `$octets` is [I<always>](#) off. When you encode anything, the UTF8 flag on the result is always off, even when it contains a completely valid utf8 string. See [L</"The UTF8 flag">](#) below.

If the `$string` is `C<undef>`, then `C<undef>` is returned.

=head3 decode

```
$string = decode(ENCODING, OCTETS[, CHECK])
```

This function returns the string that results from decoding the scalar value I<OCTETS>, assumed to be a sequence of octets in I<ENCODING>, into Perl's internal form. The returns the resulting string. As with encode(), I<ENCODING> can be either a canonical name or an alias. For encoding names and aliases, see L</"Defining Aliases">; for I<CHECK>, see L</"Handling Malformed Data">.

For example, to convert ISO-8859-1 data into a string in Perl's internal format:

```
$string = decode("iso-8859-1", $octets);
```

B<CAVEAT>: When you run C<\$string = decode("utf8", \$octets)>, then \$string I<might not be equal to> \$octets. Though both contain the same data, the UTF8 flag for \$string is on unless \$octets consists entirely of ASCII data on ASCII machines or EBCDIC on EBCDIC machines. See L</"The UTF8 flag"> below.

If the \$string is C<undef>, then C<undef> is returned.

=head3 find_encoding

```
[$obj =] find_encoding(ENCODING)
```

Returns the I<encoding object> corresponding to I<ENCODING>. Returns C<undef> if no matching I<ENCODING> is found. The returned object is what does the actual encoding or decoding.

```
$utf8 = decode($name, $bytes);
```

is in fact

```
$utf8 = do {  
    $obj = find_encoding($name);  
    croak qq(encoding "$name" not found) unless ref $obj;  
    $obj->decode($bytes);  
};
```

with more error checking.

You can therefore save time

by reusing this object as follows;

```
my $enc = find_encoding("iso-8859-1");
while(<>) {
    my $utf8 = $enc->decode($_);
    ... # now do something with $utf8;
}
```

Besides `L</decode>` and `L</encode>`, other methods are available as well. For instance, `C<name()>` returns the canonical name of the encoding object.

```
find_encoding("latin1")->name; # iso-8859-1
```

See `L<Encode::Encoding>` for details.

```
=head3 from_to
```

```
[$length =] from_to($octets, FROM_ENC, TO_ENC [, CHECK])
```

Converts `I<in-place>` data between two encodings. The data in `$octets` must be encoded as octets and `I<not>` as characters in Perl's internal format. For example, to convert ISO-8859-1 data into Microsoft's CP1250 encoding:

```
from_to($octets, "iso-8859-1", "cp1250");
```

and to convert it back:

```
from_to($octets, "cp1250", "iso-8859-1");
```

Because the conversion happens in place, the data to be converted cannot be a string constant: it must be a scalar variable.

`C<from_to()>` returns the length of the converted string in octets on success, and `C<undef>` on error.

B<CAVEAT>: The following operations may look the same, but are not:

```
from_to($data, "iso-8859-1", "utf8"); #1
$data = decode("iso-8859-1", $data); #2
```

Both `#1` and `#2` make `$data` consist of a completely valid UTF-8 string, but only `#2` turns the UTF8 flag on. `#1` is equivalent to:

```
$data = encode("utf8", decode("iso-8859-1", $data));
```

See [L</"The UTF8 flag">](#) below.

Also note that:

```
from_to($octets, $from, $to, $check);
```

is equivalent to:

```
$octets = encode($to, decode($from, $octets), $check);
```

Yes, it does *not* respect the `$check` during decoding. It is deliberately done that way. If you need minute control, use `C<decode>` followed by `C<encode>` as follows:

```
$octets = encode($to, decode($from, $octets, $check_from), $check_to);
```

```
=head3 encode_utf8
```

```
$octets = encode_utf8($string);
```

Equivalent to `C<$octets = encode("utf8", $string)>`. The characters in `$string` are encoded in Perl's internal format, and the result is returned as a sequence of octets. Because all possible characters in Perl have a (loose, not strict) UTF-8 representation, this function cannot fail.

```
=head3 decode_utf8
```

```
$string = decode_utf8($octets [, CHECK]);
```

Equivalent to `C<$string = decode("utf8", $octets [, CHECK])>`. The sequence of octets represented by `$octets` is decoded from UTF-8 into a sequence of logical characters. Because not all sequences of octets are valid UTF-8, it is quite possible for this function to fail. For `CHECK`, see [L</"Handling Malformed Data">](#).

```
=head2 Listing available encodings
```

```
use Encode;
@list = Encode->encodings();
```

Returns a list of canonical names of available encodings that have already been loaded. To get a list of all available encodings including those that have not yet been loaded, say:

```
@all_encodings = Encode->encodings(":all");
```

Or you can give the name of a specific module:

```
@with_jp = Encode->encodings("Encode::JP");
```

When "C<::>" is not in the name, "C<Encode::>" is assumed.

```
@ebcdic = Encode->encodings("EBCDIC");
```

To find out in detail which encodings are supported by this package, see L<Encode::Supported>.

=head2 Defining Aliases

To add a new alias to a given encoding, use:

```
use Encode;
use Encode::Alias;
define_alias(NEWNAME => ENCODING);
```

After that, I<NEWNAME> can be used as an alias for I<ENCODING>. I<ENCODING> may be either the name of an encoding or an I<encoding object>.

Before you do that, first make sure the alias is nonexistent using C<resolve_alias()>, which returns the canonical name thereof.

For example:

```
Encode::resolve_alias("latin1") eq "iso-8859-1" # true
Encode::resolve_alias("iso-8859-12") # false; nonexistent
Encode::resolve_alias($name) eq $name # true if $name is canonical
```

C<resolve_alias()> does not need C<use Encode::Alias>; it can be imported via C<use Encode qw(resolve_alias)>.

See L<Encode::Alias> for details.

=head2 Finding IANA Character Set Registry names

The canonical name of a given encoding does not necessarily agree with IANA Character Set Registry, commonly seen as C<< Content-Type: text/plain; charset=I<WHATEVER> >>. For most cases, the canonical name works, but sometimes it does not, most notably with "utf-8-strict".

As of C<Encode> version 2.21, a new method C<mime_name()> is therefore added.

```
use Encode;
my $enc = find_encoding("UTF-8");
```



```
warn $enc->name;    # utf-8-strict
warn $enc->mime_name; # UTF-8
```

See also: [L<Encode::Encoding>](#)

=head1 Encoding via PerlIO

If your perl supports [C<PerlIO>](#) (which is the default), you can use a [C<PerlIO>](#) layer to decode and encode directly via a filehandle. The following two examples are fully identical in functionality:

Version 1 via PerlIO

```
open(INPUT, "< :encoding(shiftjis)", $infile)
    || die "Can't open < $infile for reading: $!";
open(OUTPUT, "> :encoding(euc-jp)", $outfile)
    || die "Can't open > $outfile for writing: $!";
while (<INPUT>) { # auto decodes $_
    print OUTPUT;
# auto encodes $_
}
close(INPUT) || die "can't close $infile: $!";
close(OUTPUT) || die "can't close $outfile: $!";
```

Version 2 via from_to()

```
open(INPUT, "< :raw", $infile)
    || die "Can't open < $infile for reading: $!";
open(OUTPUT, "> :raw", $outfile)
    || die "Can't open > $outfile for writing: $!";

while (<INPUT>) {
    from_to($_, "shiftjis", "euc-jp", 1); # switch encoding
    print OUTPUT; # emit raw (but properly encoded) data
}
close(INPUT) || die "can't close $infile: $!";
close(OUTPUT) || die "can't close $outfile: $!";
```

In the first version above, you let the appropriate encoding layer handle the conversion. In the second, you explicitly translate from one encoding to the other.

Unfortunately, it may be that encodings are [C<PerlIO>](#)-savvy. You can check to see whether your encoding is supported by [C<PerlIO>](#) by invoking the [C<perlio_ok>](#) method on it:

```
Encode::perlio_ok("hz");    # false
find_encoding("euc-cn")->perlio_ok;
# true wherever PerlIO is available
```

```
use Encode qw(perlio_ok);      # imported upon request
perlio_ok("euc-jp")
```

Fortunately, all encodings that come with C<Encode> core are C<PerlIO>-savvy except for C<hz> and C<ISO-2022-kr>. For the gory details, see L<Encode::Encoding> and L<Encode::PerlIO>.

=head1 Handling Malformed Data

The optional I<CHECK> argument tells C<Encode> what to do when encountering malformed data. Without I<CHECK>, C<Encode::FB_DEFAULT> (== 0) is assumed.

As of version 2.12, C<Encode> supports coderef values for C<CHECK>; see below.

B<NOTE:> Not all encodings support this feature. Some encodings ignore the I<CHECK> argument. For example, L<Encode::Unicode> ignores I<CHECK> and it always croaks on error.

=head2 List of I<CHECK> values

=head3 FB_DEFAULT

I<CHECK> = Encode::FB_DEFAULT (== 0)

If I<CHECK> is 0, encoding and decoding replace any malformed character with a I<substitution character>. When you encode, I<SUBCHAR> is used.

When you decode, the Unicode REPLACEMENT CHARACTER, code point U+FFFD, is used. If the data is supposed to be UTF-8, an optional lexical warning of warning category C<"utf8"> is given.

=head3 FB_CROAK

I<CHECK> = Encode::FB_CROAK (== 1)

If I<CHECK> is 1, methods immediately die with an error message. Therefore, when I<CHECK> is 1, you should trap exceptions with C<eval{ }>, unless you really want to let it C<die>.

=head3 FB_QUIET

I<CHECK> = Encode::FB_QUIET

If I<CHECK> is set to C<Encode::FB_QUIET>, encoding and decoding immediately return the portion of the data that has been processed so far when an error occurs. The data argument is overwritten with everything

after that point; that is, the unprocessed portion of the data. This is handy when you have to call `C<decode>` repeatedly in the case where your source data may contain partial multi-byte character sequences, (that is, you are reading with a fixed-width buffer). Here's some sample code to do exactly that:

```
my($buffer, $string) = ("", "");
while (read($fh, $buffer, 256, length($buffer))) {
    $string .= decode($encoding, $buffer, Encode::FB_QUIET);
    # $buffer now contains the unprocessed partial character
}
```

```
=head3 FB_WARN
```

```
I<CHECK> = Encode::FB_WARN
```

This is the same as `C<FB_QUIET>` above, except that instead of being silent on errors, it issues a warning. This is handy for when you are debugging.

```
=head3 FB_PERLQQ FB_HTMLCREF FB_XMLCREF
```

```
=over 2
```

```
=item perlqq mode (I<CHECK> = Encode::FB_PERLQQ)
```

```
=item HTML charref mode (I<CHECK> = Encode::FB_HTMLCREF)
```

```
=item XML charref mode (I<CHECK> = Encode::FB_XMLCREF)
```

```
=back
```

For encodings that are implemented by the `C<Encode::XS>` module, `C<CHECK>` `C<==>` `C<Encode::FB_PERLQQ>` puts `C<encode>` and `C<decode>` into `C<perlqq>` fallback mode.

When you decode, `C<\xI<HH>>` is inserted for a malformed character, where `I<HH>` is the hex representation of the octet that could not be decoded to utf8. When you encode, `C<\x{I<HHHH>}>` will be inserted, where `I<HHHH>` is the Unicode code point (in any number of hex digits) of the character that cannot be found in the character repertoire of the encoding.

The HTML/XML character reference modes are about the same. In place of `C<\x{I<HHHH>}>`, HTML uses `C<&#I<NNN>;>` where `I<NNN>` is a decimal number, and XML uses `C<&#xI<HHHH>;>` where `I<HHHH>` is the hexadecimal number.

In `C<Encode>` 2.10 or later, `C<LEAVE_SRC>` is also implied.

=head3 The bitmask

These modes are all actually set via a bitmask. Here is how the C<FB_I<XXX>> constants are laid out. You can import the C<FB_I<XXX>> constants via C<use Encode qw(:fallbacks)>, and you can import the generic bitmask constants via C<use Encode qw(:fallback_all)>.

```
          FB_DEFAULT FB_CROAK FB_QUIET FB_WARN FB_PERLQQ
DIE_ON_ERR  0x0001      X
WARN_ON_ERR  0x0002                X
RETURN_ON_ERR 0x0004          X   X
LEAVE_SRC    0x0008
            X
PERLQQ       0x0100                X
HTMLCREF    0x0200
XMLCREF     0x0400
```

=head3 LEAVE_SRC

Encode::LEAVE_SRC

If the C<Encode::LEAVE_SRC> bit is I<not> set but I<CHECK> is set, then the source string to encode() or decode() will be overwritten in place.

If you're not interested in this, then bitwise-OR it with the bitmask.

=head2 coderef for CHECK

As of C<Encode> 2.12, C<CHECK> can also be a code reference which takes the ordinal value of the unmapped character as an argument and returns a string that represents the fallback character. For instance:

```
$ascii = encode("ascii", $utf8, sub{ sprintf "<U+%04X>", shift });
```

Acts like C<FB_PERLQQ> but U+I<XXXX> is used instead of C<\x{I<XXXX>}>.

=head1 Defining Encodings

To define a new encoding, use:

```
use Encode qw(define_encoding);
define_encoding($object, CANONICAL_NAME [, alias...]);
```

I<CANONICAL_NAME> will be associated with I<\$object>. The object should provide the interface described in L<Encode::Encoding>.

If more than two arguments are provided, additional arguments are considered aliases for I<\$object>.

See L<Encode::Encoding> for details.

=head1 The UTF8 flag

Before the introduction of Unicode support in Perl, The C<eq> operator just compared the strings represented by two scalars. Beginning with Perl 5.8, C<eq> compares two strings with simultaneous consideration of I<the UTF8 flag>. To explain why we made it so, I quote from page 402 of I<Programming Perl, 3rd ed.>

=over 2

=item Goal #1:

Old byte-oriented programs should not spontaneously break on the old byte-oriented data they used to work on.

=item Goal #2:

Old byte-oriented programs should magically start working on the new character-oriented data when appropriate.

=item Goal #3:

Programs should run just as fast in the new character-oriented mode as in the old byte-oriented mode.

=item Goal #4:

Perl should remain one language, rather than forking into a byte-oriented Perl and a character-oriented Perl.

=back

When I<Programming Perl, 3rd ed.> was written, not even Perl 5.6.0 had been born yet, many features documented in the book remained unimplemented for a long time. Perl 5.8 corrected much of this, and the introduction of the UTF8 flag is one of them. You can think of there being two fundamentally different kinds of strings and string-operations in Perl: one a byte-oriented mode for when the internal UTF8 flag is off, and the other a character-oriented mode for when the internal UTF8 flag is on.

Here is how C<Encode> handles the UTF8 flag.

=over 2

=item *

When you I<encode>, the resulting UTF8 flag is always B<off>.

=item *

When you I<decode>, the resulting UTF8 flag is B<on>--I<unless> you can unambiguously represent data. Here is what we mean by "unambiguously". After C<\$utf8 = decode("foo", \$octet)>,

When \$octet is... The UTF8 flag in \$utf8 is

In ASCII only (or EBCDIC only) OFF

In ISO-8859-1 ON

In any other Encoding ON

As you see, there is one exception: in ASCII. That way you can assume Goal #1. And with C<Encode>, Goal #2 is assumed but you still have to be careful in the cases mentioned in the B<CAVEAT> paragraphs above.

This UTF8 flag is not visible in Perl scripts, exactly for the same reason you cannot (or rather, you I<don't have to>) see whether a scalar contains a string, an integer, or a floating-point number. But you can still peek and poke these if you will. See the next section.

=back

=head2 Messing with Perl's Internals

The following API uses parts of Perl's internals in the current implementation. As such, they are efficient but may change in a future release.

=head3 is_utf8

is_utf8(*STRING* [, *CHECK*])

[INTERNAL] Tests whether the UTF8 flag is turned on in the I<STRING>. If I<CHECK> is true, also checks whether I<STRING> contains well-formed UTF-8.

Returns true if successful, false otherwise.

As of Perl 5.8.1, L<utf8> also has the C<utf8::is_utf8> function.

=head3 _utf8_on

_utf8_on(*STRING*)

[INTERNAL] Turns the I<STRING>'s internal UTF8 flag B<on>. The I<STRING> is I<not> checked for containing only well-formed UTF-8. Do not use this unless you I<know with absolute certainty> that the STRING holds only well-formed UTF-8. Returns the previous state of the UTF8 flag (so please don't treat the return value as indicating success or failure), or C<undef> if I<STRING> is not a string.

B<NOTE>: For security reasons, this function does not work on tainted values.

=head3 _utf8_off

_utf8_off(STRING)

[INTERNAL] Turns the I<STRING>'s internal UTF8 flag B<off>. Do not use frivolously. Returns the previous state of the UTF8 flag, or C<undef> if I<STRING> is not a string. Do not treat the return value as indicative of success or failure, because that isn't what it means: it is only the previous setting.

B<NOTE>:

For security reasons, this function does not work on tainted values.

=head1 UTF-8 vs. utf8 vs. UTF8

...We now view strings not as sequences of bytes, but as sequences of numbers in the range 0 .. 2**32-1 (or in the case of 64-bit computers, 0 .. 2**64-1) -- Programming Perl, 3rd ed.

That has historically been Perl's notion of UTF-8, as that is how UTF-8 was first conceived by Ken Thompson when he invented it. However, thanks to later revisions to the applicable standards, official UTF-8 is now rather stricter than that. For example, its range is much narrower (0 .. 0x10_FFFF to cover only 21 bits instead of 32 or 64 bits) and some sequences are not allowed, like those used in surrogate pairs, the 31 non-character code points 0xFDD0 .. 0xFDEF, the last two code points in I<any> plane (0xI<XX>_FFFE and 0xI<XX>_FFFF), all non-shortest encodings, etc.

The former default in which Perl would always use a loose interpretation of UTF-8 has now been overruled:

From: Larry Wall
<larry@wall.org>
Date: December 04, 2004 11:51:58 JST
To: perl-unicode@perl.org
Subject: Re: Make Encode.pm support the real UTF-8
Message-Id: <20041204025158.GA28754@wall.org>

On Fri, Dec 03, 2004 at 10:12:12PM +0000, Tim Bunce wrote:
: I've no problem with 'utf8' being perl's unrestricted utf8 encoding,
: but "UTF-8" is the name of the standard and should give the
: corresponding behaviour.

For what it's worth, that's how I've always kept them straight in my head.

Also for what it's worth, Perl 6 will mostly default to strict but make it easy to switch back to lax.

Larry

Got that? As of Perl 5.8.7, B<"UTF-8"> means UTF-8 in its current sense, which is conservative and strict and security-conscious, whereas B<"utf8"> means UTF-8 in its former sense, which was liberal and loose and lax. C<Encode> version 2.10 or later thus groks this subtle but critically important distinction between C<"UTF-8"> and C<"utf8">.

```
encode("utf8", "\x{FFFF_FFFF}", 1); #  
okay  
encode("UTF-8", "\x{FFFF_FFFF}", 1); # croaks
```

In the C<Encode> module, C<"UTF-8"> is actually a canonical name for C<"utf-8-strict">. That hyphen between the C<"UTF"> and the C<"8"> is critical; without it, C<Encode> goes "liberal" and (perhaps overly-)permissive:

```
find_encoding("UTF-8")->name # is 'utf-8-strict'  
find_encoding("utf-8")->name # ditto. names are case insensitive  
find_encoding("utf_8")->name # ditto. "_" are treated as "-"  
find_encoding("UTF8")->name # is 'utf8'.
```

Perl's internal UTF8 flag is called "UTF8", without a hyphen. It indicates whether a string is internally encoded as "utf8", also without a hyphen.

=head1 SEE ALSO

L<Encode::Encoding>,
L<Encode::Supported>,
L<Encode::PerlIO>,
L<encoding>,
L<perlebcdic>,
L<perlfunc/open>,
L<perlunicode>, L<perluniintro>, L<perlunifaq>, L<perlunitut>
L<utf8>,
the Perl Unicode Mailing List L<<http://lists.perl.org/list/perl-unicode.html>>

=head1 MAINTAINER

This project was originated by the late Nick Ing-Simmons and later maintained by Dan Kogai I<< <dankogai@cpan.org> >>. See AUTHORS for a full list of people involved. For any questions, send mail to I<< <perl-unicode@perl.org> >> so that we can all share.

While Dan Kogai retains the copyright as a maintainer, credit should go to all those involved. See AUTHORS for a list of those who submitted code to the project.

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=cut

Found in path(s):

* /opt/cola/permits/1150898667_1634081264.27/0/perl-Encode-2.51-7.amzn2.0.2.src.rpm-cosi-expand-archive-QlJwYk/Encode-2.51.tar.gz-cosi-expand-archive-Iq04yQJg/Encode-2.51/Encode.pm

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

Encode::\$_Name_ version 0.1

=====

NAME

Encode::\$_Name_ - <describe encoding>

SYNOPSIS

use Encode::\$_Name_;
#<put more words here>

ABSTRACT

<fill this in>

INSTALLATION

To install this module type the following:

```
perl Makefile.PL
make
make test
make install
```

DEPENDENCIES

This module requires perl version 5.7.3 or later.

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Found in path(s):

* /opt/cola/permits/1150898667_1634081264.27/0/perl-Encode-2.51-7.amzn2.0.2.src.rpm-cosi-expand-archive-QlJwYAqk/Encode-2.51.tar.gz-cosi-expand-archive-Iq04yQJg/Encode-2.51/Encode/README.e2x

1.92 zip 3.0-11.amzn2.0.2

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RECORD

Carriage_Control carriage_return

Format stream_lf

1.93 botocore 1.12.253

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1.94 python-setuptools 47.1.0

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1.95 tenacity 7.0.0

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1.96 uptime 3.0.1

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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.

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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.

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That's all there is to it!

1.102 python-setuptools 49.1.3

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1.103 pycurl 7.43.0.5

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1.104 urllib3 1.25.11

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- * Ioannis Tziakos <mail@itziakos.gr>
 - * Fix ``util.selectors._fileobj_to_fd`` to accept ``long``.
 - * Update appveyor tox setup to use the 64bit python.

- * Akamai
(through Jess Shapiro) <jshapiro@akamai.com>
 - * Ongoing maintenance; 2017-2018

- * Dominique Leuenberger <dimstar@opensuse.org>

- * Minor fixes in the test suite

- * Will Bond <will@wbond.net>
- * Add Python 2.6 support to ``contrib.securetransport``

- * Aleksei Alekseev <alekseev.yeskela@gmail.com>
- * using auth info for socks proxy

- * Chris Wilcox <git@crwilcox.com>
- * Improve contribution guide
- * Add ``HTTPResponse.geturl`` method to provide ``urllib2.urlopen().geturl()`` behavior

- * Bruce Merry <https://www.brucemerry.org.za>
- * Fix leaking exceptions when system calls are interrupted with zero timeout

- * Hugo van Kemenade <https://github.com/hugovk>
- * Drop support for EOL Python 2.6

- * Tim Bell <https://github.com/timb07>
- * Bugfix for responses with Content-Type: message/* logging warnings

- * Justin Bramley <https://github.com/jbramleycl>
- * Add ability to handle multiple Content-Encodings

- * Katsuhiko YOSHIDA <https://github.com/kyoshidajp>
- * Remove Authorization header
regardless of case when redirecting to cross-site

- * James Meickle <https://permadeath.com/>
- * Improve handling of Retry-After header

- * Chris Jerdonek <chris.jerdonek@gmail.com>
- * Remove a spurious TypeError from the exception chain inside
HTTPConnectionPool._make_request(), also for BaseExceptions.

- * Jorge Lopez Silva <https://github.com/jalopezsilva>
- * Added support for forwarding requests through HTTPS proxies.

- * Benno Rice <benno@jeamland.net>
- * Allow cadata parameter to be passed to underlying ``SSLContext.load_verify_locations()``.

- * Keiichi Kobayashi <abok.1k@gmail.com>
- * Rename VerifiedHTTPSConnection to HTTPSConnection

- * Himanshu Garg <garg_himanshu@outlook.com>
- * DOC & LICENSE Update

- * Hod Bin Noon <bin.noon.hod@gmail.com>

- * Test improvements

- * Chris Olufson <tycarac@gmail.com>
- * Fix for connection not being released on HTTP redirect and response not preloaded

- * [Bastiaan Bakker] <https://github.com/bastiaanb>
- * Support for logging session keys
via environment variable ``SSLKEYLOGFILE`` (Python 3.8+)

- * [Your name or handle] <[email or website]>
- * [Brief summary of your changes]

1.105 rsa 4.7.2

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1.106 mock 1.0.1

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(through Jess Shapiro) <jshapiro@akamai.com>
 - * Ongoing maintenance; 2017-2018

- * Dominique Leuenberger <dimstar@opensuse.org>
 - * Minor fixes in the test suite

- * Will Bond <will@wbond.net>
 - * Add Python 2.6 support to ``contrib.securetransport``

- * Aleksei Alekseev <alekseev.yeskela@gmail.com>
 - * using auth info for socks proxy

- * Chris Wilcox <git@crwilcox.com>

- * Improve contribution guide
- * Add ``HTTPResponse.geturl`` method to provide ``urllib2.urlopen().geturl()`` behavior
- * Bruce Merry <<https://www.brucemerry.org.za>>
- * Fix leaking exceptions when system calls are interrupted with zero timeout
- * Hugo van Kemenade <<https://github.com/hugovk>>
- * Drop support for EOL Python 2.6
- * Tim Bell <<https://github.com/timb07>>
- * Bugfix for responses with Content-Type: message/* logging warnings
- * Justin Bramley <<https://github.com/jbramleycl>>
- * Add ability to handle multiple Content-Encodings
- * Katsuhiko YOSHIDA <<https://github.com/kyoshidajp>>
- * Remove Authorization header regardless of case when redirecting to cross-site
- * [Your name or handle] <[email or website]>
- * [Brief summary of your changes]

1.109 python-requests 2.22.0

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1.110 python-requests 2.7.0

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Requests includes some vendorized python libraries to ease installation.

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1.111 python-pip 19.2.3

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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 (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 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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes

2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
2.7	2.6	2010	PSF	yes

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(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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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 (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

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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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes

3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1	2010	PSF	yes
3.2	3.1	2010	PSF	yes

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<http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#>

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@(#) \$RCSfile: certdata.txt,v \$

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1.113 pyopenssl 19.1.0

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1.114 supervisor 4.2.2

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1.115 rfc3986 1.3.2

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1.117 idna 13.0.0

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1.118 urllib3 1.10.4

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* erikcederstrand <<http://code.google.com/u/erikcederstrand/>>

* NTLM-authenticated HTTPSConnectionPool

* Basic-authenticated HTTPSConnectionPool (merged into make_headers)

* niphlod <niphlod@gmail.com>

* Client-verified SSL certificates for HTTPSConnectionPool

* Response gzip and deflate encoding support

* Better unicode support for filepost using StringIO buffers

* btoconnor <brian@btoconnor.net>

* Non-multipart encoding for POST requests

* p.dobrogost <<http://code.google.com/u/@WBRSRIBZDhBFXQB6/>>

* Code review, PEP8 compliance, benchmark fix

* kennethreitz <me@kennethreitz.com>

* Bugfixes, suggestions, Requests integration

* georgemarshall <<http://github.com/georgemarshall>>

* Bugfixes, Improvements and Test coverage

*

Thomas Kluyver <thomas@kluyver.me.uk>

* Python 3 support

* brandon-rhodes <<http://rhodesmill.org/brandon>>

* Design review, bugfixes, test coverage.

* studer <theo.studer@gmail.com>

* IPv6 url support and test coverage

* Shivaram Lingamneni <slingamn@cs.stanford.edu>

* Support for explicitly closing pooled connections

* hartator <hartator@gmail.com>

* Corrected multipart behavior for params

* Thomas Weischuh <thomas@t-8ch.de>

* Support for TLS SNI

* API unification of ssl_version/cert_reqs

* SSL fingerprint and alternative hostname verification

* Bugfixes in testsuite

* Sune Kirkeby <mig@ibofobi.dk>

* Optional SNI-support for Python 2 via PyOpenSSL.

* Marc Schlaich <marc.schlaich@gmail.com>

* Various bugfixes and test improvements.

* Bryce Boe <bbzbryce@gmail.com>

- * Correct six.moves conflict
- * Fixed pickle support of some exceptions

- * Boris Figovsky <boris.figovsky@ravellosystems.com>
- * Allowed to skip SSL hostname verification

- * Cory Benfield
- <<http://lukasa.co.uk/about/>>
- * Stream method for Response objects.
- * Return native strings in header values.
- * Generate 'Host' header when using proxies.

- * Jason Robinson <jaywink@basshero.org>
- * Add missing WrappedSocket.fileno method in PyOpenSSL

- * Audrius Butkevicius <audrius.butkevicius@elastichosts.com>
- * Fixed a race condition

- * Stanislav Vitkovskiy <stas.vitkovsky@gmail.com>
- * Added HTTPS (CONNECT) proxy support

- * Stephen Holsapple <sholsapp@gmail.com>
- * Added abstraction for granular control of request fields

- * Martin von Gagern <Martin.vGagern@gmx.net>
- * Support for non-ASCII header parameters

- * Kevin Burke <kev@inburke.com> and Pavel Kirichenko <juanych@yandex-team.ru>
- * Support for separate connect and request timeouts

- * Peter Waller <p@pwaller.net>
- * HTTPResponse.tell() for determining amount received over the wire

- * Nipunn Koorapati <nipunn1313@gmail.com>
- * Ignore default ports when comparing hosts for equality

- * Danilo @dbrgn <<http://dbrgn.ch/>>
- * Disabled TLS compression by default on Python 3.2+
- * Disabled TLS compression in pyopenssl contrib module
- * Configurable cipher suites in pyopenssl contrib module

- * Roman Bogorodskiy <roman.bogorodskiy@ericsson.com>
- * Account retries on proxy errors

- * Nicolas Delaby <nicolas.delaby@ezeep.com>
- * Use the platform-specific CA certificate locations

- * Josh Schneier <<https://github.com/jschneier>>

- * HTTPHeaderDict and associated tests and docs
- * Bugfixes, docs, test coverage

- * Tahia Khan <<http://tahia.tk/>>
- * Added Timeout examples in docs

- * Arthur Grunseid <<http://grunseid.com>>
- * source_address support and tests (with <https://github.com/bui>)

- * Ian Cordasco <graffatcolmingov@gmail.com>
- * PEP8 Compliance and Linting
- * Add ability to pass socket options to an HTTP Connection

- * Erik Tollerud <erik.tollerud@gmail.com>
- * Support for standard library io module.

- * Krishna Prasad <kprasad.iitd@gmail.com>
- * Google App Engine documentation

- * Aaron Meurer <asmeurer@gmail.com>
- * Added Url.url, which unparses a Url

- * Evgeny Kapun <abacabadabacaba@gmail.com>
- * Bugfixes

- * Benjamin Meyer <bm_witness@yahoo.com>
- * Security Warning Documentation update for proper capture

- * Shivan Sornarajah <github@sornars.com>
- * Support for using ConnectionPool and PoolManager as context managers.

- * Alex Gaynor <alex.gaynor@gmail.com>
- * Updates to the default SSL configuration

- * Tomas Tomecek <ttomecek@redhat.com>
- * Implemented generator for getting chunks from chunked responses.

- * tlynn <<https://github.com/tlynn>>
- * Respect the warning preferences at import.

- * [Your name or handle] <[email or website]>
- * [Brief summary of your changes]

1.119 pycurl 7.19.0

1.119.1 Available under license :

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set terminal pngcairo font 'Sans, 8' lw 1 size 1400,1024
set xtics rotate by -45
set style histogram errorbars gap 2 lw 1
set style fill solid border -1
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@c ispell-local-pdict: "ispell-dict"
@c End:
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```
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```

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

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* /opt/cola/permits/1196107923_1634069686.47/0/filesystem-3.2-25.amzn2.0.4.src.rpm-cosi-expand-archive-oDe2B3U2/filesystem.spec

1.127 perl-exporter 5.68-3.amzn2

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1.128 perl-filter 1.49-3.amzn2.0.2

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Source Filters

Version 1.49

2013-04-01 rurban

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DESCRIPTION

This distribution consists of a number of Source Filters.

For more details see the pod documentation embedded in the .pm files.

If you intend using the `Filter::Util::Call` functionality, I would strongly recommend that you check out Damian Conway's excellent `Filter::Simple` module. Damian's module provides a much cleaner interface than `Filter::Util::Call`. Although it doesn't allow the fine control that `Filter::Util::Call` does, it should be adequate for the majority of applications. It's available at

<http://search.cpan.org/dist/Filter-Simple/>

PREREQUISITES

Before you can build the Source Filters you need to have the following installed on your system:

* Perl 5.005 or better. 5.6.0 or better is recommended for Win32.

If your Perl is less than version 5.004_55, the "order" test harness will be skipped.

BUILDING THE MODULES

Assuming you have met all the prerequisites, building the modules should be relatively straightforward.

The modules can now be built using this sequence of commands:

```
perl Makefile.PL
make
make test
```

The filters have been successfully built and tested on the following systems (at least):

```
linux (gcc or clang)
cygwin 1.7
mingw strawberry 5.14
SunOS 4.1.3 (Sun C compiler & gcc 2.7.2.3)
Solaris 2.3 (Sun C Compiler)
irix 5.3
irix 6.x
Windows XP (Visual C++ 6.0)
```

On Windows tr.exe and cpp.exe should be really the gnu/mingw tools in the path for the testsuite to pass successfully.

INSTALLATION

```
make install
```

UPDATES

The most recent version of the Filters is always available at

<http://www.cpan.org/modules/by-module/Filter>

Found in path(s):

* /opt/cola/permits/1204657911_1634081496.35/0/perl-Filter-1.49-3.amzn2.0.2.src.rpm-cosi-expand-archive-HJBHw6Ve/Filter-1.49.tar.gz-cosi-expand-archive-aFCIqk15/Filter-1.49/README

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=head1 NAME

perlfiter - Source Filters

=head1 DESCRIPTION

This article is about a little-known feature of Perl called I<source filters>. Source filters alter the program text of a module before Perl sees it, much as a C preprocessor alters the source text of a C program before the compiler sees it. This article tells you more about what source filters are, how they work, and how to write your own.

The original purpose of source filters was to let you encrypt your program source to prevent casual piracy. This isn't all they can do, as you'll soon learn. But first, the basics.

=head1 CONCEPTS

Before the Perl interpreter can execute a Perl script, it must first read it from a file into memory for parsing and compilation. If that script itself includes other scripts with a C<use> or C<require> statement, then each of those scripts will have to be read from their respective files as well.

Now think of each logical connection between the Perl parser and an individual file as a I<source stream>. A source stream is created when the Perl parser opens a file, it continues to exist as the source code is read into memory, and it is destroyed when Perl is finished parsing the file. If the parser encounters a C<require> or C<use> statement in a source stream, a new and distinct stream is created just for that file.

The diagram below represents a single source stream, with the flow of source from a Perl script file on the left into the Perl parser on the right. This is how Perl normally operates.

file -----> parser

There are two important points to remember:

=over 5

=item 1.

Although there can be any number of source streams in existence at any given time, only one will be active.

=item 2.

Every source stream is associated with only one file.

=back

A source filter is a special kind of Perl module that intercepts and modifies a source stream before it reaches the parser. A source filter changes our diagram like this:

```
file ----> filter ----> parser
```

If that doesn't make much sense, consider the analogy of a command pipeline. Say you have a shell script stored in the compressed file I<trial.gz>. The simple pipeline command below runs the script without needing to create a temporary file to hold the uncompressed file.

```
gunzip -c trial.gz | sh
```

In this case, the data flow from the pipeline can be represented as follows:

```
trial.gz ----> gunzip ----> sh
```

With source filters, you can store the text of your script compressed and use a source filter to uncompress it for Perl's parser:

```
compressed      gunzip  
Perl program ---> source filter ---> parser
```

=head1 USING FILTERS

So how do you use a source filter in a Perl script? Above, I said that a source filter is just a special kind of module. Like all Perl modules, a source filter is invoked with a use statement.

Say you want to pass your Perl source through the C preprocessor before execution. As it happens, the source filters distribution comes with a C preprocessor filter module called Filter::cpp.

Below is an example program, C<cpp_test>, which makes use of this filter. Line numbers have been added to allow specific lines to be referenced

easily.

```
1: use Filter::cpp;
2: #define TRUE 1
3: $a = TRUE;
4: print "a = $a\n";
```

When you execute this script, Perl creates a source stream for the file. Before the parser processes any of the lines from the file, the source stream looks like this:

```
cpp_test -----> parser
```

Line 1, C<use Filter::cpp>, includes and installs the C<cpp> filter module. All source filters work this way. The use statement is compiled and executed at compile time, before any more of the file is read, and it attaches the cpp filter to the source stream behind the scenes. Now the data flow looks like this:

```
cpp_test ----> cpp filter ----> parser
```

As the parser reads the second and subsequent lines from the source stream, it feeds those lines through the C<cpp> source filter before processing them. The C<cpp> filter simply passes each line through the real C preprocessor. The output from the C preprocessor is then inserted back into the source stream by the filter.

```
      .-> cpp --.
      |      |
      |      |
      |      <-'
cpp_test -----> cpp filter ----> parser
```

The parser then sees the following code:

```
use Filter::cpp;
$a = 1;
print "a = $a\n";
```

Let's consider what happens when the filtered code includes another module with use:

```
1: use Filter::cpp;
2: #define TRUE 1
3: use Fred;
4: $a = TRUE;
5: print "a = $a\n";
```

The C<cpp> filter does not apply to the text of the Fred module, only to the text of the file that used it (C<cpp_test>). Although the use statement on line 3 will pass through the cpp filter, the module that gets included (C<Fred>) will not. The source streams look like this after line 3 has been parsed and before line 4 is parsed:

```
cpp_test ---> cpp filter ---> parser (INACTIVE)
```

```
Fred.pm ----> parser
```

As you can see, a new stream has been created for reading the source from C<Fred.pm>. This stream will remain active until all of C<Fred.pm> has been parsed. The source stream for C<cpp_test> will still exist, but is inactive. Once the parser has finished reading Fred.pm, the source stream associated with it will be destroyed. The source stream for C<cpp_test> then becomes active again and the parser reads line 4 and subsequent lines from C<cpp_test>.

You can use more than one source filter on a single file. Similarly, you can reuse the same filter in as many files as you like.

For example, if you have a uuencoded and compressed source file, it is possible to stack a uuencode filter and an uncompression filter like this:

```
use Filter::uuencode; use Filter::uncompress;
M'XL("H<US4"V9I;F%L)Q;>7/;1I;_>_I3=&E=%:F*I"T?22Q/
M6]9*<IQCO*XFT"0[PL%%'Y+IG?WN^ZYN-$J.[.JE$,20/?K=_[>
...
```

Once the first line has been processed, the flow will look like this:

```
file ---> uuencode ---> uncompress ---> parser
      filter      filter
```

Data flows through filters in the same order they appear in the source file. The uuencode filter appeared before the uncompress filter, so the source file will be uuencoded before it's uncompressed.

=head1 WRITING A SOURCE FILTER

There are three ways to write your own source filter. You can write it in C, use an external program as a filter, or write the filter in Perl.

I won't cover the first two in any great detail, so I'll get them out of the way first. Writing the filter in Perl is most convenient, so I'll devote the most space to it.

=head1 WRITING A SOURCE FILTER IN C

The first of the three available techniques is to write the filter completely in C. The external module you create interfaces directly with the source filter hooks provided by Perl.

The advantage of this technique is that you have complete control over the implementation of your filter. The big disadvantage is the increased complexity required to write the filter - not only do you need to understand the source filter hooks, but you also need a reasonable knowledge of Perl guts. One of the few times it is worth going to this trouble is when writing a source scrambler. The C<decrypt> filter (which unscrambles the source before Perl parses it) included with the source filter distribution is an example of a C source filter (see Decryption Filters, below).

=over 5

=item B<Decryption Filters>

All decryption filters work on the principle of "security through obscurity." Regardless of how well you write a decryption filter and how strong your encryption algorithm is, anyone determined enough can retrieve the original source code. The reason is quite simple - once the decryption filter has decrypted the source back to its original form, fragments of it will be stored in the computer's memory as Perl parses it. The source might only be in memory for a short period of time, but anyone possessing a debugger, skill, and lots of patience can eventually reconstruct your program.

That said, there are a number of steps that can be taken to make life difficult for the potential cracker. The most important: Write your decryption filter in C and statically link the decryption module into the Perl binary. For further tips to make life difficult for the potential cracker, see the file I<decrypt.pm> in the source filters distribution.

=back

=head1 CREATING A SOURCE FILTER AS A SEPARATE EXECUTABLE

An alternative to writing the filter in C is to create a separate executable in the language of your choice. The separate executable reads from standard input, does whatever processing is necessary, and

writes the filtered data to standard output. C<Filter::cpp> is an example of a source filter implemented as a separate executable - the executable is the C preprocessor bundled with your C compiler.

The source filter distribution

includes two modules that simplify this

task: C<Filter::exec> and C<Filter::sh>. Both allow you to run any external executable. Both use a coprocess to control the flow of data into and out of the external executable. (For details on coprocesses, see Stephens, W.R., "Advanced Programming in the UNIX Environment." Addison-Wesley, ISBN 0-210-56317-7, pages 441-445.) The difference between them is that C<Filter::exec> spawns the external command directly, while C<Filter::sh> spawns a shell to execute the external command. (Unix uses the Bourne shell; NT uses the cmd shell.) Spawning a shell allows you to make use of the shell metacharacters and redirection facilities.

Here is an example script that uses C<Filter::sh>:

```
use Filter::sh 'tr XYZ PQR';
$a = 1;
print "XYZ a = $a\n";
```

The output you'll get when the script is executed:

```
PQR a = 1
```

Writing a source filter as a separate executable works fine, but a small performance penalty is incurred. For example, if you execute the small example above, a separate subprocess will be created to run the Unix C<tr> command. Each use of the filter requires its own subprocess. If creating subprocesses is expensive on your system, you might want to consider one of the other options for creating source filters.

=head1 WRITING A SOURCE FILTER IN PERL

The easiest and most portable option available for creating your own source filter is to write it completely in Perl. To distinguish this from the previous two techniques, I'll call it a Perl source filter.

To help understand how to write a Perl source filter we need an example to study. Here is a complete source filter that performs rot13 decoding. (Rot13 is a very simple encryption scheme used in Usenet postings to hide the contents of offensive posts. It moves every letter forward thirteen places, so that A becomes N, B becomes O, and Z becomes M.)

```

package Rot13;

use Filter::Util::Call;

sub import {
    my ($type) = @_ ;
    my ($ref) = [];
    filter_add(bless
$ref);
}

sub filter {
    my ($self) = @_ ;
    my ($status);

    tr/n-za-mN-ZA-M/a-zA-Z/
    if ($status = filter_read()) > 0;
    $status;
}

1;

```

All Perl source filters are implemented as Perl classes and have the same basic structure as the example above.

First, we include the `C<Filter::Util::Call>` module, which exports a number of functions into your filter's namespace. The filter shown above uses two of these functions, `C<filter_add()>` and `C<filter_read()>`.

Next, we create the filter object and associate it with the source stream by defining the `C<import>` function. If you know Perl well enough, you know that `C<import>` is called automatically every time a module is included with a use statement. This makes `C<import>` the ideal place to both create and install a filter object.

In the example filter, the object (`C<$ref>`) is blessed just like any other Perl object. Our example uses an anonymous array, but this isn't a requirement. Because this example doesn't need to store any context information, we could have used a scalar or hash reference just as well. The next section demonstrates context data.

The association between the filter object and the source stream is made with the `C<filter_add()>` function. This takes a filter object as a parameter (`C<$ref>` in this case) and installs it in the source stream.

Finally, there is the code that actually does the filtering. For this type of Perl source filter, all the filtering is done in a method called `C<filter()>`. (It is also possible to write a Perl source filter using a closure. See the `C<Filter::Util::Call>` manual page for more details.) It's called every time the Perl parser needs another line of source to process. The `C<filter()>` method, in turn, reads lines from the source stream using the `C<filter_read()>` function.

If a line was available from the source stream, `C<filter_read()>` returns a status value greater than zero and appends the line to `C<$_>`. A status value of zero indicates end-of-file, less than zero means an error. The filter function itself is expected to return its status in the same way, and put the filtered line it wants written to the source stream in `C<$_>`. The use of `C<$_>` accounts for the brevity of most Perl source filters.

In order to make use of the `rot13` filter we need some way of encoding the source file in `rot13` format. The script below, `C<mkrot13>`, does just that.

```
die "usage mkrot13 filename\n" unless @ARGV;
my $in = $ARGV[0];
my $out = "$in.tmp";
open(IN, "<$in") or die "Cannot open file $in: $!\n";
open(OUT, ">$out") or die "Cannot open file $out: $!\n";

print OUT "use Rot13;\n";
while (<IN>) {
    tr/a-zA-Z/n-za-mN-ZA-M/;
    print OUT;
}

close IN;
close OUT;
unlink $in;
rename $out, $in;
```

If we encrypt this with `C<mkrot13>`:

```
print " hello fred \n";
```

the result will be this:

```
use Rot13;
cevag "uryyb serq\n";
```

Running it produces this output:

```
hello
fred
```

=head1 USING CONTEXT: THE DEBUG FILTER

The rot13 example was a trivial example. Here's another demonstration that shows off a few more features.

Say you wanted to include a lot of debugging code in your Perl script during development, but you didn't want it available in the released product. Source filters offer a solution. In order to keep the example simple, let's say you wanted the debugging output to be controlled by an environment variable, C<DEBUG>. Debugging code is enabled if the variable exists, otherwise it is disabled.

Two special marker lines will bracket debugging code, like this:

```
## DEBUG_BEGIN
if ($year > 1999) {
    warn "Debug: millennium bug in year $year\n";
}
## DEBUG_END
```

The filter ensures that Perl parses the code between the <DEBUG_BEGIN> and C<DEBUG_END> markers only when the C<DEBUG> environment variable exists. That means that when C<DEBUG> does exist, the code above should be passed through the filter unchanged. The marker lines can also be passed through as-is, because the Perl parser will see them as comment lines. When C<DEBUG> isn't set, we need a way to disable the debug code. A simple way to achieve that is to convert the lines between the two markers into comments:

```
## DEBUG_BEGIN
#if ($year > 1999) {
#    warn "Debug: millennium bug in year $year\n";
#}
## DEBUG_END
```

Here is the complete Debug filter:

```
package Debug;

use strict;
use warnings;
use Filter::Util::Call;
```



```

use constant TRUE => 1;
use constant FALSE => 0;

sub import {
  my ($type) = @_;
  my (%context) = (
    Enabled => defined $ENV{DEBUG},
    InTraceBlock => FALSE,
    Filename => (caller)[1],
    LineNo => 0,
    LastBegin => 0,
  );
  filter_add(bless \%context);
}

sub Die {
  my ($self) = shift;
  my ($message) = shift;
  my ($line_no) = shift || $self->{LastBegin};
  die "$message at $self->{Filename} line $line_no.\n"
}

sub filter {
  my ($self) = @_;
  my ($status);
  $status = filter_read();
  ++ $self->{LineNo};

  # deal with EOF/error first
  if ($status <= 0) {
    $self->Die("DEBUG_BEGIN has no DEBUG_END")
    if $self->{InTraceBlock};
    return $status;
  }

  if ($self->{InTraceBlock}) {
    if (/^\s*##\s*DEBUG_BEGIN/) {
      $self->Die("Nested DEBUG_BEGIN", $self->{LineNo})
    } elsif (/^\s*##\s*DEBUG_END/) {
      $self->{InTraceBlock} = FALSE;
    }
  }

  # comment out the debug lines when the filter is disabled
  s/^#/ if ! $self->{Enabled};
} elsif (/^\s*##\s*DEBUG_BEGIN/) {
  $self->{InTraceBlock} = TRUE;
  $self->{LastBegin} = $self->{LineNo};
} elsif (/^\s*##\s*DEBUG_END/) {

```

```

    $self->Die("DEBUG_END has no DEBUG_BEGIN", $self->{LineNo});
}
return $status;
}

1;

```

The big difference between this filter and the previous example is the use of context data in the filter object. The filter object is based on a hash reference, and is used to keep various pieces of context information between calls to the filter function. All but two of the hash fields are used for error reporting. The first of those two, Enabled, is used by the filter to determine whether the debugging code should be given to the Perl parser. The second, InTraceBlock, is true when the filter has encountered a C<DEBUG_BEGIN> line, but has not yet encountered the following C<DEBUG_END> line.

If you ignore all the error checking that most of the code does, the essence of the filter is as follows:

```

sub filter {
    my ($self) = @_;
    my ($status);
    $status = filter_read();

    # deal with EOF/error first
    return $status if $status <= 0;
    if ($self->{InTraceBlock}) {
        if (/^\s*##\s*DEBUG_END/) {
            $self->{InTraceBlock} = FALSE
        }

        # comment
        out debug lines when the filter is disabled
        s/^\s*##/ if ! $self->{Enabled};
    } elsif (/^\s*##\s*DEBUG_BEGIN/) {
        $self->{InTraceBlock} = TRUE;
    }
    return $status;
}

```

Be warned: just as the C-preprocessor doesn't know C, the Debug filter doesn't know Perl. It can be fooled quite easily:

```

print <<EOM;
##DEBUG_BEGIN
EOM

```

Such things aside, you can see that a lot can be achieved with a modest amount of code.

=head1 CONCLUSION

You now have better understanding of what a source filter is, and you might even have a possible use for them. If you feel like playing with source filters but need a bit of inspiration, here are some extra features you could add to the Debug filter.

First, an easy one. Rather than having debugging code that is all-or-nothing, it would be much more useful to be able to control which specific blocks of debugging code get included. Try extending the syntax for debug blocks to allow each to be identified. The contents of the C<DEBUG> environment variable can then be used to control which blocks get included.

Once you can identify individual blocks, try allowing them to be nested. That isn't difficult either.

Here is an interesting idea that doesn't involve the Debug filter. Currently Perl subroutines have fairly limited support for formal parameter lists. You can specify the number of parameters and their type, but you still have to manually take them out of the C<@_> array yourself. Write a source filter that allows you to have a named parameter list. Such a filter would turn this:

```
sub MySub ($first, $second, @rest) { ... }
```

into this:

```
sub MySub($$@) {  
  my ($first) = shift;  
  my ($second) = shift;  
  my (@rest) = @_;  
  ...  
}
```

Finally, if you feel like a real challenge, have a go at writing a full-blown Perl macro preprocessor as a source filter. Borrow the useful features from the C preprocessor and any other macro processors you know. The tricky bit will be choosing how much knowledge of Perl's syntax you want your filter to have.

=head1 THINGS TO LOOK OUT FOR

=over 5

=item Some Filters Clobber the C<DATA> Handle

Some source filters use the C<DATA> handle to read the calling program. When using these source filters you cannot rely on this handle, nor expect any particular kind of behavior when operating on it. Filters based on Filter::Util::Call (and therefore Filter::Simple) do not alter the C<DATA> filehandle.

=back

=head1 REQUIREMENTS

The Source Filters distribution is available on CPAN, in

CPAN/modules/by-module/Filter

Starting from Perl 5.8 Filter::Util::Call (the core part of the Source Filters distribution) is part of the standard Perl distribution. Also included is a friendlier interface called Filter::Simple, by Damian Conway.

=head1 AUTHOR

Paul Marquess E<lt>Paul.Marquess@btinternet.comE<gt>

=head1 Copyrights

This article originally appeared in The Perl Journal #11, and is copyright 1998 The Perl Journal. It appears courtesy of Jon Orwant and The Perl Journal. This document may be distributed under the same terms as Perl itself.

Found in path(s):

* /opt/cola/permits/1204657911_1634081496.35/0/perl-Filter-1.49-3.amzn2.0.2.src.rpm-cosi-expand-archive-HJBHw6Ve/Filter-1.49.tar.gz-cosi-expand-archive-aFCIgl5/Filter-1.49/perlfilter.pod

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

/*

ppport.h -- Perl/Pollution/Portability Version 3.16

Automatically created by Devel::PPPport running under perl 5.011000.

Do NOT edit this file directly! -- Edit PPPort_pm.PL and the includes in parts/inc/ instead.

Use 'perldoc ppport.h' to view the documentation below.

SKIP

=pod

=head1 NAME

ppport.h - Perl/Pollution/Portability version 3.16

=head1 SYNOPSIS

perl ppport.h [options] [source files]

Searches current directory for files if no [source files] are given

--help show short help

--version show version

--patch=file write one patch file with changes

--copy=suffix write changed copies with suffix

--diff=program use diff program and options

--compat-version=version

 provide compatibility with Perl version

--cplusplus accept C++ comments

--quiet don't output anything except fatal errors

--nodiag don't show diagnostics

--nohints don't show hints

--nochanges don't suggest changes

--nofilter don't filter input files

--strip strip all script and doc functionality from
 ppport.h

--list-provided list provided API

--list-unsupported list unsupported API

--api-info=name show Perl API portability information

=head1 COMPATIBILITY

This version of F<ppport.h> is designed to support operation with Perl installations back to 5.003, and has been tested up to 5.10.0.

=head1 OPTIONS

=head2 --help

Display a brief usage summary.

=head2 --version

Display the version of F<ppport.h>.

=head2 --patch=I<file>

If this option is given, a single patch file will be created if any changes are suggested. This requires a working diff program to be installed on your system.

=head2 --copy=I<suffix>

If this option is given, a copy of each file will be saved with the given suffix that contains the suggested changes. This does not require any external programs. Note that this does not automagically add a dot between the original filename and the suffix. If you want the dot, you have to include it in the option argument.

If neither C<--patch> or C<--copy> are given, the default is to simply print the diffs for each file. This requires either C<Text::Diff> or a C<diff> program to be installed.

=head2 --diff=I<program>

Manually set the diff program and options to use. The default is to use C<Text::Diff>, when installed, and output unified context diffs.

=head2 --compat-version=I<version>

Tell F<ppport.h> to check for compatibility with the given Perl version. The default is to check for compatibility with Perl version 5.003.

You can use this option to reduce the output of F<ppport.h> if you intend to be backward compatible only down to a certain Perl version.

=head2 --cplusplus

Usually, F<ppport.h> will detect C++ style comments and replace them with C style comments for portability reasons. Using this option instructs F<ppport.h> to leave C++ comments untouched.

=head2 --quiet

Be quiet. Don't print anything except fatal errors.

=head2 --nodiag

Don't output any diagnostic messages. Only portability alerts will be printed.

=head2 --nohints

Don't output any hints. Hints often contain useful portability notes. Warnings will still be displayed.

=head2 --nochanges

Don't suggest any changes. Only give diagnostic output and hints unless these are also deactivated.

=head2 --nofilter

Don't filter the list of input files. By default, files not looking like source code (i.e. not *.xs, *.c, *.cc, *.cpp or *.h) are skipped.

=head2 --strip

Strip all script and documentation functionality from F<ppport.h>.

This

reduces the size of F<ppport.h> dramatically and may be useful if you want to include F<ppport.h> in smaller modules without increasing their distribution size too much.

The stripped F<ppport.h> will have a C<--unstrip> option that allows you to undo the stripping, but only if an appropriate C<Devel::PPPport> module is installed.

=head2 --list-provided

Lists the API elements for which compatibility is provided by F<ppport.h>. Also lists if it must be explicitly requested, if it has dependencies, and if there are hints or warnings for it.

=head2 --list-unsupported

Lists the API elements that are known not to be supported by F<ppport.h> and below which version of Perl they probably won't be available or work.

=head2 --api-info=I<name>

Show portability information for API elements matching I<name>. If I<name> is surrounded by slashes, it is interpreted as a regular expression.

=head1 DESCRIPTION

In order for a Perl extension (XS) module to be as portable as possible across differing versions of Perl itself, certain steps need to be taken.

=over 4

=item *

Including this header is the first major one. This alone will give you access to a large part of the Perl API that hasn't been available in earlier Perl releases. Use

```
perl ppport.h --list-provided
```

to see which API elements are provided by ppport.h.

=item *

You should avoid using deprecated parts of the API. For example, using global Perl variables without the C<PL_> prefix is deprecated. Also, some API functions used to have a C<perl_> prefix. Using this form is also deprecated. You can safely use the supported API, as F<ppport.h> will provide wrappers for older Perl versions.

=item *

If you use one of a few functions or variables that were not present in earlier versions of Perl, and that can't be provided using a macro, you have to explicitly request support for these functions by adding one or more C<#define>s in your source code before the inclusion of F<ppport.h>.

These functions or

variables will be marked C<explicit> in the list shown by C<--list-provided>.

Depending on whether your module has a single or multiple files that use such functions or variables, you want either C<static> or global variants.

For a C<static> function or variable (used only in a single source file), use:

```
#define NEED_function
#define NEED_variable
```

For a global function or variable (used in multiple source files), use:

```
#define NEED_function_GLOBAL
#define NEED_variable_GLOBAL
```

Note that you mustn't have more than one global request for the same function or variable in your project.

Function / Variable	Static Request	Global Request
PL_parser	NEED_PL_parser	NEED_PL_parser_GLOBAL
PL_signals	NEED_PL_signals	NEED_PL_signals_GLOBAL
eval_pv()	NEED_eval_pv	NEED_eval_pv_GLOBAL
grok_bin()	NEED_grok_bin	NEED_grok_bin_GLOBAL
grok_hex()	NEED_grok_hex	NEED_grok_hex_GLOBAL
grok_number()	NEED_grok_number	NEED_grok_number_GLOBAL
grok_numeric_radix()	NEED_grok_numeric_radix	NEED_grok_numeric_radix_GLOBAL
grok_oct()	NEED_grok_oct	NEED_grok_oct_GLOBAL
load_module()	NEED_load_module	NEED_load_module_GLOBAL
my_snprintf()	NEED_my_snprintf	NEED_my_snprintf_GLOBAL
my_sprintf()	NEED_my_sprintf	NEED_my_sprintf_GLOBAL
my_strlcat()	NEED_my_strlcat	NEED_my_strlcat_GLOBAL
my_strlcpy()	NEED_my_strlcpy	NEED_my_strlcpy_GLOBAL
newCONSTSUB()	NEED_newCONSTSUB	NEED_newCONSTSUB_GLOBAL
newRV_noinc()	NEED_newRV_noinc	NEED_newRV_noinc_GLOBAL
newSVpv_n_flags()	NEED_newSVpv_n_flags	NEED_newSVpv_n_flags_GLOBAL
newSVpv_n_share()	NEED_newSVpv_n_share	NEED_newSVpv_n_share_GLOBAL
pv_display()	NEED_pv_display	NEED_pv_display_GLOBAL
pv_escape()	NEED_pv_escape	NEED_pv_escape_GLOBAL
pv_pretty()	NEED_pv_pretty	NEED_pv_pretty_GLOBAL
sv_2pv_flags()	NEED_sv_2pv_flags	NEED_sv_2pv_flags_GLOBAL
sv_2pvbyte()	NEED_sv_2pvbyte	NEED_sv_2pvbyte_GLOBAL
sv_catpvf_mg()	NEED_sv_catpvf_mg	NEED_sv_catpvf_mg_GLOBAL
sv_catpvf_mg_nocontext()	NEED_sv_catpvf_mg_nocontext	NEED_sv_catpvf_mg_nocontext_GLOBAL

```

sv_pvn_force_flags()   NEED_sv_pvn_force_flags   NEED_sv_pvn_force_flags_GLOBAL
sv_setpvf_mg()        NEED_sv_setpvf_mg         NEED_sv_setpvf_mg_GLOBAL
sv_setpvf_mg_nocontext() NEED_sv_setpvf_mg_nocontext
NEED_sv_setpvf_mg_nocontext_GLOBAL
vload_module()        NEED_vload_module         NEED_vload_module_GLOBAL
vnewSVpvf()           NEED_vnewSVpvf           NEED_vnewSVpvf_GLOBAL
warner()              NEED_warner              NEED_warner_GLOBAL

```

To avoid namespace conflicts, you can change the namespace of the explicitly exported functions / variables using the C<DPPP_NAMESPACE> macro. Just C<#define> the macro before including C<ppport.h>:

```

#define DPPP_NAMESPACE MyOwnNamespace_
#include "ppport.h"

```

The default namespace is C<DPPP_>.

=back

The good thing is that most of the above can be checked by running F<ppport.h> on your source code. See the next section for details.

=head1 EXAMPLES

To verify whether F<ppport.h> is needed for your module, whether you should make any changes to your code, and whether any special defines should be used, F<ppport.h> can be run as a Perl script to check your source code. Simply say:

```
perl ppport.h
```

The result will usually be a list of patches suggesting changes that should at least be acceptable, if not necessarily the most efficient solution, or a fix for all possible problems.

If you know that your XS module uses features only available in newer Perl releases, if you're aware that it uses C++ comments, and if you want all suggestions as a single patch file, you could use something like this:

```
perl ppport.h --compat-version=5.6.0 --cplusplus --patch=test.diff
```

If you only want your code to be scanned without any suggestions for changes, use:

```
perl ppport.h --nochanges
```

You can specify a different C<diff> program or options, using the C<--diff> option:

```
perl ppport.h --diff='diff -C 10'
```

This would output context diffs with 10 lines of context.

If you want to create patched copies of your files instead, use:

```
perl ppport.h --copy=.new
```

To display portability information for the C<newSVpv<pv> function, use:

```
perl ppport.h --api-info=newSVpv
```

Since the argument to C<--api-info> can be a regular expression, you can use

```
perl ppport.h --api-info=/_nomg$/
```

to display portability information for all C<_nomg> functions or

```
perl ppport.h --api-info=./.
```

to display information for all known API elements.

=head1 BUGS

If this version of F<ppport.h> is causing failure during the compilation of this module, please check if newer versions of either this module or C<Devel::PPP<Port> are available on CPAN before sending a bug report.

If F<ppport.h> was generated using the latest version of C<Devel::PPP<Port> and is causing failure of this module, please file a bug report using the CPAN Request Tracker at L<<http://rt.cpan.org/>>.

Please include the following information:

=over 4

=item 1.

The complete output from running "perl -V"

=item 2.

This file.

=item 3.

The name and version of the module you were trying to build.

=item 4.

A full log of the build that failed.

=item 5.

Any other information that you think could be relevant.

=back

For the

latest version of this code, please get the C<Devel::PPPort>
module from CPAN.

=head1 COPYRIGHT

Version 3.x, Copyright (c) 2004-2009, Marcus Holland-Moritz.

Version 2.x, Copyright (C) 2001, Paul Marquess.

Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

This program is free software; you can redistribute it and/or
modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<Devel::PPPort>.

=cut

use strict;

Disable broken TRIE-optimization

BEGIN { eval '\${^RE_TRIE_MAXBUF} = -1' if \$] >= 5.009004 && \$] <= 5.009005 }

my \$VERSION = 3.16;

my %opt = (

quiet => 0,

```

diag => 1,
hints => 1,
changes => 1,
cplusplus => 0,
filter => 1,
strip => 0,
version => 0,
);

my($ppport) = $0 =~ /([\w.]+)$/;
my $LF = '(?:\r\n|[\r\n])'; # line feed
my $HS = "[\t]";          # horizontal whitespace

# Never use C comments in this file!
my $ccs = '!.*';
my $cce = '.*!';
my $rcs = quotemeta $ccs;
my $rce = quotemeta $cce;

eval {

require Getopt::Long;
Getopt::Long::GetOptions(\%opt, qw(
    help quiet diag! filter! hints! changes! cplusplus strip version
    patch=s copy=s diff=s compat-version=s
    list-provided list-unsupported api-info=s
)) or usage();
};

if ($@ and grep /^-/, @ARGV) {
    usage() if "@ARGV" =~ /^--?h(?::elp)?$/;
    die "Getopt::Long not found. Please don't use any options.\n";
}

if ($opt{version}) {
    print "This is $0 $VERSION.\n";
    exit 0;
}

usage() if $opt{help};
strip() if $opt{strip};

if (exists $opt{'compat-version'}) {
    my($r,$v,$s) = eval { parse_version($opt{'compat-version'}) };
    if ($@) {
        die "Invalid version number format: '$opt{'compat-version'}'\n";
    }
    die "Only Perl 5 is supported\n" if $r != 5;
}

```

```

die "Invalid version number: $opt{'compat-version'}\n" if $v >= 1000 || $s >= 1000;
$opt{'compat-version'} = sprintf "%d.%03d%03d", $r, $v, $s;
}
else {
$opt{'compat-version'} = 5;
}

```

```

my %API = map { /^(w+)([^\w]*)\1([^\w]*)\1(w*)$/
? ( $1 => {
($2 ? ( base => $2 ) : ()),
($3 ? ( todo => $3 ) : ()),
(index($4, 'v') >= 0 ? ( varargs => 1 ) : ()),
(index($4, 'p') >= 0 ? ( provided => 1 ) : ()),
(index($4, 'n') >= 0 ? ( nothxarg => 1 ) : ()),
} )
: die "invalid spec: $_" } qw(

```

```

AvFILLp|5.004050|p
AvFILL|||
CLASS|||n
CPERLscope|||p
CX_CURPAD_SAVE|||
CX_CURPAD_SV|||
CopFILEAV|5.006000|p
CopFILEGV_set|5.006000|p
CopFILEGV|5.006000|p
CopFILESV|5.006000|p
CopFILE_set|5.006000|p
CopFILE|5.006000|p
CopSTASHPV_set|5.006000|p
CopSTASHPV|5.006000|p
CopSTASH_eq|5.006000|p
CopSTASH_set|5.006000|p
CopSTASH|5.006000|p
CopyD|5.009002|p
Copy|||
CvPADLIST|||
CvSTASH|||
CvWEAKOUTSIDE|||
DEFSV_set|||p
DEFSV|5.004050|p
END_EXTERN_C|5.005000|p
ENTER|||
ERRSV|5.004050|p
EXTEND|||
EXTERN_C|5.005000|p
F0convert|||n
FREEMPS|||
GIMME_V|5.004000|n

```

GIMME|||n
GROK_NUMERIC_RADIX|5.007002||p
G_ARRAY|||
G_DISCARD|||
G_EVAL|||
G_METHOD|||p
G_NOARGS|||
G_SCALAR|||
G_VOID||5.004000|
GetVars|||
GvSV|||
Gv_AMupdate|||
HEf_SVKEY||5.004000|
HeHASH||5.004000|
HeKEY||5.004000|
HeKLEN||5.004000|
HePV||5.004000|
HeSVKEY_force||5.004000|
HeSVKEY_set||5.004000|
HeSVKEY||5.004000|
HeUTF8||5.011000|
HeVAL||5.004000|
HvNAME|||
INT2PTR|5.006000||p
IN_LOCALE_COMPILETIME|5.007002||p
IN_LOCALE_RUNTIME|5.007002||p
IN_LOCALE|5.007002||p
IN_PERL_COMPILETIME|5.008001||p
IS_NUMBER_GREATER_THAN_UV_MAX|5.007002||p
IS_NUMBER_INFINITY|5.007002||p
IS_NUMBER_IN_UV|5.007002||p
IS_NUMBER_NAN|5.007003||p
IS_NUMBER_NEG|5.007002||p
IS_NUMBER_NOT_INT|5.007002||p
IVSIZE|5.006000||p
IVTYPE|5.006000||p
IVdf|5.006000||p
LEAVE|||
LVRET|||
MARK|||
MULTICALL||5.011000|
MY_CXT_CLONE|5.009002||p
MY_CXT_INIT|5.007003||p
MY_CXT|5.007003||p
MoveD|5.009002||p
Move|||
NOOP|5.005000||p
NUM2PTR|5.006000||p

NVTYPE|5.006000||p
NVef|5.006001||p
NVff|5.006001||p
NVgf|5.006001||p
Newxc|5.009003||p
Newxz|5.009003||p
Newx|5.009003||p
Nullav|||
Nullch|||
Nullcv|||
Nullhv|||
Nullsv|||
ORIGMARK|||
PAD_BASE_SV|||
PAD_CLONE_VARS|||
PAD_COMPNAME_FLAGS|||
PAD_COMPNAME_GEN_set|||
PAD_COMPNAME_GEN|||
PAD_COMPNAME_OURSTASH|||
PAD_COMPNAME_PV|||
PAD_COMPNAME_TYPE|||
PAD_DUP|||
PAD_RESTORE_LOCAL|||
PAD_SAVE_LOCAL|||
PAD_SAVE_SETNULLPAD|||
PAD_SETSV|||
PAD_SET_CUR_NOSAVE|||
PAD_SET_CUR|||
PAD_SV1|||
PAD_SV|||
PERLIO_FUNCS_CAST|5.009003||p
PERLIO_FUNCS_DECL|5.009003||p
PERL_ABS|5.008001||p
PERL_BCDVERSION|5.011000||p
PERL_GCC_BRACE_GROUPS_FORBIDDEN|5.008001||p
PERL_HASH|5.004000||p
PERL_INT_MAX|5.004000||p
PERL_INT_MIN|5.004000||p
PERL_LONG_MAX|5.004000||p
PERL_LONG_MIN|5.004000||p
PERL_MAGIC_arylen|5.007002||p
PERL_MAGIC_backref|5.007002||p
PERL_MAGIC_bm|5.007002||p
PERL_MAGIC_collxfrm|5.007002||p
PERL_MAGIC_dbfile|5.007002||p
PERL_MAGIC_dbline|5.007002||p
PERL_MAGIC_defelem|5.007002||p
PERL_MAGIC_envelem|5.007002||p

PERL_MAGIC_env|5.007002||p
PERL_MAGIC_ext|5.007002||p
PERL_MAGIC_fm|5.007002||p
PERL_MAGIC_glob|5.011000||p
PERL_MAGIC_isaelem|5.007002||p
PERL_MAGIC_isa|5.007002||p
PERL_MAGIC_mutex|5.011000||p
PERL_MAGIC_nkeys|5.007002||p
PERL_MAGIC_overload_elem|5.007002||p
PERL_MAGIC_overload_table|5.007002||p
PERL_MAGIC_overload|5.007002||p
PERL_MAGIC_pos|5.007002||p
PERL_MAGIC_qr|5.007002||p
PERL_MAGIC_regdata|5.007002||p
PERL_MAGIC_regdatum|5.007002||p
PERL_MAGIC_regex_global|5.007002||p
PERL_MAGIC_shared_scalar|5.007003||p
PERL_MAGIC_shared|5.007003||p
PERL_MAGIC_sigelem|5.007002||p
PERL_MAGIC_sig|5.007002||p
PERL_MAGIC_substr|5.007002||p
PERL_MAGIC_sv|5.007002||p
PERL_MAGIC_taint|5.007002||p
PERL_MAGIC_tiedelem|5.007002||p
PERL_MAGIC_tiedscalar|5.007002||p
PERL_MAGIC_tied|5.007002||p
PERL_MAGIC_utf8|5.008001||p
PERL_MAGIC_uvar_elem|5.007003||p
PERL_MAGIC_uvar|5.007002||p
PERL_MAGIC_vec|5.007002||p
PERL_MAGIC_vstring|5.008001||p
PERL_PV_ESCAPE_ALL|||p
PERL_PV_ESCAPE_FIRSTCHAR|||p
PERL_PV_ESCAPE_NOBACKSLASH|||p
PERL_PV_ESCAPE_NOCLEAR|||p
PERL_PV_ESCAPE_QUOTE|||p
PERL_PV_ESCAPE_RE|||p
PERL_PV_ESCAPE_UNI_DETECT|||p
PERL_PV_ESCAPE_UNI|||p
PERL_PV_PRETTY_DUMP|||p
PERL_PV_PRETTY_ELLIPSES|||p
PERL_PV_PRETTY_LTGT|||p
PERL_PV_PRETTY_NOCLEAR|||p
PERL_PV_PRETTY_QUOTE|||p
PERL_PV_PRETTY_REGPROP|||p
PERL_QUAD_MAX|5.004000||p
PERL_QUAD_MIN|5.004000||p
PERL_REVISION|5.006000||p

PERL_SCAN_ALLOW_UNDERSCORES|5.007003||p
PERL_SCAN_DISALLOW_PREFIX|5.007003||p
PERL_SCAN_GREATER_THAN_UV_MAX|5.007003||p
PERL_SCAN_SILENT_ILLDIGIT|5.008001||p
PERL_SHORT_MAX|5.004000||p
PERL_SHORT_MIN|5.004000||p
PERL_SIGNALS_UNSAFE_FLAG|5.008001||p
PERL_SUBVERSION|5.006000||p
PERL_UCHAR_MAX|5.004000||p
PERL_UCHAR_MIN|5.004000||p
PERL_UINT_MAX|5.004000||p
PERL_UINT_MIN|5.004000||p
PERL_ULONG_MAX|5.004000||p
PERL_ULONG_MIN|5.004000||p
PERL_UNUSED_ARG|5.009003||p
PERL_UNUSED_CONTEXT|5.009004||p
PERL_UNUSED_DECL|5.007002||p
PERL_UNUSED_VAR|5.007002||p
PERL_UQUAD_MAX|5.004000||p
PERL_UQUAD_MIN|5.004000||p
PERL_USE_GCC_BRACE_GROUPS|5.009004||p
PERL_USHORT_MAX|5.004000||p
PERL_USHORT_MIN|5.004000||p
PERL_VERSION|5.006000||p
PL_DBsignal|5.005000||p
PL_DBsingle|||pn
PL_DBsub|||pn
PL_DBtrace|||pn
PL_Sv|5.005000||p
PL_bufend|||p
PL_bufptr|||p
PL_compiling|5.004050||p
PL_copline|5.011000||p
PL_curcop|5.004050||p
PL_curstash|5.004050||p
PL_debstash|5.004050||p
PL_defgv|5.004050||p
PL_diehook|5.004050||p
PL_dirty|5.004050||p
PL_dowarn|||pn
PL_errgv|5.004050||p
PL_expect|5.011000||p
PL_hexdigit|5.005000||p
PL_hints|5.005000||p
PL_last_in_gv|||n
PL_laststatval|5.005000||p
PL_lex_state|||p
PL_lex_stuff|||p

PL_linestr|||p
PL_modglobal|5.005000|n
PL_na|5.004050|pn
PL_no_modify|5.006000|p
PL_ofs_sv|||n
PL_parser|||p
PL_perl_destruct_level|5.004050|p
PL_perldb|5.004050|p
PL_ppaddr|5.006000|p
PL_rsfilters|5.004050|p
PL_rsfp|5.004050|p
PL_rs|||n
PL_signals|5.008001|p
PL_stack_base|5.004050|p
PL_stack_sp|5.004050|p
PL_statcache|5.005000|p
PL_stdingv|5.004050|p
PL_sv_arenaroot|5.004050|p
PL_sv_no|5.004050|pn
PL_sv_undef|5.004050|pn
PL_sv_yes|5.004050|pn
PL_tainted|5.004050|p
PL_tainting|5.004050|p
PL_tokenbuf|||p
POP_MULTICALL||5.011000|
POPi|||n
POPi|||n
POPn|||n
POPpbytex||5.007001|n
POPpx||5.005030|n
POPp|||n
POPs|||n
PTR2IV|5.006000|p
PTR2NV|5.006000|p
PTR2UV|5.006000|p
PTR2ul|5.007001|p
PTRV|5.006000|p
PUSHMARK|||
PUSH_MULTICALL||5.011000|
PUSHi|||
PUSHmortal|5.009002|p
PUSHn|||
PUSHp|||
PUSHs|||
PUSHu|5.004000|p
PUTBACK|||
PerlIO_clearerr||5.007003|
PerlIO_close||5.007003|

PerlIO_context_layers|5.009004|
PerlIO_eof|5.007003|
PerlIO_error|5.007003|
PerlIO_fileno|5.007003|
PerlIO_fill|5.007003|
PerlIO_flush|5.007003|
PerlIO_get_base|5.007003|
PerlIO_get_bufsiz|5.007003|
PerlIO_get_cnt|5.007003|
PerlIO_get_ptr|5.007003|
PerlIO_read|5.007003|
PerlIO_seek|5.007003|
PerlIO_set_cnt|5.007003|
PerlIO_set_ptrcnt|5.007003|
PerlIO_setlinebuf|5.007003|
PerlIO_stderr|5.007003|
PerlIO_stdin|5.007003|
PerlIO_stdout|5.007003|
PerlIO_tell|5.007003|
PerlIO_unread|5.007003|
PerlIO_write|5.007003|
Perl_signbit|5.009005|n
PoisonFree|5.009004|p
PoisonNew|5.009004|p
PoisonWith|5.009004|p
Poison|5.008000|p
RETVL||n
Renewc||
Renew||
SAVECLEARSV||
SAVECOMPPAD||
SAVEPADSV||
SAVETMPS||
SAVE_DEFSV|5.004050|p
SPAGAIN||
SP||
START_EXTERN_C|5.005000|p
START_MY_CXT|5.007003|p
STMT_END||p
STMT_START||p
STR_WITH_LEN|5.009003|p
ST||
SV_CONST_RETURN|5.009003|p
SV_COW_DROP_PV|5.008001|p
SV_COW_SHARED_HASH_KEYS|5.009005|p
SV_GMAGIC|5.007002|p
SV_HAS_TRAILING_NUL|5.009004|p
SV_IMMEDIATE_UNREF|5.007001|p

SV_MUTABLE_RETURN|5.009003||p
SV_NOSTEAL|5.009002||p
SV_SMAGIC|5.009003||p
SV_UTF8_NO_ENCODING|5.008001||p
SVf_UTF8|5.006000||p
SVf|5.006000||p
SVt_IV|||
SVt_NV|||
SVt_PVAV|||
SVt_PVCV|||
SVt_PVHV|||
SVt_PVMG|||
SVt_PV|||
Safefree|||
Slab_Alloc|||
Slab_Free|||
Slab_to_rw|||
StructCopy|||
SvCUR_set|||
SvCUR|||
SvEND|||
SvGAMAGIC||5.006001|
SvGETMAGIC|5.004050||p
SvGROW|||
SvIOK_UV||5.006000|
SvIOK_notUV||5.006000|
SvIOK_off|||
SvIOK_only_UV||5.006000|
SvIOK_only|||
SvIOK_on|||
SvIOKp|||
SvIOK|||
SvIVX|||
SvIV_nomg|5.009001||p
SvIV_set|||
SvIVx|||
SvIV|||
SvIsCOW_shared_hash||5.008003|
SvIsCOW||5.008003|
SvLEN_set|||
SvLEN|||
SvLOCK||5.007003|
SvMAGIC_set|5.009003||p
SvNIOK_off|||
SvNIOKp|||
SvNIOK|||
SvNOK_off|||
SvNOK_only|||

SvNOK_on||
SvNOKp||
SvNOK||
SvNVX||
SvNV_set||
SvNVx||
SvNV||
SvOK||
SvOOK_offset|5.011000|
SvOOK||
SvPOK_off||
SvPOK_only_UTF8|5.006000|
SvPOK_only||
SvPOK_on||
SvPOKp||
SvPOK||
SvPVX_const|5.009003|p
SvPVX_mutable|5.009003|p
SvPVX||
SvPV_const|5.009003|p
SvPV_flags_const_nolen|5.009003|p
SvPV_flags_const|5.009003|p
SvPV_flags_mutable|5.009003|p
SvPV_flags|5.007002|p
SvPV_force_flags_mutable|5.009003|p
SvPV_force_flags_nolen|5.009003|p
SvPV_force_flags|5.007002|p
SvPV_force_mutable|5.009003|p
SvPV_force_nolen|5.009003|p
SvPV_force_nomg_nolen|5.009003|p
SvPV_force_nomg|5.007002|p
SvPV_force||p
SvPV_mutable|5.009003|p
SvPV_nolen_const|5.009003|p
SvPV_nolen|5.006000|p
SvPV_nomg_const_nolen|5.009003|p
SvPV_nomg_const|5.009003|p
SvPV_nomg|5.007002|p
SvPV_renew||p
SvPV_set||
SvPVbyte_force|5.009002|
SvPVbyte_nolen|5.006000|
SvPVbytex_force|5.006000|
SvPVbytex|5.006000|
SvPVbyte|5.006000|p
SvPVutf8_force|5.006000|
SvPVutf8_nolen|5.006000|
SvPVutf8x_force|5.006000|

SvPVutf8x||5.006000|
SvPVutf8||5.006000|
SvPVx|||
SvPV|||
SvREFCNT_dec|||
SvREFCNT_inc_NN|5.009004||p
SvREFCNT_inc_simple_NN|5.009004||p
SvREFCNT_inc_simple_void_NN|5.009004||p
SvREFCNT_inc_simple_void|5.009004||p
SvREFCNT_inc_simple|5.009004||p
SvREFCNT_inc_void_NN|5.009004||p
SvREFCNT_inc_void|5.009004||p
SvREFCNT_inc|||p
SvREFCNT|||
SvROK_off|||
SvROK_on|||
SvROK|||
SvRV_set|5.009003||p
SvRV|||
SvRXOK||5.009005|
SvRX||5.009005|
SvSETMAGIC|||
SvSHARED_HASH|5.009003||p
SvSHARE||5.007003|
SvSTASH_set|5.009003||p
SvSTASH|||
SvSetMagicSV_nosteal||5.004000|
SvSetMagicSV||5.004000|
SvSetSV_nosteal||5.004000|
SvSetSV|||
SvTAINTED_off||5.004000|
SvTAINTED_on||5.004000|
SvTAINTED||5.004000|
SvTAINT|||
SvTRUE|||
SvTYPE|||
SvUNLOCK||5.007003|
SvUOK|5.007001|5.006000|p
SvUPGRADE|||
SvUTF8_off||5.006000|
SvUTF8_on||5.006000|
SvUTF8||5.006000|
SvUVXx|5.004000||p
SvUVX|5.004000||p
SvUV_nomg|5.009001||p
SvUV_set|5.009003||p
SvUVx|5.004000||p
SvUV|5.004000||p

SvVOK|5.008001|
SvVSTRING_mg|5.009004||p
THIS||n
UNDERBAR|5.009002||p
UTF8_MAXBYTES|5.009002||p
UVSIZE|5.006000||p
UVTYPE|5.006000||p
UVXf|5.007001||p
UVof|5.006000||p
UVuf|5.006000||p
UVxf|5.006000||p
WARN_ALL|5.006000||p
WARN_AMBIGUOUS|5.006000||p
WARN_ASSERTIONS|5.011000||p
WARN_BAREWORD|5.006000||p
WARN_CLOSED|5.006000||p
WARN_CLOSURE|5.006000||p
WARN_DEBUGGING|5.006000||p
WARN_DEPRECATED|5.006000||p
WARN_DIGIT|5.006000||p
WARN_EXEC|5.006000||p
WARN_EXITING|5.006000||p
WARN_GLOB|5.006000||p
WARN_INPLACE|5.006000||p
WARN_INTERNAL|5.006000||p
WARN_IO|5.006000||p
WARN_LAYER|5.008000||p
WARN_MALLOC|5.006000||p
WARN_MISC|5.006000||p
WARN_NEWLINE|5.006000||p
WARN_NUMERIC|5.006000||p
WARN_ONCE|5.006000||p
WARN_OVERFLOW|5.006000||p
WARN_PACK|5.006000||p
WARN_PARENTHESES|5.006000||p
WARN_PIPE|5.006000||p
WARN_PORTABLE|5.006000||p
WARN_PRECEDENCE|5.006000||p
WARN_PRINTF|5.006000||p
WARN_PROTOTYPE|5.006000||p
WARN_QW|5.006000||p
WARN_RECURSION|5.006000||p
WARN_REDEFINE|5.006000||p
WARN_REGEXP|5.006000||p
WARN_RESERVED|5.006000||p
WARN_SEMICOLON|5.006000||p
WARN_SEVERE|5.006000||p
WARN_SIGNAL|5.006000||p

WARN_SUBSTR|5.006000||p
WARN_SYNTAX|5.006000||p
WARN_TAINT|5.006000||p
WARN_THREADS|5.008000||p
WARN_UNINITIALIZED|5.006000||p
WARN_UNOPENED|5.006000||p
WARN_UNPACK|5.006000||p
WARN_UNTIE|5.006000||p
WARN_UTF8|5.006000||p
WARN_VOID|5.006000||p
XCPT_CATCH|5.009002||p
XCPT_RETHROW|5.009002||p
XCPT_TRY_END|5.009002||p
XCPT_TRY_START|5.009002||p
XPUSHi|||
XPUSHmortal|5.009002||p
XPUSHn|||
XPUSHp|||
XPUSHs|||
XPUSHu|5.004000||p
XSRETURN_EMPTY|||
XSRETURN_IV|||
XSRETURN_NO|||
XSRETURN_NV|||
XSRETURN_PV|||
XSRETURN_UNDEF|||
XSRETURN_UV|5.008001||p
XSRETURN_YES|||
XSRETURN|||p
XST_mIV|||
XST_mNO|||
XST_mNV|||
XST_mPV|||
XST_mUNDEF|||
XST_mUV|5.008001||p
XST_mYES|||
XS_VERSION_BOOTCHECK|||
XS_VERSION|||
XSprePUSH|5.006000||p
XS|||
ZeroD|5.009002||p
Zero|||
_aMY_CXT|5.007003||p
_pMY_CXT|5.007003||p
aMY_CXT_|5.007003||p
aMY_CXT|5.007003||p
aTHXR_|5.011000||p
aTHXR|5.011000||p

aTHX_|5.006000|p
aTHX|5.006000|p
add_data||n
addmad||
allocmy||
amagic_call||
amagic_cmp_locale||
amagic_cmp||
amagic_i_ncmp||
amagic_ncmp||
any_dup||
ao||
append_elem||
append_list||
append_madprops||
apply_attrs_my||
apply_attrs_string||5.006001|
apply_attrs||
apply||
atfork_lock||5.007003|n
atfork_unlock||5.007003|n
av_arylen_p||5.009003|
av_clear||
av_create_and_push||5.009005|
av_create_and_unshift_one||5.009005|
av_delete||5.006000|
av_exists||5.006000|
av_extend||
av_fake||
av_fetch||
av_fill||
av_iter_p||5.011000|
av_len||
av_make||
av_pop||
av_push||
av_reify||
av_shift||
av_store||
av_undef||
av_unshift||
ax||n
bad_type||
bind_match||
block_end||
block_gimme||5.004000|
block_start||
boolSV|5.004000|p

boot_core_PerIO|||
boot_core_UNIVERSAL|||
boot_core_mro|||
boot_core_xsutils|||
bytes_from_utf8|5.007001|
bytes_to_uni||n
bytes_to_utf8|5.006001|
call_argv|5.006000|p
call_atexit|5.006000|
call_list|5.004000|
call_method|5.006000|p
call_pv|5.006000|p
call_sv|5.006000|p
calloc|5.007002|n
cando|||
cast_i32|5.006000|
cast_iv|5.006000|
cast_ulong|5.006000|
cast_uv|5.006000|
check_type_and_open|||
check_uni|||
checkcomma|||
checkposixcc|||
ckWARN|5.006000|p
ck_anoncode|||
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sv_catsv_mg|5.004050||p
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```

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yyerror|||
yylex|||
yyparse|||
yywarn|||
);

if
(exists $opt{'list-unsupported'}) {
my $f;
for $f (sort { lc $a cmp lc $b } keys %API) {
next unless $API{$f}{todo};
print "$f ", 'x'(40-length($f)), " ", format_version($API{$f}{todo}), "\n";
}
exit 0;
}

# Scan for possible replacement candidates

my(%replace, %need, %hints, %warnings, %depends);
my $replace = 0;
my($hint, $define, $function);

sub find_api
{
my $code = shift;
$code =~ s{
/ (? : \*[^\*]*\*(?:[^\$ccs][^\*]*+)* / | /[\r\n]*
| "[^\\"\\]*(?:\\.[^\\"\\])*"
| '[^\']*?(?:\\.[^\']*)*' }{ }egsx;
grep { exists $API{$_} } $code =~ /(\w+)/mg;
}

while (<DATA>) {
if ($hint) {
my $h = $hint->[0] eq 'Hint' ? \%hints : \%warnings;
if (m{^\s*\s*(.*?)\s*$}) {
for (@{$hint->[1]}) {
$h->{$_} ||=
"; # suppress warning with older perls
$h->{$_} .= "$1\n";
}
}
else { undef $hint }
}
}

```

```

$hint = [$1, [split /,?\s+/, $2]]
  if m{^\s*$rccs\s+(Hint|Warning):\s+(\w+(?:,\s+\w+)*)\s*$};

if ($define) {
  if ($define->[1] =~ /\$/) {
    $define->[1] .= $_;
  }
  else {
    if (exists $API{$define->[0]} && $define->[1] !~ /^DPPP_\(/) {
      my @n = find_api($define->[1]);
      push @{$depends{$define->[0]}}, @n if @n
    }
    undef $define;
  }
}

$define = [$1, $2] if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(.*)};

if ($function) {
  if (/^/) {
    if (exists $API{$function->[0]}) {
      my @n = find_api($function->[1]);
      push @{$depends{$function->[0]}}, @n if @n
    }
    undef $function;
  }
  else {
    $function->[1] .= $_;
  }
}

$function = [$1, ""] if m{^DPPP_\(my_(\w+)\)};

$replace = $1 if m{^\s*$rccs\s+Replace:\s+(\d+)\s+$rcces*$};
$replace{$2} = $1 if $replace and m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+)};
$replace{$2} = $1 if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+).*rccs\s+Replace\s+$rcces};
$replace{$1} = $2 if m{^\s*$rccs\s+Replace (\w+) with (\w+)\s+$rcces*$};

if (m{^\s*$rccs\s+(\w+(\s*,\s*\w+)*)\s+depends\s+on\s+(\w+(\s*,\s*\w+)*)\s+$rcces*$}) {
  my @deps = map { s/\s+//g; $_ } split /,/, $3;
  my $d;
  for $d (map { s/\s+//g; $_ } split /,/, $1) {
    push @{$depends{$d}}, @deps;
  }
}

$need{$1} = 1 if m{^#\s+defined\(\NEED_(\w+)(?:_GLOBAL)?\)};

```



```

}

for (values %depends) {
  my %s;
  $_ = [sort grep !$_{$_}++, @$_];
}

if (exists $opt{'api-info'}) {
  my $f;
  my $count = 0;
  my $match = $opt{'api-info'} =~ m!^(.*)/$! ? $1 : "\Q$opt{'api-info'}\E\$";
  for $f (sort { lc $a cmp lc $b } keys %API) {
    next unless $f =~ /$match/;
    print "\n=== $f ===\n\n";
    my $info = 0;
    if ($API{$f}{base} || $API{$f}{todo}) {
      my $base = format_version($API{$f}{base} || $API{$f}{todo});
      print "Supported
at least starting from perl-$base.\n";
      $info++;
    }
    if ($API{$f}{provided}) {
      my $todo = $API{$f}{todo} ? format_version($API{$f}{todo}) : "5.003";
      print "Support by $ppport provided back to perl-$todo.\n";
      print "Support needs to be explicitly requested by NEED_$f.\n" if exists $need{$f};
      print "Depends on: ", join(', ', @{$depends{$f}}), ".\n" if exists $depends{$f};
      print "\n$hints{$f}" if exists $hints{$f};
      print "\nWARNING:\n$warnings{$f}" if exists $warnings{$f};
      $info++;
    }
    print "No portability information available.\n" unless $info;
    $count++;
  }
  $count or print "Found no API matching '$opt{'api-info'}'.";
  print "\n";
  exit 0;
}

if (exists $opt{'list-provided'}) {
  my $f;
  for $f (sort { lc $a cmp lc $b } keys %API) {
    next unless $API{$f}{provided};
    my @flags;
    push @flags, 'explicit' if exists $need{$f};
    push @flags, 'depend' if exists $depends{$f};
    push @flags, 'hint' if exists
    $hints{$f};
    push @flags, 'warning' if exists $warnings{$f};
  }
}

```

```

my $flags = @flags ? ' [' . join(', ', @flags) . ']' : "";
print "$f$flags\n";
}
exit 0;
}

my @files;
my @srcext = qw( .xs .c .h .cc .cpp -c.inc -xs.inc );
my $srcext = join '|', map { quotemeta $_ } @srcext;

if (@ARGV) {
my %seen;
for (@ARGV) {
if (-e) {
if (-f) {
push @files, $_ unless $seen{$_}++;
}
else { warn "'$_' is not a file.\n" }
}
else {
my @new = grep { -f } glob $_
or warn "'$_' does not exist.\n";
push @files, grep { !$seen{$_}++ } @new;
}
}
}
else {
eval {
require File::Find;
File::Find::find(sub {
$File::Find::name =~ /($srcext)$/i
and push @files, $File::Find::name;
}, '.');
};
if ($?) {
@files = map { glob "$*" } @srcext;
}
}

if (!@ARGV || $opt{filter}) {
my(@in, @out);
my %xsc = map { /\.(.*)\.xs$/ ? ("1.c" => 1, "1.cc" => 1) : () } @files;
for (@files) {
my $out = exists
$xsc{$_} || /\bQ$ppport\E$/i || !/($srcext)$/i;
push @ { $out ? \@out : \@in }, $_;
}
if (@ARGV && @out) {

```

```

warning("Skipping the following files (use --nofilter to avoid this):\n| ", join "\n| ", @out);
}
@files = @in;
}

```

```
die "No input files given!\n" unless @files;
```

```

my(%files, %global, %revreplace);
%revreplace = reverse %replace;
my $filename;
my $patch_opened = 0;

```

```

for $filename (@files) {
  unless (open IN, "<$filename") {
    warn "Unable to read from $filename: $!\n";
    next;
  }
}

```

```
info("Scanning $filename ...");
```

```

my $c = do { local $/; <IN> };
close IN;

```

```
my %file = (orig => $c, changes => 0);
```

```

# Temporarily remove C/XS comments and strings from the code
my @ccom;

```

```

$c =~ s{
  ( ^$HS*#$HS*include\b[^\r\n]+\b(?:\Q$ppport\E|XSUB\.h)\b[^\r\n]*
  | ^$HS*#$HS*(?:define|elif|if(?:def?))\b[^\r\n]* )
| ( ^$HS*\#[^\r\n]*
  | "[^"\\]*(?:\\.|[^\\"\\])*"
  | '[^"\\]*(?:\\.|[^\\"\\])*'
  | /(?: \*[^\*]*\*+(?:\^[^$ccs][^*]*\*+)* /|/[^\r\n]* ) )
}{ defined
$2 and push @ccom, $2;
  defined $1 ? $1 : "$ccs$#ccom$cce" }mgsex;

```

```
$file{ccom} = \@ccom;
```

```
$file{code} = $c;
```

```
$file{has_inc_ppport} = $c =~ /^$HS*#$HS*include[^\r\n]+\b\Q$ppport\E\b/m;
```

```
my $func;
```

```

for $func (keys %API) {
  my $match = $func;
  $match .= "|$revreplace{$func}" if exists $revreplace{$func};
}

```

```

if ($c =~ /\b(?:Perl_)?($match)\b/) {
    $file{uses_replace}{$$1}++ if exists $revreplace{$func} && $1 eq $revreplace{$func};
    $file{uses_Perl}{$func}++ if $c =~ /\bPerl_$func\b/;
    if (exists $API{$func}{provided}) {
        $file{uses_provided}{$func}++;
        if (!exists $API{$func}{base} || $API{$func}{base} > $opt{'compat-version'}) {
            $file{uses}{$func}++;
            my @deps = rec_depend($func);
            if (@deps) {
                $file{uses_deps}{$func} = \@deps;
                for (@deps) {
                    $file{uses}{$_} = 0 unless exists $file{uses}{$_};
                }
            }
            for ($func, @deps) {
                $file{needs}{$_}
            }
        }
    }
    = 'static' if exists $need{$_};
}
}
}
if (exists $API{$func}{todo} && $API{$func}{todo} > $opt{'compat-version'}) {
    if ($c =~ /\b$func\b/) {
        $file{uses_todo}{$func}++;
    }
}
}
}

while ($c =~ /^$HS*#$HS*define$HS+(NEED_(\w+?)(_GLOBAL)?)\b/mg) {
    if (exists $need{$2}) {
        $file{defined $3 ? 'needed_global' : 'needed_static'}{$2}++;
    }
    else { warning("Possibly wrong #define $1 in $filename") }
}

for (qw(uses needs uses_todo needed_global needed_static)) {
    for $func (keys %{$file{$_}}) {
        push @{$global{$_}{$func}}, $filename;
    }
}

$files{$filename} = \%file;
}

# Globally resolve NEED_'s
my $need;
for $need (keys %{$global{needs}}) {
    if (@{$global{needs}{$need}} > 1) {

```

```

my @targets = @{$global{needs}{$need}};
my @t = grep $files{$_}{needed_global}{$need}, @targets;
@targets = @t if @t;
@t = grep /\.xs$/i, @targets;
@targets = @t if @t;
my $target = shift @targets;
$files{$target}{needs}{$need} = 'global';
for (@{$global{needs}{$need}}) {
    $files{$_}{needs}{$need} = 'extern' if $_ ne $target;
}
}
}

for $filename (@files) {
exists $files{$filename} or next;

info("==== Analyzing $filename ====");

my %file = %{$files{$filename}};
my $func;
my $c = $file{code};
my $warnings = 0;

for $func (sort keys %{$file{uses_Perl}}) {
if ($API{$func}{varargs}) {
unless ($API{$func}{nothxarg}) {
my $changes = ($c =~ s{\b(Perl_$func\s*\(\s*(?!aTHX_?)\(\)[^\s]*)\)}
    { $1 . ($2 eq ') ? 'aTHX' : 'aTHX_' ) . $2 }ge);
if ($changes) {
warning("Doesn't pass interpreter argument aTHX to Perl_$func");
$file{changes} += $changes;
}
}
}
else {
warning("Uses Perl_$func instead of $func");
$file{changes} += ($c =~ s{\bPerl_$func(\s*)\(\(\s*aTHX_?\)\s*}
    {$func$1()}g);
}
}

for $func (sort
keys %{$file{uses_replace}}) {
warning("Uses $func instead of $replace{$func}");
$file{changes} += ($c =~ s{\b$func\b/$replace{$func}/g);
}

for $func (sort keys %{$file{uses_provided}}) {

```

```

if ($file{uses}{$func}) {
  if (exists $file{uses_deps}{$func}) {
    diag("Uses $func, which depends on ", join(', ', @{$file{uses_deps}{$func}}));
  }
  else {
    diag("Uses $func");
  }
}
}
$warnings += hint($func);
}

```

```

unless ($opt{quiet}) {
  for $func (sort keys %{$file{uses_todo}}) {
    print "*** WARNING: Uses $func, which may not be portable below perl ",
      format_version($API{$func}{todo}), ", even with '$ppport'\n";
    $warnings++;
  }
}

```

```

for $func (sort keys %{$file{needed_static}}) {
  my $message = "";
  if (not exists $file{uses}{$func}) {
    $message = "No need to define NEED_$func if $func is never used";
  }
  elsif (exists $file{needs}{$func} && $file{needs}{$func} ne 'static') {
    $message =
    "No need to define NEED_$func when already needed globally";
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_$func\b.*$LF//mg);
  }
}

```

```

for $func (sort keys %{$file{needed_global}}) {
  my $message = "";
  if (not exists $global{uses}{$func}) {
    $message = "No need to define NEED_${func}_GLOBAL if $func is never used";
  }
  elsif (exists $file{needs}{$func}) {
    if ($file{needs}{$func} eq 'extern') {
      $message = "No need to define NEED_${func}_GLOBAL when already needed globally";
    }
    elsif ($file{needs}{$func} eq 'static') {
      $message = "No need to define NEED_${func}_GLOBAL when only used in this file";
    }
  }
  if ($message) {

```

```

diag($message);
$file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_{func}_GLOBAL\b.*$LF//mg);
}
}

$file{needs_inc_ppport} = keys %{$file{uses}};

if ($file{needs_inc_ppport}) {
    my $pp = "";

    for $func (sort keys %{$file{needs}})
    {
        my $type = $file{needs}{$func};
        next if $type eq 'extern';
        my $suffix = $type eq 'global' ? '_GLOBAL' : "";
        unless (exists $file{"needed_$type"}{$func}) {
            if ($type eq 'global') {
                diag("Files [@$global{needs}{$func}] need $func, adding global request");
            }
            else {
                diag("File needs $func, adding static request");
            }
            $pp .= "#define NEED_$func$suffix\n";
        }
    }
}

if ($pp && ($c =~ s/^(?=$HS*#\$HS*define\$HS+NEED_\w+)/$pp/m)) {
    $pp = "";
    $file{changes}++;
}

unless ($file{has_inc_ppport}) {
    diag("Needs to include '$ppport'");
    $pp .= qq(#include "$ppport"\n)
}

if ($pp) {
    $file{changes} += ($c =~ s/^(($HS*#\$HS*define\$HS+NEED_\w+.*?)^/$1$pp/ms)
        || ($c =~ s/^(?=$HS*#\$HS*include.*\Q$ppport\E)/$pp/m)
        || ($c =~ s/^(($HS*#\$HS*include.*XSUB.*\s*?)^/$1$pp/m)
        || ($c =~ s/^\$pp/);
}

}

else {
    if ($file{has_inc_ppport}) {
        diag("No need to include '$ppport'");
        $file{changes} += ($c =~ s/^\$HS*?#\$HS*include.*\Q$ppport\E.*?$LF//m);
    }
}

```

```

}
}

# put back in our C comments
my $ix;
my $cppc = 0;
my @ccom = @{$file{ccom}};
for $ix (0 .. $#ccom) {
    if (!$opt{cplusplus} && $ccom[$ix] =~ s!^/!!) {
        $cppc++;
        $file{changes} += $c =~ s/$rccs$ix$rcce/$ccs$ccom[$ix] $cce/;
    }
    else {
        $c =~ s/$rccs$ix$rcce/$ccom[$ix]/;
    }
}

if ($cppc) {
    my $s = $cppc != 1 ? 's' : '';
    warning("Uses $cppc C++ style comment$s, which is not portable");
}

my $s = $warnings != 1 ? 's' : '';
my $warn = $warnings ? " ($warnings warning$s)" : "";
info("Analysis completed$warn");

if ($file{changes}) {
    if (exists $opt{copy}) {
        my $newfile = "$filename$opt{copy}";
        if (-e $newfile) {
            error("$newfile' already exists, refusing to write copy of '$filename'");
        }
        else {
            local *F;
            if
(open F, ">$newfile") {
                info("Writing copy of '$filename' with changes to '$newfile'");
                print F $c;
                close F;
            }
            else {
                error("Cannot open '$newfile' for writing: $!");
            }
        }
    }
    elsif (exists $opt{patch} || $opt{changes}) {
        if (exists $opt{patch}) {
            unless ($patch_opened) {

```



```

    if (open PATCH, ">$opt{patch}") {
        $patch_opened = 1;
    }
    else {
        error("Cannot open '$opt{patch}' for writing: $!");
        delete $opt{patch};
        $opt{changes} = 1;
        goto fallback;
    }
}
mydiff(\*PATCH, $filename, $c);
}
else {
fallback:
    info("Suggested changes:");
    mydiff(\*STDOUT, $filename, $c);
}
}
else {
    my $s = $file{changes} == 1 ? " : 's'";
    info("$file{changes} potentially required change$s detected");
}
}
else {
    info("Looks good");
}
}

close PATCH if $patch_opened;

exit
0;

sub try_use { eval "use @_;"; return $@ eq " }

sub mydiff
{
    local *F = shift;
    my($file, $str) = @_;
    my $diff;

    if (exists $opt{diff}) {
        $diff = run_diff($opt{diff}, $file, $str);
    }

    if (!defined $diff and try_use("Text::Diff")) {
        $diff = Text::Diff::diff($file, \$str, { STYLE => 'Unified' });
    }
}

```

```

    $diff = <<HEADER . $diff;
--- $file
+++ $file.patched
HEADER
}

if (!defined $diff) {
    $diff = run_diff('diff -u', $file, $str);
}

if (!defined $diff) {
    $diff = run_diff('diff', $file, $str);
}

if (!defined $diff) {
    error("Cannot generate a diff. Please install Text::Diff or use --copy.");
    return;
}

print F $diff;
}

sub run_diff
{
    my($prog, $file, $str) = @_ ;
    my $tmp = 'dppptemp';
    my $suf = 'aaa';
    my $diff = "";
    local *F;

    while (-e "$tmp.$suf") { $suf++ }
    $tmp = "$tmp.$suf";

    if (open F, ">$tmp") {
        print F $str;
        close F;

        if (open F, "$prog $file $tmp |") {
            while (<F>) {
                s/\Q$tmp\E/$file.patched/;
                $diff .= $_;
            }
            close F;
            unlink $tmp;
            return $diff;
        }

        unlink $tmp;

```

```

}
else {
    error("Cannot open '$tmp' for writing: $!");
}

return undef;
}

sub rec_depend
{
    my($func, $seen) = @_ ;
    return () unless exists $depends{$func};
    $seen = {%{$seen}{}};
    return () if $seen->{$func}++;
    my %s;
    grep !${$_}++, map { ($_, rec_depend($_, $seen)) } @{$depends{$func}};
}

sub parse_version
{
    my $ver = shift;

    if ($ver =~ /^(d+)\.(d+)\.(d+)$/) {
        return ($1, $2, $3);
    }
    elsif ($ver !~ /^d+\.[d_]+$/) {
        die "cannot parse version '$ver'\n";
    }

    $ver =~ s/_//g;
    $ver =~ s/$/000000/;

    my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

    $v = int $v;
    $s = int $s;

    if ($r < 5 || ($r == 5 && $v < 6)) {
        if ($s % 10) {
            die "cannot parse version '$ver'\n";
        }
    }

    return ($r, $v, $s);
}

sub format_version
{

```

```

my $ver = shift;

$ver =~ s/000000/;
my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;
$s = int $s;

if ($r < 5 || ($r == 5 && $v < 6)) {
    if ($s % 10) {
        die "invalid version '$ver'\n";
    }
    $s /= 10;

    $ver = sprintf "%d.%03d", $r, $v;
    $s > 0 and $ver .= sprintf "_%02d", $s;

    return $ver;
}

return sprintf "%d.%d.%d", $r, $v, $s;

sub info
{
    $opt{quiet} and return;
    print @_, "\n";
}

sub diag
{
    $opt{quiet} and return;
    $opt{diag} and print @_, "\n";
}

sub warning
{
    $opt{quiet} and return;
    print "*** ", @_, "\n";
}

sub error
{
    print "*** ERROR: ", @_, "\n";
}

my %given_hints;
my %given_warnings;

```

```

sub hint
{
  $opt{quiet} and return;
  my $func = shift;
  my $rv = 0;
  if (exists $warnings{$func} && !$given_warnings{$func}++) {
    my $warn = $warnings{$func};
    $warn =~ s/^\s*\s*!mg;
    print "*** WARNING: $func\n", $warn;
    $rv++;
  }
  if ($opt{hints} && exists $hints{$func} && !$given_hints{$func}++) {
    my $hint = $hints{$func};
    $hint =~ s/^\s*/mg;
    print " --- hint for $func
---\n", $hint;
  }
  $rv;
}

sub usage
{
  my($usage) = do { local(@ARGV,$/)=($0); <> } =~ /^=head\d$HS+SYNOPSIS\s*(.*)\s*^=/ms;
  my %M = ( 'T' => '*' );
  $usage =~ s/^\s*perl\s+\s+/$^X $0/;
  $usage =~ s/([A-Z])<([>]+)>/M{$1}$2M{$1}/g;

  print <<ENDUSAGE;

Usage: $usage

See perldoc $0 for details.

ENDUSAGE

exit 2;
}

sub strip
{
  my $self = do { local(@ARGV,$/)=($0); <> };
  my($copy) = $self =~ /^=head\d\s+COPYRIGHT\s*(.*)^=\w+/ms;
  $copy =~ s/^(?=\s+)/gms;
  $self =~ s/^\s*$HS+Do NOT edit.*?(?=-)/$copy/ms;
  $self =~ s/^\s*SKIP.*(?:=__DATA__)/SKIP
if (\@ARGV && $ARGV[0] eq '--unstrip') {
  eval { require Devel::PPPport };
  \$_ and die "Cannot require Devel::PPPport, please install.\n";
}

```

```

if (eval \Devel::PPPport::VERSION < $VERSION) {
  die "$0 was originally generated with Devel::PPPport $VERSION.\n"
  . "Your Devel::PPPport is only version \Devel::PPPport::VERSION.\n"
  . "Please install a newer version, or --unstrip will not work.\n";
}
Devel::PPPport::WriteFile(\$0);
exit 0;
}
print <<END;

```

Sorry, but this is a stripped version of \\$0.

To be able to use its original script and doc functionality,
please try to regenerate this file using:

```
\$^X \$0 --unstrip
```

```

END
/ms;
my($pl, $c) = $self =~ /(.*^__DATA__)(.*)/ms;
$c =~ s{
  /(?: \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* | /[\r\n]*)
  | ("["\*\?:\.["\*\?:"*)
  | '["\*\?:\.["\*\?:"*)
  | ($HS+) }{ defined $2 ? '': ($1 || ") }gsex;
$c =~ s!\s+!!mg;
$c =~ s!^\$LF!!mg;
$c =~ s!\s*#\s*#!mg;
$c =~ s!\s+!!mg;

open OUT, ">$0" or die "cannot strip $0: $!\n";
print OUT "$pl$c\n";

exit 0;
}

```

```
__DATA__
*/
```

Found in path(s):

```
* /opt/cola/permits/1204657911_1634081496.35/0/perl-Filter-1.49-3.amzn2.0.2.src.rpm-cosi-expand-archive-
HJBHw6Ve/Filter-1.49.tar.gz-cosi-expand-archive-aFCIgl5/Filter-1.49/Call/ppport.h
```

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

abstract: 'Source Filters'

author:

- 'Paul Marquess <pmqs@cpan.org>'

build_requires:
ExtUtils::MakeMaker: 0
configure_requires:
ExtUtils::MakeMaker: 0
dynamic_config: 1
generated_by: 'ExtUtils::MakeMaker version 6.64, CPAN::Meta::Converter version 2.120630'
license: perl
meta-spec:
url: <http://module-build.sourceforge.net/META-spec-v1.4.html>
version: 1.4
name: Filter
no_index:
directory:
- t
- inc
recommends:
Filter::Simple: 0.88
Filter::Simple::Compile: 0.02
requires: { }
resources:
license: <http://dev.perl.org/licenses/>
repository: <https://github.com/rurban/Filter>
version: 1.49

Found in path(s):

* /opt/cola/permits/1204657911_1634081496.35/0/perl-Filter-1.49-3.amzn2.0.2.src.rpm-cosi-expand-archive-HJBHw6Ve/Filter-1.49.tar.gz-cosi-expand-archive-aFCIqk15/Filter-1.49/META.yml

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

/*

* Filename : Call.xs

*

* Author : Paul Marquess

* Date : 2013-03-29 09:04:42 rurban

* Version : 1.49

*

* Copyright (c) 1995-2011 Paul Marquess. All rights reserved.

* This program is free software; you can redistribute it and/or

* modify it under the same terms as Perl itself.

*

*/

Found in path(s):

* /opt/cola/permits/1204657911_1634081496.35/0/perl-Filter-1.49-3.amzn2.0.2.src.rpm-cosi-expand-archive-HJBHw6Ve/Filter-1.49.tar.gz-cosi-expand-archive-aFCIqk15/Filter-1.49/Call/Call.xs

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License: GPL+ or Artistic

Found in path(s):

* /opt/cola/permits/1204657911_1634081496.35/0/perl-Filter-1.49-3.amzn2.0.2.src.rpm-cosi-expand-archive-HJBHw6Ve/perl-Filter.spec

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

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This program is free software; you can redistribute it and/or

modify it under the same terms as Perl itself.

Found in path(s):

* /opt/cola/permits/1204657911_1634081496.35/0/perl-Filter-1.49-3.amzn2.0.2.src.rpm-cosi-expand-archive-HJBHw6Ve/Filter-1.49.tar.gz-expand-archive-aFCIgl5/Filter-1.49/Call/Call.pm

1.129 perl-getopt-long 2.40-3.amzn2

1.129.1 Available under license :

Found license 'General Public License 2.0' in 'This program is free software; you can redistribute it and/or modify it under the terms of the Perl Artistic License or the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, 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. If you do not have a copy of the GNU General Public License write to MA 02139, USA.'

Found license 'General Public License 2.0' in 'This program is free software; you can redistribute it and/or modify it under the terms of the Perl Artistic License or the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.'

1.130 perl-parent 0.225-244.amzn2.0.1

1.130.1 Available under license :

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License: GPL+ or Artistic

Found in path(s):

* /opt/cola/permits/1204657854_1634081715.58/0/perl-parent-0.225-244.amzn2.0.1.src.rpm-cosi-expand-archive-4bgLbqle/perl-parent.spec

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

=encoding utf8

=head1 NAME

parent - Establish an ISA relationship with base classes at compile time

=head1 SYNOPSIS


```
package Baz;
use parent qw(Foo Bar);
```

=head1 DESCRIPTION

Allows you to both load one or more modules, while setting up inheritance from those modules at the same time. Mostly similar in effect to

```
package Baz;
BEGIN {
    require Foo;
    require Bar;
    push @ISA, qw(Foo Bar);
}
```

By default, every base class needs to live in a file of its own.

If you want to have a subclass and its parent class in the same file, you can tell C<parent> not to load any modules by using the C<-norequire> switch:

```
package Foo;
sub exclaim { "I CAN HAS PERL" }
```

```
package DoesNotLoadFooBar;
use parent -norequire, 'Foo', 'Bar';
# will not go looking for Foo.pm or Bar.pm
```

This is equivalent to the following code:

```
package Foo;
sub exclaim { "I CAN HAS PERL" }
```

```
package DoesNotLoadFooBar;
push @DoesNotLoadFooBar::ISA, 'Foo', 'Bar';
```

This is also helpful for the case where a package lives within a differently named file:

```
package MyHash;
use Tie::Hash;
use parent -norequire, 'Tie::StdHash';
```

This is equivalent to the following code:

```
package MyHash;
require Tie::Hash;
push @ISA, 'Tie::StdHash';
```

If you want to load a subclass from a file that C<require> would not consider an eligible filename (that is, it does not end in either C<.pm> or C<.pmc>), use the following code:

```
package MySecondPlugin;
require './plugins/custom.plugin'; # contains Plugin::Custom
use parent -norequire, 'Plugin::Custom';
```

=head1 DIAGNOSTICS

=over 4

=item Class 'Foo' tried to inherit from itself

Attempting to inherit from yourself generates a warning.

```
package Foo;
use parent 'Foo';
```

=back

=head1 HISTORY

This module was forked from L<base> to remove the cruft that had accumulated in it.

=head1 CAVEATS

=head1 SEE ALSO

L<base>

=head1 AUTHORS AND CONTRIBUTORS

Rafaël

Garcia-Suarez, Bart Lateur, Max Maischein, Anno Siegel, Michael Schwern

=head1 MAINTAINER

Max Maischein C< corion@cpan.org >

Copyright (c) 2007-10 Max Maischein C<< corion@cpan.org >>

Based on the idea of C<base.pm>, which was introduced with Perl 5.004_04.

=head1 LICENSE

This module is released under the same terms as Perl itself.

=cut

Found in path(s):

* /opt/cola/permits/1204657854_1634081715.58/0/perl-parent-0.225-244.amzn2.0.1.src.rpm-cosi-expand-archive-4bgLbqIe/parent-0.225.tar.gz-cosi-expand-archive-EbDGB4aq/parent-0.225/lib/parent.pm

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

license: unknown

Found in path(s):

* /opt/cola/permits/1204657854_1634081715.58/0/perl-parent-0.225-244.amzn2.0.1.src.rpm-cosi-expand-archive-4bgLbqIe/parent-0.225.tar.gz-cosi-expand-archive-EbDGB4aq/parent-0.225/META.yml

1.131 perl-scalar-list-utils 1.27-248.amzn2.0.2

1.131.1 Available under license :

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

/*

ppport.h -- Perl/Pollution/Portability Version 3.19_02

Automatically created by Devel::PPPport running under perl 5.010000.

Do NOT edit this file directly! -- Edit PPPport_pm.PL and the includes in parts/inc/ instead.

Use 'perldoc ppport.h' to view the documentation below.

SKIP

=pod

=head1 NAME

ppport.h - Perl/Pollution/Portability version 3.19_02

=head1 SYNOPSIS

perl ppport.h [options] [source files]

Searches current directory for files if no [source files] are given

--help show short help

--version show version

 --patch=file write one patch file with changes
 --copy=suffix write changed copies with suffix
 --diff=program use diff program and options

 --compat-version=version provide compatibility with Perl version
 --cplusplus accept C++ comments

 --quiet don't output anything except fatal errors
 --nodiag don't show diagnostics
 --nohints don't show hints
 --nochanges don't suggest changes
 --nofilter don't filter input files

 --strip strip all script and doc functionality from
 ppport.h

 --list-provided list provided API
 --list-unsupported list unsupported API
 --api-info=name show Perl API portability information

=head1 COMPATIBILITY

This version of F<ppport.h> is designed to support operation with Perl installations back to 5.003, and has been tested up to 5.11.5.

=head1 OPTIONS

=head2 --help

Display a brief usage summary.

=head2 --version

Display the version of F<ppport.h>.

=head2 --patch=I<file>

If this option is given, a single patch file will be created if any changes are suggested. This requires a working diff program to be installed on your system.

=head2 --copy=I<suffix>

If this option is given, a copy of each file will be saved with

the given suffix that contains the suggested changes. This does not require any external programs. Note that this does not automagically add a dot between the original filename and the suffix. If you want the dot, you have to include it in the option argument.

If neither C<--patch> or C<--copy> are given, the default is to simply print the diffs for each file. This requires either C<Text::Diff> or a C<diff> program to be installed.

```
=head2 --diff=I<program>
```

Manually set the diff program and options to use. The default is to use C<Text::Diff>, when installed, and output unified context diffs.

```
=head2 --compat-version=I<version>
```

Tell F<ppport.h> to check for compatibility with the given Perl version. The default is to check for compatibility with Perl version

5.003. You can use this option to reduce the output of F<ppport.h> if you intend to be backward compatible only down to a certain Perl version.

```
=head2 --cplusplus
```

Usually, F<ppport.h> will detect C++ style comments and replace them with C style comments for portability reasons. Using this option instructs F<ppport.h> to leave C++ comments untouched.

```
=head2 --quiet
```

Be quiet. Don't print anything except fatal errors.

```
=head2 --nodiag
```

Don't output any diagnostic messages. Only portability alerts will be printed.

```
=head2 --nohints
```

Don't output any hints. Hints often contain useful portability notes. Warnings will still be displayed.

```
=head2 --nochanges
```

Don't suggest any changes. Only give diagnostic output and hints unless these are also deactivated.

=head2 --nofilter

Don't filter the list of input files. By default, files not looking like source code (i.e. not *.xs, *.c, *.cc, *.cpp or *.h) are skipped.

=head2 --strip

Strip all script and documentation functionality from F<ppport.h>.

This

reduces the size of F<ppport.h> dramatically and may be useful if you want to include F<ppport.h> in smaller modules without increasing their distribution size too much.

The stripped F<ppport.h> will have a C<--unstrip> option that allows you to undo the stripping, but only if an appropriate C<Devel::PPPort> module is installed.

=head2 --list-provided

Lists the API elements for which compatibility is provided by F<ppport.h>. Also lists if it must be explicitly requested, if it has dependencies, and if there are hints or warnings for it.

=head2 --list-unsupported

Lists the API elements that are known not to be supported by F<ppport.h> and below which version of Perl they probably won't be available or work.

=head2 --api-info=I<name>

Show portability information for API elements matching I<name>.

If I<name> is surrounded by slashes, it is interpreted as a regular expression.

=head1 DESCRIPTION

In order for a Perl extension (XS) module to be as portable as possible across

differing versions of Perl itself, certain steps need to be taken.

=over 4

=item *

Including this header is the first major one. This alone will give you access to a large part of the Perl API that hasn't been available in earlier Perl releases. Use

```
perl ppport.h --list-provided
```

to see which API elements are provided by ppport.h.

=item *

You should avoid using deprecated parts of the API. For example, using global Perl variables without the C<PL_> prefix is deprecated. Also, some API functions used to have a C<perl_> prefix. Using this form is also deprecated. You can safely use the supported API, as F<ppport.h> will provide wrappers for older Perl versions.

=item *

If you use one of a few functions or variables that were not present in earlier versions of Perl, and that can't be provided using a macro, you have to explicitly request support for these functions by adding one or more C<#define>s in your source code before the inclusion of F<ppport.h>.

These functions or variables will be marked C<explicit> in the list shown by C<--list-provided>.

Depending on whether your module has a single or multiple files that use such functions or variables, you want either C<static> or global variants.

For a C<static> function or variable (used only in a single source file), use:

```
#define NEED_function
#define NEED_variable
```

For a global function or variable (used in multiple source files), use:

```
#define NEED_function_GLOBAL
#define NEED_variable_GLOBAL
```

Note that you mustn't have more than one global request for the same function or variable in your project.

Function / Variable	Static Request	Global Request

PL_parser	NEED_PL_parser	NEED_PL_parser_GLOBAL
PL_signals	NEED_PL_signals	NEED_PL_signals_GLOBAL
eval_pv()	NEED_eval_pv	
	NEED_eval_pv_GLOBAL	
grok_bin()	NEED_grok_bin	NEED_grok_bin_GLOBAL
grok_hex()	NEED_grok_hex	NEED_grok_hex_GLOBAL
grok_number()	NEED_grok_number	NEED_grok_number_GLOBAL
grok_numeric_radix()	NEED_grok_numeric_radix	NEED_grok_numeric_radix_GLOBAL
grok_oct()	NEED_grok_oct	NEED_grok_oct_GLOBAL
load_module()	NEED_load_module	NEED_load_module_GLOBAL
my_snprintf()	NEED_my_snprintf	NEED_my_snprintf_GLOBAL
my_sprintf()	NEED_my_sprintf	NEED_my_sprintf_GLOBAL
my_strlcat()	NEED_my_strlcat	NEED_my_strlcat_GLOBAL
my_strlcpy()	NEED_my_strlcpy	NEED_my_strlcpy_GLOBAL
newCONSTSUB()	NEED_newCONSTSUB	NEED_newCONSTSUB_GLOBAL
newRV_noinc()	NEED_newRV_noinc	NEED_newRV_noinc_GLOBAL
newSV_type()	NEED_newSV_type	NEED_newSV_type_GLOBAL
newSVpv_flags()	NEED_newSVpv_flags	NEED_newSVpv_flags_GLOBAL
newSVpv_share()	NEED_newSVpv_share	NEED_newSVpv_share_GLOBAL
pv_display()	NEED_pv_display	NEED_pv_display_GLOBAL
pv_escape()	NEED_pv_escape	NEED_pv_escape_GLOBAL
pv_pretty()	NEED_pv_pretty	NEED_pv_pretty_GLOBAL
sv_2pv_flags()	NEED_sv_2pv_flags	NEED_sv_2pv_flags_GLOBAL
sv_2pvbyte()	NEED_sv_2pvbyte	NEED_sv_2pvbyte_GLOBAL
sv_catpvf_mg()	NEED_sv_catpvf_mg	NEED_sv_catpvf_mg_GLOBAL
sv_catpvf_mg_nocontext()	NEED_sv_catpvf_mg_nocontext	NEED_sv_catpvf_mg_nocontext_GLOBAL
sv_pvn_force_flags()	NEED_sv_pvn_force_flags	NEED_sv_pvn_force_flags_GLOBAL
sv_setpvf_mg()	NEED_sv_setpvf_mg	
	NEED_sv_setpvf_mg_GLOBAL	
sv_setpvf_mg_nocontext()	NEED_sv_setpvf_mg_nocontext	NEED_sv_setpvf_mg_nocontext_GLOBAL
vload_module()	NEED_vload_module	NEED_vload_module_GLOBAL
vnewSVpvf()	NEED_vnewSVpvf	NEED_vnewSVpvf_GLOBAL
warn()	NEED_warner	NEED_warner_GLOBAL

To avoid namespace conflicts, you can change the namespace of the explicitly exported functions / variables using the `C<DPPP_NAMESPACE>` macro. Just `C<#define>` the macro before including `C<ppport.h>`:

```
#define DPPP_NAMESPACE MyOwnNamespace_
#include "ppport.h"
```

The default namespace is `C<DPPP_>`.

=back

The good thing is that most of the above can be checked by running `F<ppport.h>` on your source code. See the next section for details.

=head1 EXAMPLES

To verify whether `F<ppport.h>` is needed for your module, whether you should make any changes to your code, and whether any special defines should be used, `F<ppport.h>` can be run as a Perl script to check your source code. Simply say:

```
perl ppport.h
```

The result will usually be a list of patches suggesting changes that should at least be acceptable, if not necessarily the most efficient solution, or a fix for all possible problems.

If you know that your XS module uses features only available in newer Perl releases, if you're aware that it uses C++ comments, and if you want all suggestions as a single patch file, you could use something like this:

```
perl ppport.h --compat-version=5.6.0 --cplusplus --patch=test.diff
```

If you only want your code to be scanned without any suggestions for changes, use:

```
perl ppport.h --nochanges
```

You can specify a different `C<diff>` program or options, using the `C<--diff>` option:

```
perl ppport.h --diff='diff -C 10'
```

This would output context diffs with 10 lines of context.

If you want to create patched copies of your files instead, use:

```
perl ppport.h --copy=.new
```

To display portability information for the `C<newSVpv<pv>` function, use:

```
perl ppport.h --api-info=newSVpv<pv>
```

Since the argument to `C<--api-info>` can be a regular expression, you can use

```
perl ppport.h --api-info=/_nomg$/
```

to display portability information for all C<_nomg> functions or

```
perl ppport.h --api-info=../
```

to display information for all known API elements.

=head1 BUGS

If this version of F<ppport.h> is causing failure during the compilation of this module, please check if newer versions of either this module or C<Devel::PPPport> are available on CPAN before sending a bug report.

If F<ppport.h> was generated using the latest version of C<Devel::PPPport> and is causing failure of this module, please file a bug report using the CPAN Request Tracker at L<<http://rt.cpan.org/>>.

Please include the following information:

=over 4

=item 1.

The complete output from running "perl -V"

=item 2.

This file.

=item 3.

The name and version of the module you were trying to build.

=item 4.

A full log of the build that failed.

=item 5.

Any other information that you think could be relevant.

=back

For the latest version of this code, please get the C<Devel::PPPport> module from CPAN.

=head1 COPYRIGHT

Version 3.x, Copyright (c) 2004-2010, Marcus Holland-Moritz.

Version 2.x, Copyright (C) 2001, Paul Marquess.

Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<Devel::PPort>.

=cut

use strict;

Disable broken TRIE-optimization

BEGIN { eval '\${RE_TRIE_MAXBUF} = -1' if \$] >= 5.009004 && \$] <= 5.009005 }

my \$VERSION = 3.19_02;

```
my %opt = (  
  quiet => 0,  
  diag => 1,  
  hints => 1,  
  changes => 1,  
  cplusplus => 0,  
  filter => 1,  
  strip => 0,  
  version => 0,  
);
```

```
my($ppport) = $0 =~ /([\w.]+)/;
```

```
my $LF = '(?:\r\n|[\r\n])'; # line feed
```

```
my $HS = "[\t]"; # horizontal whitespace
```

Never use C comments in this file!

```
my $ccs = '!.*';
```

```
my
```

```
$cce = '.*!.'/;
```

```
my $rcs = quotemeta $ccs;
```

```
my $rce = quotemeta $cce;
```

```
eval {
```

```
  require Getopt::Long;
```

```

Getopt::Long::GetOptions(\%opt, qw(
  help quiet diag! filter! hints! changes! cplusplus strip version
  patch=s copy=s diff=s compat-version=s
  list-provided list-unsupported api-info=s
)) or usage();
};

if ($@ and grep /^-/, @ARGV) {
  usage() if "@ARGV" =~ /^--?h(?:elp)?$/;
  die "Getopt::Long not found. Please don't use any options.\n";
}

if ($opt{version}) {
  print "This is $0 $VERSION.\n";
  exit 0;
}

usage() if $opt{help};
strip() if $opt{strip};

if (exists $opt{'compat-version'}) {
  my($r,$v,$s) = eval { parse_version($opt{'compat-version'}) };
  if ($@) {
    die "Invalid version number format: '$opt{'compat-version'}'\n";
  }
  die "Only Perl 5 is supported\n" if $r != 5;
  die "Invalid version number: '$opt{'compat-version'}'\n" if $v >= 1000 || $s >= 1000;
  $opt{'compat-version'} = sprintf "%d.%03d%03d", $r, $v, $s;
}
else {
  $opt{'compat-version'}
  = 5;
}

my %API = map { /^(\w+)\|([^\|]*)\|([^\|]*)\|(\w*)$/
  ? ( $1 => {
    ($2      ? ( base   => $2 ) : ()),
    ($3      ? ( todo   => $3 ) : ()),
    (index($4, 'v') >= 0 ? ( varargs => 1 ) : ()),
    (index($4, 'p') >= 0 ? ( provided => 1 ) : ()),
    (index($4, 'n') >= 0 ? ( nothxarg => 1 ) : ()),
  } )
  : die "invalid spec: $_" } qw(
AvFILLp|5.004050||p
AvFILL|||
CLASS|||n
CPERLscope|5.005000||p
CX_CURPAD_SAVE|||

```

CX_CURPAD_SV|||
CopFILEAV|5.006000||p
CopFILEGV_set|5.006000||p
CopFILEGV|5.006000||p
CopFILESV|5.006000||p
CopFILE_set|5.006000||p
CopFILE|5.006000||p
CopSTASHPV_set|5.006000||p
CopSTASHPV|5.006000||p
CopSTASH_eq|5.006000||p
CopSTASH_set|5.006000||p
CopSTASH|5.006000||p
CopyD|5.009002||p
Copy|||
CvPADLIST|||
CvSTASH|||
CvWEAKOUTSIDE|||
DEFSV_set|5.010001||p
DEFSV|5.004050||p
END_EXTERN_C|5.005000||p
ENTER|||
ERRSV|5.004050||p
EXTEND|||
EXTERN_C|5.005000||p
F0convert|||n
FREEMPS|||
GIMME_V||5.004000|n
GIMME|||n
GROK_NUMERIC_RADIX|5.007002||p
G_ARRAY|||
G_DISCARD|||
G_EVAL|||
G_METHOD|5.006001||p
G_NOARGS|||
G_SCALAR|||
G_VOID||5.004000|
GetVars|||
GvSVn|5.009003||p
GvSV|||
Gv_AMupdate||5.011000|
HEf_SVKEY||5.004000|
HeHASH||5.004000|
HeKEY||5.004000|
HeKLEN||5.004000|
HePV||5.004000|
HeSVKEY_force||5.004000|
HeSVKEY_set||5.004000|
HeSVKEY||5.004000|

HeUTF8|5.010001|
HeVAL|5.004000|
HvNAMELEN_get|5.009003||p
HvNAME_get|5.009003||p
HvNAME|||
INT2PTR|5.006000||p
IN_LOCALE_COMPILETIME|5.007002||p
IN_LOCALE_RUNTIME|5.007002||p
IN_LOCALE|5.007002||p
IN_PERL_COMPILETIME|5.008001||p
IS_NUMBER_GREATER_THAN_UV_MAX|5.007002||p
IS_NUMBER_INFINITY|5.007002||p
IS_NUMBER_IN_UV|5.007002||p
IS_NUMBER_NAN|5.007003||p
IS_NUMBER_NEG|5.007002||p
IS_NUMBER_NOT_INT|5.007002||p
IVSIZE|5.006000||p
IVTYPE|5.006000||p
IVdf|5.006000||p
LEAVE|||
LVRET|||
MARK|||
MULTICALL|5.011005|
MY_CXT_CLONE|5.009002||p
MY_CXT_INIT|5.007003||p
MY_CXT|5.007003||p
MoveD|5.009002||p
Move|||
NOOP|5.005000||p
NUM2PTR|5.006000||p
NVTYPE|5.006000||p
NVef|5.006001||p
NVff|5.006001||p
NVgf|5.006001||p
Newxc|5.009003||p
Newxz|5.009003||p
Newx|5.009003||p
Nullav|||
Nullch|||
Nullcv|||
Nullhv|||
Nullsv|||
ORIGMARK|||
PAD_BASE_SV|||
PAD_CLONE_VARS|||
PAD_COMPNAME_FLAGS|||
PAD_COMPNAME_GEN_set|||
PAD_COMPNAME_GEN|||

PAD_COMPNAME_OURSTASH|||
PAD_COMPNAME_PV|||
PAD_COMPNAME_TYPE|||
PAD_DUP|||
PAD_RESTORE_LOCAL|||
PAD_SAVE_LOCAL|||
PAD_SAVE_SETNULLPAD|||
PAD_SETSV|||
PAD_SET_CUR_NOSAVE|||
PAD_SET_CUR|||
PAD_SV1|||
PAD_SV|||
PERLIO_FUNCS_CAST|5.009003|p
PERLIO_FUNCS_DECL|5.009003|p
PERL_ABS|5.008001|p
PERL_BCDVERSION|5.011004|p
PERL_GCC_BRACE_GROUPS_FORBIDDEN|5.008001|p
PERL_HASH|5.004000|p
PERL_INT_MAX|5.004000|p
PERL_INT_MIN|5.004000|p
PERL_LONG_MAX|5.004000|p
PERL_LONG_MIN|5.004000|p
PERL_MAGIC_arylen|5.007002|p
PERL_MAGIC_backref|5.007002|p
PERL_MAGIC_bm|5.007002|p
PERL_MAGIC_collxfrm|5.007002|p
PERL_MAGIC_dbfile|5.007002|p
PERL_MAGIC_dbline|5.007002|p
PERL_MAGIC_defelem|5.007002|p
PERL_MAGIC_envelem|5.007002|p
PERL_MAGIC_env|5.007002|p
PERL_MAGIC_ext|5.007002|p
PERL_MAGIC_fm|5.007002|p
PERL_MAGIC_glob|5.011004|p
PERL_MAGIC_isaelem|5.007002|p
PERL_MAGIC_isa|5.007002|p
PERL_MAGIC_mutex|5.011004|p
PERL_MAGIC_nkeys|5.007002|p
PERL_MAGIC_overload_elem|5.007002|p
PERL_MAGIC_overload_table|5.007002|p
PERL_MAGIC_overload|5.007002|p
PERL_MAGIC_pos|5.007002|p
PERL_MAGIC_qr|5.007002|p
PERL_MAGIC_regdata|5.007002|p
PERL_MAGIC_regdatum|5.007002|p
PERL_MAGIC_regex_global|5.007002|p
PERL_MAGIC_shared_scalar|5.007003|p
PERL_MAGIC_shared|5.007003|p

PERL_MAGIC_sigelem|5.007002||p
PERL_MAGIC_sig|5.007002||p
PERL_MAGIC_substr|5.007002||p
PERL_MAGIC_sv|5.007002||p
PERL_MAGIC_taint|5.007002||p
PERL_MAGIC_tiedelem|5.007002||p
PERL_MAGIC_tiedscalar|5.007002||p
PERL_MAGIC_tied|5.007002||p
PERL_MAGIC_utf8|5.008001||p
PERL_MAGIC_uvar_elem|5.007003||p
PERL_MAGIC_uvar|5.007002||p
PERL_MAGIC_vec|5.007002||p
PERL_MAGIC_vstring|5.008001||p
PERL_PV_ESCAPE_ALL|5.009004||p
PERL_PV_ESCAPE_FIRSTCHAR|5.009004||p
PERL_PV_ESCAPE_NOBACKSLASH|5.009004||p
PERL_PV_ESCAPE_NOCLEAR|5.009004||p
PERL_PV_ESCAPE_QUOTE|5.009004||p
PERL_PV_ESCAPE_RE|5.009005||p
PERL_PV_ESCAPE_UNI_DETECT|5.009004||p
PERL_PV_ESCAPE_UNI|5.009004||p
PERL_PV_PRETTY_DUMP|5.009004||p
PERL_PV_PRETTY_ELLIPSES|5.010000||p
PERL_PV_PRETTY_LTGT|5.009004||p
PERL_PV_PRETTY_NOCLEAR|5.010000||p
PERL_PV_PRETTY_QUOTE|5.009004||p
PERL_PV_PRETTY_REGPROP|5.009004||p
PERL_QUAD_MAX|5.004000||p
PERL_QUAD_MIN|5.004000||p
PERL_REVISION|5.006000||p
PERL_SCAN_ALLOW_UNDERSCORES|5.007003||p
PERL_SCAN_DISALLOW_PREFIX|5.007003||p
PERL_SCAN_GREATER_THAN_UV_MAX|5.007003||p
PERL_SCAN_SILENT_ILLDIGIT|5.008001||p
PERL_SHORT_MAX|5.004000||p
PERL_SHORT_MIN|5.004000||p
PERL_SIGNALS_UNSAFE_FLAG|5.008001||p
PERL_SUBVERSION|5.006000||p
PERL_SYS_INIT3|5.006000|
PERL_SYS_INIT||
PERL_SYS_TERM||5.011005|
PERL_UCHAR_MAX|5.004000||p
PERL_UCHAR_MIN|5.004000||p
PERL_UINT_MAX|5.004000||p
PERL_UINT_MIN|5.004000||p
PERL_ULONG_MAX|5.004000||p
PERL_ULONG_MIN|5.004000||p
PERL_UNUSED_ARG|5.009003||p

PERL_UNUSED_CONTEXT|5.009004||p
PERL_UNUSED_DECL|5.007002||p
PERL_UNUSED_VAR|5.007002||p
PERL_UQUAD_MAX|5.004000||p
PERL_UQUAD_MIN|5.004000||p
PERL_USE_GCC_BRACE_GROUPS|5.009004||p
PERL_USHORT_MAX|5.004000||p
PERL_USHORT_MIN|5.004000||p
PERL_VERSION|5.006000||p
PL_DBsignal|5.005000||p
PL_DBsingle|||pn
PL_DBsub|||pn
PL_DBtrace|||pn
PL_Sv|5.005000||p
PL_bufend|5.011004||p
PL_bufptr|5.011004||p
PL_compiling|5.004050||p
PL_copline|5.011004||p
PL_curcop|5.004050||p
PL_curstash|5.004050||p
PL_debstash|5.004050||p
PL_defgv|5.004050||p
PL_diehook|5.004050||p
PL_dirty|5.004050||p
PL_dowarn|||pn
PL_errgv|5.004050||p
PL_error_count|5.011004||p
PL_expect|5.011004||p
PL_hexdigit|5.005000||p
PL_hints|5.005000||p
PL_in_my_stash|5.011004||p
PL_in_my|5.011004||p
PL_keyword_plugin||5.011002|
PL_last_in_gv|||n
PL_laststatval|5.005000||p
PL_lex_state|5.011004||p
PL_lex_stuff|5.011004||p
PL_linestr|5.011004||p
PL_modglobal||5.005000|n
PL_na|5.004050||pn
PL_no_modify|5.006000||p
PL_ofsgv|||n
PL_opfreehook||5.011000|n
PL_parser|5.009005|5.009005|p
PL_perl_destruct_level|5.004050||p
PL_perldb|5.004050||p
PL_ppaddr|5.006000||p
PL_rsfilters|5.004050||p

PL_rsfpl|5.004050||p
PL_rs|||n
PL_signals|5.008001||p
PL_stack_base|5.004050||p
PL_stack_sp|5.004050||p
PL_statcache|5.005000||p
PL_stdingv|5.004050||p
PL_sv_arenaroot|5.004050||p
PL_sv_no|5.004050||pn
PL_sv_undef|5.004050||pn
PL_sv_yes|5.004050||pn
PL_tainted|5.004050||p
PL_tainting|5.004050||p
PL_tokenbuf|5.011004||p
POP_MULTICALL||5.011005|
POPi|||n
POPi|||n
POPn|||n
POPpbytex||5.007001|n
POPpx||5.005030|n
POPp|||n
POPs|||n
PTR2IV|5.006000||p
PTR2NV|5.006000||p
PTR2UV|5.006000||p
PTR2nat|5.009003||p
PTR2ul|5.007001||p
PTRV|5.006000||p
PUSHMARK|||
PUSH_MULTICALL||5.011005|
PUSHi|||
PUSHmortal|5.009002||p
PUSHn|||
PUSHp|||
PUSHs|||
PUSHu|5.004000||p
PUTBACK|||
PerlIO_clearerr||5.007003|
PerlIO_close||5.007003|
PerlIO_context_layers||5.009004|
PerlIO_eof||5.007003|
PerlIO_error||5.007003|
PerlIO_fileno||5.007003|
PerlIO_fill||5.007003|
PerlIO_flush||5.007003|
PerlIO_get_base||5.007003|
PerlIO_get_bufsiz||5.007003|
PerlIO_get_cnt||5.007003|

PerlIO_get_ptr|5.007003|
PerlIO_read|5.007003|
PerlIO_seek|5.007003|
PerlIO_set_cnt|5.007003|
PerlIO_set_ptrcnt|5.007003|
PerlIO_setlinebuf|5.007003|
PerlIO_stderr|5.007003|
PerlIO_stdin|5.007003|
PerlIO_stdout|5.007003|
PerlIO_tell|5.007003|
PerlIO_unread|5.007003|
PerlIO_write|5.007003|
Perl_signbit|5.009005|n
PoisonFree|5.009004||p
PoisonNew|5.009004||p
PoisonWith|5.009004||p
Poison|5.008000||p
RETVL|||n
Renewc|||
Renew|||
SAVECLEARSV|||
SAVECOMPPAD|||
SAVEPADSV|||
SAVETMPS|||
SAVE_DEFSV|5.004050||p
SPAGAIN|||
SP|||
START_EXTERN_C|5.005000||p
START_MY_CXT|5.007003||p
STMT_END|||p
STMT_START|||p
STR_WITH_LEN|5.009003||p
ST|||
SV_CONST_RETURN|5.009003||p
SV_COW_DROP_PV|5.008001||p
SV_COW_SHARED_HASH_KEYS|5.009005||p
SV_GMAGIC|5.007002||p
SV_HAS_TRAILING_NUL|5.009004||p
SV_IMMEDIATE_UNREF|5.007001||p
SV_MUTABLE_RETURN|5.009003||p
SV_NOSTEAL|5.009002||p
SV_SMAGIC|5.009003||p
SV_UTF8_NO_ENCODING|5.008001||p
SVfARG|5.009005||p
SVf_UTF8|5.006000||p
SVf|5.006000||p
SVt_IV|||
SVt_NV|||

SVt_PVAV|||
SVt_PVCV|||
SVt_PVHV|||
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to_uni_lower|5.007003|
to_uni_title_lc|5.006000|
to_uni_title|5.007003|
to_uni_upper_lc|5.006000|
to_uni_upper|5.007003|
to_utf8_case|5.007003|
to_utf8_fold|5.007003|
to_utf8_lower|5.007003|
to_utf8_substr||
to_utf8_title|5.007003|
to_utf8_upper|5.007003|
token_free||
token_getmad||
tokenize_use||
tokeq||
tokereport||
too_few_arguments||
too_many_arguments||
uiv_2buf||n
unlnk||
unpack_rec||
unpack_str|5.007003|
unpackstring|5.008001|
unshare_hek_or_pvn||
unshare_hek||
unsharepvn|5.004000|
unwind_handler_stack||
update_debugger_info||
upg_version|5.009005|
usage||
utf16_textfilter||
utf16_to_utf8_reversed|5.006001|

utf16_to_utf8|5.006001|
utf8_distance|5.006000|
utf8_hop|5.006000|
utf8_length|5.007001|
utf8_mg_pos_cache_update|||
utf8_to_bytes|5.006001|
utf8_to_uvchr|5.007001|
utf8_to_uvuni|5.007001|
utf8n_to_uvchr|||
utf8n_to_uvuni|5.007001|
utilize|||
uvchr_to_utf8_flags|5.007003|
uvchr_to_utf8|||
uvuni_to_utf8_flags|5.007003|
uvuni_to_utf8|5.007001|
validate_suid|||
varname|||
vcmp|5.009000|
vcroak|5.006000|
vdeb|5.007003|
vdie_common|||
vdie_croak_common|||
vdie|||
vform|5.006000|
visit|||
vivify_defelem|||
vivify_ref|||
vload_module|5.006000|p
vmess|5.006000|
vnewSVpvf|5.006000|5.004000|p
vnormal|5.009002|
vnumify|5.009000|
vstringify|5.009000|
vverify|5.009003|
vwarner|5.006000|
vwarn|5.006000|
wait4pid|||
warn_nocontext|||vn
warner_nocontext|||vn
warner|5.006000|5.004000|pv
warn|||v
watch|||
whichsig|||
write_no_mem|||
write_to_stderr|||
xmldump_all_perl|||
xmldump_all|||
xmldump_attr|||

```

xmldump_eval|||
xmldump_form|||
xmldump_indent|||v
xmldump_packsubs_perl|||
xmldump_packsubs|||
xmldump_sub_perl|||
xmldump_sub|||
xmldump_vindent|||
yyerror|||
yylex|||
yyparse|||
yywarn|||
);

if
(exists $opt{'list-unsupported'}) {
my $f;
for $f (sort { lc $a cmp lc $b } keys %API) {
next unless $API{$f}{todo};
print "$f ", 'x'(40-length($f)), " ", format_version($API{$f}{todo}), "\n";
}
exit 0;
}

# Scan for possible replacement candidates

my(%replace, %need, %hints, %warnings, %depends);
my $replace = 0;
my($hint, $define, $function);

sub find_api
{
my $code = shift;
$code =~ s{
/ (? : \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* / | /[\r\n]*
| "[^\\"\\]*(?:\\.[^\\"\\])*"
| '[^\'\\]*(?:\\.[^\'\\])*' }{ }egsx;
grep { exists $API{$_} } $code =~ /(\w+)/mg;
}

while (<DATA>)
{
if ($hint) {
my $h = $hint->[0] eq 'Hint' ? \%hints : \%warnings;
if (m{^\s*\s*(.*?)\s*$}) {
for (@{$hint->[1]}) {
$h->{$_} ||= ""; # suppress warning with older perls
$h->{$_} .= "$1\n";
}
}
}
}

```

```

}
}
else { undef $hint }
}

$hint = [$1, [split /,?\s+/, $2]]
  if m{^\s*$rcs\s+(Hint|Warning):\s+(\w+(?:,\s+\w+)*)\s*$};

if ($define) {
  if ($define->[1] =~ /\$/) {
    $define->[1] .= $_;
  }
  else {
    if (exists $API{$define->[0]} && $define->[1] !~ /^DPPP_\(/) {
      my @n = find_api($define->[1]);
      push @{$depends{$define->[0]}}, @n if @n
    }
    undef $define;
  }
}

$define = [$1, $2] if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(.*)};

if ($function) {
  if (/^/) {
    if (exists $API{$function->[0]}) {
      my @n = find_api($function->[1]);
      push @{$depends{$function->[0]}}, @n if @n
    }
    undef $function;
  }
  else {
    $function->[1] .= $_;
  }
}

$function = [$1, ""] if m{^DPPP_(my_(\w+))};

$replace = $1 if m{^\s*$rcs\s+Replace:\s+(\d+)\s+$rcce\s*$};
$replace{$2} = $1 if $replace and m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+)};
$replace{$2} = $1 if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+).*\s*$rcs\s+Replace\s+$rcce};
$replace{$1} = $2 if m{^\s*$rcs\s+Replace (\w+) with (\w+)\s+$rcce\s*$};

if (m{^\s*$rcs\s+(\w+(\s*,\s*\w+)*)\s+depends\s+on\s+(\w+(\s*,\s*\w+)*)\s+$rcce\s*$}) {
  my @deps = map { s/\s+//g; $_ } split /,/, $3;
  my $d;
  for $d (map { s/\s+//g; $_ } split /,/, $1) {

```



```

    push @{$depends{$d}}, @deps;
  }
}

$need{$1} = 1 if m{^#if\s+defined\(\NEED_(\w+)(?:_GLOBAL)?\)};
}

for (values %depends) {
  my %s;
  $_ = [sort grep !$s{$_}++, @$_];
}

if (exists $opt{'api-info'}) {
  my $f;
  my $count = 0;
  my $match = $opt{'api-info'} =~ m!^(.*)/$! ? $1 : "\Q$opt{'api-info'}\E\$";
  for $f (sort { lc $a cmp lc $b } keys %API) {
    next unless $f =~ /$match/;
    print "\n=== $f ===\n\n";
    my $info = 0;
    if ($API{$f}{base} || $API{$f}{todo}) {
      my $base = format_version($API{$f}{base} || $API{$f}{todo});
      print "Supported at least starting from perl-$base.\n";
      $info++;
    }
    if ($API{$f}{provided}) {
      my $todo = $API{$f}{todo} ? format_version($API{$f}{todo}) : "5.003";
      print "Support by $ppport provided back to perl-$todo.\n";
      print "Support needs to be explicitly requested by NEED_$f.\n" if exists $need{$f};
      print "Depends on: ", join(', ', @{$depends{$f}}), ".\n" if exists $depends{$f};
      print "\n$hints{$f}" if exists $hints{$f};
      print "\nWARNING:\n$warnings{$f}" if exists $warnings{$f};
      $info++;
    }
  }
  print "No portability information available.\n" unless $info;
  $count++;
}
$count or print "Found no API matching '$opt{'api-info'}'.";
print "\n";
exit 0;
}

if (exists $opt{'list-provided'}) {
  my $f;
  for $f (sort { lc $a cmp lc $b } keys %API) {
    next unless $API{$f}{provided};
    my @flags;
    push @flags, 'explicit' if exists $need{$f};
  }
}

```

```

push @flags, 'depend' if exists $depends{$f};
push @flags, 'hint' if exists $hints{$f};
push @flags, 'warning' if exists $warnings{$f};
my $flags = @flags ? ' ['.join(', ', @flags).'] : "";
print "$f$flags\n";
}
exit 0;
}

my @files;
my @srcext = qw( .xs .c .h .cc .cpp -c.inc -xs.inc );
my $srcext = join '|', map { quotemeta $_ } @srcext;

if (@ARGV) {
my %seen;
for (@ARGV) {
if (-e) {
if (-f) {
push @files, $_ unless $seen{$_}++;
}
else { warn "'$_' is not a file.\n" }
}
else {
my @new = grep { -f } glob $_
or warn "'$_' does not exist.\n";
push @files, grep { !$seen{$_}++ } @new;
}
}
}
else {
eval {
require File::Find;
File::Find::find(sub {
$File::Find::name =~ /($srcext)$/i
and push @files, $File::Find::name;
}, '.');
};
if ($?) {
@files = map { glob "$*" } @srcext;
}
}

if
(!@ARGV || $opt{filter}) {
my(@in, @out);
my %xsc = map { /(.*)\.xs$/ ? ("1.c" => 1, "1.cc" => 1) : () } @files;
for (@files) {
my $out = exists $xsc{$_} || /\bQ$ppport\E$/i || !/($srcext)$/i;
}
}
}

```

```

push @{ $out ? \@out : \@in }, $_;
}
if (@ARGV && @out) {
    warning("Skipping the following files (use --nofilter to avoid this):\n| ", join "\n| ", @out);
}
@files = @in;
}

die "No input files given!\n" unless @files;

my(%files, %global, %revreplace);
%revreplace = reverse %replace;
my $filename;
my $patch_opened = 0;

for $filename (@files) {
    unless (open IN, "<$filename") {
        warn "Unable to read from $filename: $!\n";
        next;
    }

    info("Scanning $filename ...");

    my $c = do { local $/; <IN> };
    close IN;

    my %file = (orig => $c, changes => 0);

    # Temporarily remove C/XS comments and strings from the code
    my @ccom;

    $c =~ s{
        ( ^$HS*#$HS*include\b[^\r\n]+\b(?:Q$ppport\E|XSUB\.h)\b[^\r\n]*
          | ^$HS*#$HS*(?:define|elif|if(?:def?))\b[^\r\n]*
        )
        | ( ^$HS*\#[^\r\n]*
          | "[^"\\]*(?:\\.[^"\\]*)*"
          | '[^"\\]*(?:\\.[^"\\]*)*'
          | /(?:\[^\]*\*+(?:\[^\$ccs][^\]*\*+)* \| / [^\r\n]* ) )
        }{ defined $2 and push @ccom, $2;
          defined $1 ? $1 : "$ccs#$ccom$cce" }mgsex;

    $file{ccom} = \@ccom;
    $file{code} = $c;
    $file{has_inc_ppport} = $c =~ /^$HS*#$HS*include[^\r\n]+\bQ$ppport\E\b/m;

    my $func;

```

```

for $func (keys %API) {
    my $match = $func;
    $match .= "$$revreplace{$func}" if exists $revreplace{$func};
    if ($c =~ /\b(?:Perl)?($match)\b/) {
        $file{uses_replace}{$1}++ if exists $revreplace{$func} && $1 eq $revreplace{$func};
        $file{uses_Perl}{$func}++ if $c =~ /\bPerl_$func\b/;
        if (exists $API{$func}{provided}) {
            $file{uses_provided}{$func}++;
            if (!exists $API{$func}{base} || $API{$func}{base} > $opt{'compat-version'}) {
                $file{uses}{$func}++;
                my @deps = rec_depend($func);
                if (@deps) {
                    $file{uses_deps}{$func} = \@deps;
                    for
                (@deps) {
                    $file{uses}{$_} = 0 unless exists $file{uses}{$_};
                }
            }
            for ($func, @deps) {
                $file{needs}{$_} = 'static' if exists $need{$_};
            }
        }
        if (exists $API{$func}{todo} && $API{$func}{todo} > $opt{'compat-version'}) {
            if ($c =~ /\b$func\b/) {
                $file{uses_todo}{$func}++;
            }
        }
    }
}

while ($c =~ /^$HS*#$HS*define$HS+(NEED_(\w+?)(_GLOBAL)?)\b/mg) {
    if (exists $need{$2}) {
        $file{defined $3 ? 'needed_global' : 'needed_static'}{$2}++;
    }
    else { warning("Possibly wrong #define $1 in $filename") }
}

for (qw(uses needs uses_todo needed_global needed_static)) {
    for $func (keys %{$file{$_}}) {
        push @{$global{$_}{$func}}, $filename;
    }
}

$files{$filename} = \%file;
}

# Globally resolve NEED_'s

```

```

my $need;
for $need (keys %{$global{needs}}) {
  if (@{$global{needs}{$need}} > 1) {
    my @targets = @{$global{needs}{$need}};
    my @t
= grep $files{$_}{needed_global}{$need}, @targets;
    @targets = @t if @t;
    @t = grep /\.xs$/i, @targets;
    @targets = @t if @t;
    my $target = shift @targets;
    $files{$target}{needs}{$need} = 'global';
    for (@{$global{needs}{$need}}) {
      $files{$_}{needs}{$need} = 'extern' if $_ ne $target;
    }
  }
}

for $filename (@files) {
  exists $files{$filename} or next;

  info("=== Analyzing $filename ===");

  my %file = %{$files{$filename}};
  my $func;
  my $c = $file{code};
  my $warnings = 0;

  for $func (sort keys %{$file{uses_Perl}}) {
    if ($API{$func}{varargs}) {
      unless ($API{$func}{nothxarg}) {
        my $changes = ($c =~ s{\b(Perl_$func\s*(\s*)(?!aTHX_?)(\)[^\s]*)})
          { $1 . ($2 eq ' ' ? 'aTHX' : 'aTHX_') . $2 }ge);
        if ($changes) {
          warning("Doesn't pass interpreter argument aTHX to Perl_$func");
          $file{changes} += $changes;
        }
      }
    }
    else {
      warning("Uses Perl_$func instead
of $func");
      $file{changes} += ($c =~ s{\bPerl_$func(\s*)((\s*aTHX_?)?\s*}
        {$func$1(}g);
    }
  }

  for $func (sort keys %{$file{uses_replace}}) {
    warning("Uses $func instead of $replace{$func}");
  }
}

```

```

$file{changes} += ($c =~ s/\b$func\b/$replace{$func}/g);
}

for $func (sort keys %{$file{uses_provided}}) {
  if ($file{uses}{$func}) {
    if (exists $file{uses_deps}{$func}) {
      diag("Uses $func, which depends on ", join(', ', @{$file{uses_deps}{$func}}));
    }
    else {
      diag("Uses $func");
    }
  }
  $warnings += hint($func);
}

unless ($opt{quiet}) {
  for $func (sort keys %{$file{uses_todo}}) {
    print "*** WARNING: Uses $func, which may not be portable below perl ",
      format_version($API{$func}{todo}), ", even with '$ppport'\n";
    $warnings++;
  }
}

for $func (sort keys %{$file{needed_static}}) {
  my $message = "";
  if (not exists $file{uses}{$func}) {
    $message
= "No need to define NEED_$func if $func is never used";
  }
  elsif (exists $file{needs}{$func} && $file{needs}{$func} ne 'static') {
    $message = "No need to define NEED_$func when already needed globally";
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_$func\b.*$LF//mg);
  }
}

for $func (sort keys %{$file{needed_global}}) {
  my $message = "";
  if (not exists $global{uses}{$func}) {
    $message = "No need to define NEED_${func}_GLOBAL if $func is never used";
  }
  elsif (exists $file{needs}{$func}) {
    if ($file{needs}{$func} eq 'extern') {
      $message = "No need to define NEED_${func}_GLOBAL when already needed globally";
    }
    elsif ($file{needs}{$func} eq 'static') {

```

```

    $message = "No need to define NEED_${func}_GLOBAL when only used in this file";
}
}
if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_${func}_GLOBAL\b.*$LF//mg);
}
}

$file{needs_inc_ppport} = keys %{$file{uses}};

if ($file{needs_inc_ppport}) {
    my $pp = "";

    for $func (sort keys %{$file{needs}}) {
        my $type = $file{needs}{$func};
        next if $type eq 'extern';
        my $suffix = $type eq 'global' ? '_GLOBAL' : "";
        unless (exists $file{"needed_$type"}{$func}) {
            if ($type eq 'global') {
                diag("Files [@{$global{needs}}{$func}] need $func, adding global request");
            }
            else {
                diag("File needs $func, adding static request");
            }
            $pp .= "#define NEED_${func}$suffix\n";
        }
    }
}

if ($pp && ($c =~ s/^(?=$HS*#\$HS*define\$HS+NEED_\w+)/$pp/m)) {
    $pp = "";
    $file{changes}++;
}

unless ($file{has_inc_ppport}) {
    diag("Needs to include '$ppport'");
    $pp .= qq(#include "$ppport"\n)
}

if ($pp) {
    $file{changes} += ($c =~ s/^(\$HS*#\$HS*define\$HS+NEED_\w+.*?)/$1$pp/ms)
        || ($c =~ s/^(?=$HS*#\$HS*include.*\Q$ppport\E)/$pp/m)
        || ($c =~ s/^(\$HS*#\$HS*include.*XSUB.*\s*)/$1$pp/m)
        || ($c =~ s/^\$pp/);
}
}
else {
    if ($file{has_inc_ppport}) {

```

```

diag("No need to include '$ppport'");
$file{changes} += ($c =~ s/^\$HS*?#\$HS*include.*\Q$ppport\E.*?$LF//m);
}
}

# put back in our C comments
my $ix;
my $cpc = 0;
my @ccom = @{$file{ccom}};
for $ix (0 .. $#ccom) {
    if (!$opt{cplusplus} && $ccom[$ix] =~ s!^/!!) {
        $cpc++;
        $file{changes} += $c =~ s/$rcs$ix$rcce/$ccs$ccom[$ix] $cce/;
    }
    else {
        $c =~ s/$rcs$ix$rcce/$ccom[$ix]/;
    }
}

if ($cpc) {
    my $s = $cpc != 1 ? 's' : '';
    warning("Uses $cpc C++ style comment$s, which is not portable");
}

my $s = $warnings != 1 ? 's' : '';
my $warn = $warnings ? " ($warnings warning$s)" : "";
info("Analysis completed$warn");

if ($file{changes}) {
    if (exists $opt{copy}) {
        my $newfile = "$filename$opt{copy}";
        if (-e $newfile) {
            error("$newfile' already exists, refusing to write copy of '$filename'");
        }
        else {
            local *F;
            if (open F, ">$newfile") {
                info("Writing copy of '$filename' with changes to '$newfile'");
                print F $c;
                close F;
            }
            else {
                error("Cannot open '$newfile' for writing: $!");
            }
        }
    }
}
elseif (exists $opt{patch} || $opt{changes}) {
    if (exists $opt{patch}) {

```



```

unless ($patch_opened) {
    if (open PATCH, ">$opt{patch}") {
        $patch_opened = 1;
    }
    else {
        error("Cannot open '$opt{patch}' for writing: $!");
        delete $opt{patch};
        $opt{changes} = 1;
        goto fallback;
    }
}
mydiff(\*PATCH, $filename, $c);
}
else {
fallback:
    info("Suggested changes:");
    mydiff(\*STDOUT, $filename, $c);
}
}
else {
    my $s = $file{changes}
== 1 ? " : 's';
    info("$file{changes} potentially required change$s detected");
}
}
else {
    info("Looks good");
}
}
}

```

```
close PATCH if $patch_opened;
```

```
exit 0;
```

```
sub try_use { eval "use @_;" ; return $@ eq " }
```

```
sub mydiff
```

```
{
```

```
    local *F = shift;
```

```
    my($file, $str) = @_;
```

```
    my $diff;
```

```
    if (exists $opt{diff}) {
```

```
        $diff = run_diff($opt{diff}, $file, $str);
```

```
    }
```

```
    if (!defined $diff and try_use("Text::Diff")) {
```

```

    $diff = Text::Diff::diff($file, \$str, { STYLE => 'Unified' });
    $diff = <<HEADER . $diff;
--- $file
+++ $file.patched
HEADER
}

if (!defined $diff) {
    $diff = run_diff('diff -u', $file, $str);
}

if (!defined $diff) {
    $diff = run_diff('diff', $file, $str);
}

if (!defined $diff) {
    error("Cannot generate a diff. Please install Text::Diff or use --copy.");
    return;
}

print F $diff;
}

sub run_diff
{
    my($prog, $file, $str) = @_ ;
    my $tmp = 'dppptemp';
    my $suf = 'aaa';
    my $diff = "";
    local *F;

    while (-e "$tmp.$suf") { $suf++
    }
    $tmp = "$tmp.$suf";

    if (open F, ">$tmp") {
        print F $str;
        close F;

        if (open F, "$prog $file $tmp |") {
            while (<F>) {
                s/Q$tmp\E/$file.patched/;
                $diff .= $_;
            }
            close F;
            unlink $tmp;
            return $diff;
        }
    }
}

```

```

    unlink $tmp;
}
else {
    error("Cannot open '$tmp' for writing: $!");
}

return undef;
}

sub rec_depend
{
    my($func, $seen) = @_ ;
    return () unless exists $depends{$func};
    $seen = {%{$seen||{}}};
    return () if $seen->{$func}++;
    my %s;
    grep !${$_}++, map { ($_, rec_depend($_, $seen)) } @{$depends{$func}};
}

sub parse_version
{
    my $ver = shift;

    if ($ver =~ /^(d+)\.(d+)\.(d+)$/) {
        return ($1, $2, $3);
    }
    elsif ($ver !~ /^d+\.[d_]+$/) {
        die "cannot parse version '$ver'\n";
    }

    $ver =~ s/_//g;
    $ver =~ s/$/000000/;

    my($r,$v,$s) = $ver =~ /(d+)\.(d{3})(d{3})/;

    $v = int $v;
    $s = int $s;

    if ($r < 5 || ($r == 5 && $v < 6)) {
        if ($s % 10) {
            die "cannot parse
version '$ver'\n";
        }
    }

    return ($r, $v, $s);
}

```

```

sub format_version
{
my $ver = shift;

$ver =~ s/$/000000/;
my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;
$s = int $s;

if ($r < 5 || ($r == 5 && $v < 6)) {
if ($s % 10) {
die "invalid version '$ver'\n";
}
$s /= 10;

$ver = sprintf "%d.%03d", $r, $v;
$s > 0 and $ver .= sprintf "_%02d", $s;

return $ver;
}

return sprintf "%d.%d.%d", $r, $v, $s;
}

sub info
{
$opt{quiet} and return;
print @_, "\n";
}

sub diag
{
$opt{quiet} and return;
$opt{diag} and print @_, "\n";
}

sub warning
{
$opt{quiet} and return;
print "*** ", @_, "\n";
}

sub error
{
print "*** ERROR: ", @_, "\n";
}

```

```

my %given_hints;
my %given_warnings;
sub hint
{
    $opt{quiet} and return;
    my $func = shift;
    my $rv = 0;
    if (exists $warnings{$func} && !$given_warnings{$func}++) {
        my $warn = $warnings{$func};
        $warn =~ s/!*** !mg;
        print "*** WARNING: $func\n", $warn;
        $rv++;
    }
    if ($opt{hints} && exists $hints{$func} && !$given_hints{$func}++) {
        my $hint = $hints{$func};
        $hint =~ s/^/ /mg;
        print " --- hint for $func ---\n", $hint;
    }
    $rv;
}

sub usage
{
    my($usage) = do { local(@ARGV,$/)=($0); <> } =~ /^=head\d$HS+SYNOPSIS\s*(.*)\s*^=/ms;
    my %M = ( 'T' => '*' );
    $usage =~ s/^\s*perl\s+\S+/$^X $0/;
    $usage =~ s/([A-Z])<[>]+>/M{$1}$2M{$1}/g;

    print <<ENDUSAGE;

Usage: $usage

See perldoc $0 for details.

ENDUSAGE

    exit 2;
}

sub strip
{
    my $self = do { local(@ARGV,$/)=($0); <> };
    my($copy) = $self =~ /^=head\d\s+COPYRIGHT\s*(.*)^=\w+/ms;
    $copy =~ s/^(?=\S+)/ /gms;
    $self =~ s/^\$HS+Do NOT edit.*?(?=-)/$copy/ms;
    $self =~ s/^\$SKIP.*(?:^__DATA__)/SKIP
    if (\@ARGV && \$_[0] eq '--unstrip') {

```

```

eval { require Devel::PPPort };
\${@} and die "Cannot require Devel::PPPort, please install.\n";
if (eval \${Devel::PPPort::VERSION} < \${VERSION}) {
    die "\${0} was originally generated with Devel::PPPort \${VERSION}.\n"
        . "Your Devel::PPPort is only version \${Devel::PPPort::VERSION}.\n"
        . "Please install a newer version, or --unstrip will not work.\n";
}
Devel::PPPort::WriteFile(\${0});
exit 0;
}
print <<END;

```

Sorry, but this is a stripped version of \\${0}.

To be able to use its original script and doc functionality,
please try to regenerate this file using:

```
\${X} \${0} --unstrip
```

END

```
/ms;
```

```
my($pl, $c) = $self =~ /(.*^__DATA__)(.*)/ms;
```

```
$c =~ s{
```

```
 /(?: \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* /|/[\r\n]*
```

```
| ("["\]*?(?:\.[^\"]*)"
```

```
| '[^\']*?(?:\.[^']*)*'
```

```
| ($HS+)}{ defined $2 ? '': ($1 || "") }gsex;
```

```
$c =~ s!\s+!!mg;
```

```
$c =~ s!^\$LF!!mg;
```

```
$c =~ s!\s*#\s*!#!mg;
```

```
$c =~ s!\s+!!mg;
```

```
open OUT, ">\${0}" or die "cannot strip \${0}: \${!}\n";
```

```
print OUT "\${pl}\${c}\n";
```

```
exit 0;
```

```
}
```

```
__DATA__
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utills-1.27-248.amzn2.0.2.src.rpm-cosi-expand-
archive-jwX8rQIm/Scalar-List-Utills-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utills-1.27/ppport.h
```

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

abstract: 'Common Scalar and List utility subroutines'

author:
- 'Graham Barr <gbarr@cpan.org>'
build_requires:
ExtUtils::MakeMaker: 0
configure_requires:
ExtUtils::MakeMaker: 0
distribution_type: module
dynamic_config: 0
generated_by: 'ExtUtils::MakeMaker version 6.57_05'
license: perl
meta-spec:
url: <http://module-build.sourceforge.net/META-spec-v1.4.html>
version: 1.4
name: Scalar-List-Utills
no_index:
directory:
- t
- inc
requires:
Test::More: 0
resources:
repository: <https://github.com/Scalar-List-Utills/Scalar-List-Utills>
version: 1.27

Found in path(s):

* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utills-1.27-248.amzn2.0.2.src.rpm-cosi-expand-archive-jwX8rQIm/Scalar-List-Utills-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utills-1.27/MYMETA.yml

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

This distribution is a replacement for the builtin distribution.

This package contains a selection of subroutines that people have expressed would be nice to have in the perl core, but the usage would not really be high enough to warrant the use of a keyword, and the size so small such that being individual extensions would be wasteful.

After unpacking the distribution, to install this module type

```
perl Makefile.PL  
make  
make test  
make install
```

KNOWN BUGS

There is a bug in perl5.6.0 with UV's that are $\geq 1 << 31$. This will show up as tests 8 and 9 of dualvar.t failing

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modify it under the same terms as Perl itself.

Found in path(s):

```
* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utils-1.27-248.amzn2.0.2.src.rpm-cosi-expand-  
archive-jwX8rQIm/Scalar-List-Utils-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utils-1.27/README  
No license file was found, but licenses were detected in source scan.
```

```
/* Copyright (c) 1997-2000 Graham Barr <gbarr@pobox.com>. All rights reserved.  
* This program is free software; you can redistribute it and/or  
* modify it under the same terms as Perl itself.  
*/
```

Found in path(s):

```
* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utils-1.27-248.amzn2.0.2.src.rpm-cosi-expand-  
archive-jwX8rQIm/Scalar-List-Utils-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utils-1.27/ListUtil.xs  
No license file was found, but licenses were detected in source scan.
```

Name: perl-Scalar-List-Utils
Version: 1.27
Release: 248%{?dist}.0.2
Summary: A selection of general-utility scalar and list subroutines
License: GPL+ or Artistic
Group: Development/Libraries
URL: <http://search.cpan.org/dist/Scalar-List-Utils/>
Source0: <http://search.cpan.org/CPAN/authors/id/P/PE/PEVANS/Scalar-List-Utils-%{version}.tar.gz>
BuildRequires: perl
BuildRequires: perl(base)
BuildRequires: perl(Carp)
BuildRequires: perl(Config)
BuildRequires: perl(constant)
BuildRequires: perl(Exporter)
BuildRequires: perl(ExtUtils::MakeMaker)
BuildRequires: perl(File::Spec)
BuildRequires: perl(IO::File)
BuildRequires: perl(IO::Handle)
BuildRequires: perl(Math::BigInt)
BuildRequires: perl(overload)
BuildRequires: perl(strict)
BuildRequires: perl(Symbol)
BuildRequires: perl(Test::More)
BuildRequires: perl(threads)
BuildRequires: perl(threads::shared)
BuildRequires:


```
perl(Tie::Handle)
BuildRequires: perl(Tie::Scalar)
BuildRequires: perl(Tie::StdScalar)
BuildRequires: perl(vars)
BuildRequires: perl(warnings)
BuildRequires: perl(XSLoader)
Requires: perl(:MODULE_COMPAT_%(eval "`{__perl} -V:version`"; echo $version))
Requires: perl(Carp)
```

```
% { ?perl_default_filter }
```

```
%description
```

This package contains a selection of subroutines that people have expressed would be nice to have in the perl core, but the usage would not really be high enough to warrant the use of a keyword, and the size so small such that being individual extensions would be wasteful.

```
%prep
```

```
%setup -q -n Scalar-List-Utills-% {version}
```

```
%build
```

```
% {__perl} Makefile.PL INSTALLDIRS=vendor OPTIMIZE="% {optflags}"
make % {?_smp_mflags}
```

```
%install
```

```
make pure_install DESTDIR=% {buildroot}
```

```
find % {buildroot} -type f -name .packlist -exec rm -f {} \;
```

```
find % {buildroot} -type f -name '*.bs' -size 0 -exec rm -f {} \;
```

```
% { _fixperms } % {buildroot}/*
```

```
%check
```

```
make test
```

```
%files
```

```
%doc Changes
```

```
README
```

```
% {perl_vendorarch}/auto/*
```

```
% {perl_vendorarch}/List*
```

```
% {perl_vendorarch}/Scalar*
```

```
% { _mandir }/man3/*
```

```
%changelog
```

```
* Fri Jan 24 2014 Daniel Mach <dmach@redhat.com> - 1.27-248
```

```
- Mass rebuild 2014-01-24
```

```
* Fri Dec 27 2013 Daniel Mach <dmach@redhat.com> - 1.27-247
```

- Mass rebuild 2013-12-27

* Wed Jul 31 2013 Petr Písar <ppisar@redhat.com> - 1.27-246

- Specify all dependencies

* Fri Jan 04 2013 Iain Arnell <iarnell@gmail.com> 1.27-245

- update to latest upstream version

* Fri Aug 17 2012 Petr Písar <ppisar@redhat.com> - 1.25-240

- Increase release to replace perl sub-package (bug #848961)

* Thu Aug 16 2012 Petr Písar <ppisar@redhat.com> - 1.25-4

- Correct dependencies

* Tue Aug 14 2012 Daniel Mach <dmach@redhat.com> - 1.25-3.1

- Rebuild for perl 5.16

* Fri Jul 20 2012 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 1.25-3

- Rebuilt for https://fedoraproject.org/wiki/Fedora_18_Mass_Rebuild

* Wed Jun 06 2012 Petr Písar <ppisar@redhat.com> - 1.25-2

- Perl 5.16 rebuild

*

Sun Mar 25 2012 Iain Arnell <iarnell@gmail.com> 1.25-1

- update to latest upstream version

* Fri Jan 13 2012 Fedora Release Engineering <rel-eng@lists.fedoraproject.org> - 1.23-3

- Rebuilt for https://fedoraproject.org/wiki/Fedora_17_Mass_Rebuild

* Fri Jun 17 2011 Marcela Maloň <mmlano@redhat.com> - 1.23-2

- Perl mass rebuild

* Mon Feb 21 2011 Iain Arnell <iarnell@gmail.com> 1.23-1

- Specfile autogenerated by cpan-spec 1.79.

Found in path(s):

* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utils-1.27-248.amzn2.0.2.src.rpm-cosi-expand-archive-jwX8rQIm/perl-Scalar-List-Utils.spec

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

license: perl

Found in path(s):

* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utils-1.27-248.amzn2.0.2.src.rpm-cosi-expand-archive-jwX8rQIm/Scalar-List-Utils-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utils-1.27/META.yml

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

=head1 NAME

List::Util::XS - Indicate if List::Util was compiled with a C compiler

=head1 SYNOPSIS

```
use List::Util::XS 1.20;
```

=head1 DESCRIPTION

C<List::Util::XS> can be used as a dependency to ensure List::Util was installed using a C compiler and that the XS version is installed.

During installation C<\$List::Util::XS::VERSION> will be set to C<undef> if the XS was not compiled.

Starting with release 1.23_03, Scalar-List-Util is B<always> using the XS implementation, but for backwards compatibility, we still ship the C<List::Util::XS> module which just loads C<List::Util>.

=head1 SEE ALSO

L<Scalar::Util>, L<List::Util>, L<List::MoreUtils>

=head1 COPYRIGHT

Copyright (c) 2008 Graham Barr <gbarr@pobox.com>. All rights reserved.
This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=cut

Found in path(s):

```
* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utils-1.27-248.amzn2.0.2.src.rpm-cosi-expand-archive-jwX8rQIm/Scalar-List-Utils-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utils-1.27/lib/List/Util/XS.pm
```

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

```
# Copyright (c) 1997-2009 Graham Barr <gbarr@pobox.com>. All rights reserved.  
# This program is free software; you can redistribute it and/or  
# modify it under the same terms as Perl itself.
```

=head1 NAME

List::Util - A selection of general-utility list subroutines

=head1 SYNOPSIS

```
use List::Util qw(first max maxstr min minstr reduce shuffle sum);
```

=head1 DESCRIPTION

C<List::Util> contains a selection of subroutines that people have expressed would be nice to have in the perl core, but the usage would not really be high enough to warrant the use of a keyword, and the size so small such that being individual extensions would be wasteful.

By default C<List::Util> does not export any subroutines. The subroutines defined are

=over 4

=item first BLOCK LIST

Similar to C<grep> in that it evaluates BLOCK setting C<\$_> to each element of LIST in turn. C<first> returns the first element where the result from BLOCK is

a true value. If BLOCK never returns true or LIST was empty then C<undef> is returned.

```
$foo = first { defined($_) } @list # first defined value in @list
$foo = first { $_ > $value } @list # first value in @list which
                                # is greater than $value
```

This function could be implemented using C<reduce> like this

```
$foo = reduce { defined($a) ? $a : wanted($b) ? $b : undef } undef, @list
```

for example wanted() could be defined() which would return the first defined value in @list

=item max LIST

Returns the entry in the list with the highest numerical value. If the list is empty then C<undef> is returned.

```
$foo = max 1..10          # 10
$foo = max 3,9,12        # 12
$foo = max @bar, @baz    # whatever
```

This function could be implemented using C<reduce> like this

```
$foo = reduce { $a > $b ? $a : $b } 1..10
```

=item maxstr LIST

Similar to C<max>, but treats all the entries in the list as strings

and returns

the highest string as defined by the C<gt> operator.

If the list is empty then C<undef> is returned.

```
$foo = maxstr 'A'..'Z'      # 'Z'
$foo = maxstr "hello","world" # "world"
$foo = maxstr @bar, @baz    # whatever
```

This function could be implemented using C<reduce> like this

```
$foo = reduce { $a gt $b ? $a : $b } 'A'..'Z'
```

=item min LIST

Similar to C<max> but returns the entry in the list with the lowest numerical value. If the list is empty then C<undef> is returned.

```
$foo = min 1..10           # 1
$foo = min 3,9,12         # 3
$foo = min @bar, @baz     # whatever
```

This function could be implemented using C<reduce> like this

```
$foo = reduce { $a < $b ? $a : $b } 1..10
```

=item minstr LIST

Similar to C<min>, but treats all the entries in the list as strings and returns the lowest string as defined by the C<lt> operator.

If the list is empty then C<undef> is returned.

```
$foo = minstr 'A'..'Z'    # 'A'
$foo = minstr
"hello","world" # "hello"
$foo = minstr @bar, @baz  # whatever
```

This function could be implemented using C<reduce> like this

```
$foo = reduce { $a lt $b ? $a : $b } 'A'..'Z'
```

=item reduce BLOCK LIST

Reduces LIST by calling BLOCK, in a scalar context, multiple times, setting C<\$a> and C<\$b> each time. The first call will be with C<\$a> and C<\$b> set to the first two elements of the list, subsequent calls will be done by setting C<\$a> to the result of the previous call and C<\$b> to the next element in the list.

Returns the result of the last call to BLOCK. If LIST is empty then C<undef> is returned. If LIST only contains one element then that element is returned and BLOCK is not executed.

```
$foo = reduce { $a < $b ? $a : $b } 1..10    # min
$foo = reduce { $a lt $b ? $a : $b } 'aa'..'zz' # minstr
$foo = reduce { $a + $b } 1 .. 10          # sum
$foo = reduce { $a . $b } @bar            # concat
```

If your algorithm requires that C<reduce> produce an identity value, then make sure that you always pass that identity value as the first argument to prevent C<undef> being returned

```
$foo = reduce { $a + $b } 0, @values;      # sum with 0 identity value
```

=item shuffle LIST

Returns the elements of LIST in a random order

```
@cards = shuffle 0..51    # 0..51 in a random order
```

=item sum LIST

Returns the sum of all the elements in LIST. If LIST is empty then C<undef> is returned.

```
$foo = sum 1..10          # 55
$foo = sum 3,9,12        # 24
$foo = sum @bar, @baz    # whatever
```

This function could be implemented using C<reduce> like this

```
$foo = reduce { $a + $b } 1..10
```

If your algorithm requires that C<sum> produce an identity of 0, then make sure that you always pass C<0> as the first argument to prevent C<undef> being returned

```
$foo = sum 0, @values;
```

=item sum0 LIST

Similar to C<sum>, except this returns 0 when given an empty list, rather than C<undef>.

=back

=head1 KNOWN BUGS

With

perl versions prior to 5.005 there are some cases where reduce will return an incorrect result. This will show up as test 7 of reduce.t failing.

=head1 SUGGESTED ADDITIONS

The following are additions that have been requested, but I have been reluctant to add due to them being very simple to implement in perl

One argument is true

```
sub any { $_ && return 1 for @_ ; 0 }
```

All arguments are true

```
sub all { $_ || return 0 for @_ ; 1 }
```

All arguments are false

```
sub none { $_ && return 0 for @_ ; 1 }
```

One argument is false

```
sub notall { $_ || return 1 for @_ ; 0 }
```

How many elements are true

```
sub true { scalar grep { $_ } @_ }
```

How many elements are false

```
sub false { scalar grep { !$_ } @_ }
```

=head1 SEE ALSO

L<Scalar::Util>, L<List::MoreUtils>

=head1 COPYRIGHT

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This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=cut

Found

in path(s):

```
* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utils-1.27-248.amzn2.0.2.src.rpm-cosi-expand-  
archive-jwX8rQIm/Scalar-List-Utils-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utils-  
1.27/lib/List/Util.pm
```

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

```
# Copyright (c) 1997-2007 Graham Barr <gbarr@pobox.com>. All rights reserved.
```

```
# This program is free software; you can redistribute it and/or
```

```
# modify it under the same terms as Perl itself.
```

```
=head1 NAME
```

Scalar::Util - A selection of general-utility scalar subroutines

```
=head1 SYNOPSIS
```

```
use Scalar::Util qw(blessed dualvar isdual readonly refaddr reftype  
    tainted weaken isweak isvstring looks_like_number  
    set_prototype);  
# and other useful utils appearing below
```

```
=head1 DESCRIPTION
```

C<Scalar::Util> contains a selection of subroutines that people have expressed would be nice to have in the perl core, but the usage would not really be high enough to warrant the use of a keyword, and the size so small such that being individual extensions would be wasteful.

By default C<Scalar::Util> does not export any subroutines. The subroutines defined are

```
=over
```

4

```
=item blessed EXPR
```

If EXPR evaluates to a blessed reference the name of the package that it is blessed into is returned. Otherwise C<undef> is returned.

```
$scalar = "foo";  
$class = blessed $scalar;      # undef
```

```
$ref = [];  
$class = blessed $ref;        # undef
```

```
$obj = bless [], "Foo";  
$class = blessed $obj;        # "Foo"
```


=item dualvar NUM, STRING

Returns a scalar that has the value NUM in a numeric context and the value STRING in a string context.

```
$foo = dualvar 10, "Hello";  
$num = $foo + 2;          # 12  
$str = $foo . " world";  # Hello world
```

=item isdual EXPR

If EXPR is a scalar that is a dualvar, the result is true.

```
$foo = dualvar 86, "Nix";  
$dual = isdual($foo);    # true
```

Note that a scalar can be made to have both string and numeric content through numeric operations:

```
$foo = "10";  
$dual = isdual($foo);    # false  
$bar = $foo + 0;  
$dual = isdual($foo);  
# true
```

Note that although C<\$!> appears to be dual-valued variable, it is actually implemented using a tied scalar:

```
$! = 1;  
print("$!\n");           # "Operation not permitted"  
$dual = isdual($!);     # false
```

You can capture its numeric and string content using:

```
$err = dualvar $!, $!;  
$dual = isdual($err);   # true
```

=item isvstring EXPR

If EXPR is a scalar which was coded as a vstring the result is true.

```
$vs = v49.46.48;  
$fmt = isvstring($vs) ? "%vd" : "%s"; #true  
printf($fmt,$vs);
```

=item looks_like_number EXPR

Returns true if perl thinks EXPR is a number. See

L<perlapi/looks_like_number>.

=item openhandle FH

Returns FH if FH may be used as a filehandle and is open, or FH is a tied handle. Otherwise C<undef> is returned.

```
$fh = openhandle(*STDIN);      # \*STDIN
$fh = openhandle(\*STDIN);    # \*STDIN
$fh = openhandle(*NOTOPEN);   # undef
$fh = openhandle("scalar");
    # undef
```

=item readonly SCALAR

Returns true if SCALAR is readonly.

```
sub foo { readonly($_[0]) }

$readonly = foo($bar);        # false
$readonly = foo(0);           # true
```

=item refaddr EXPR

If EXPR evaluates to a reference the internal memory address of the referenced value is returned. Otherwise C<undef> is returned.

```
$addr = refaddr "string";     # undef
$addr = refaddr $var;         # eg 12345678
$addr = refaddr [];          # eg 23456784

$obj = bless {}, "Foo";
$addr = refaddr $obj;         # eg 88123488
```

=item reftype EXPR

If EXPR evaluates to a reference the type of the variable referenced is returned. Otherwise C<undef> is returned.

```
$type = reftype "string";     # undef
$type = reftype $var;         # SCALAR
$type = reftype [];          # ARRAY

$obj = bless {}, "Foo";
$type = reftype $obj;         # HASH
```

=item set_prototype CODEREF, PROTOTYPE

Sets

the prototype of the given function, or deletes it if PROTOTYPE is undef. Returns the CODEREF.

```
set_prototype \&foo, '$$';
```

=item tainted EXPR

Return true if the result of EXPR is tainted

```
$taint = tainted("constant");    # false
$taint = tainted($ENV{PWD});     # true if running under -T
```

=item weaken REF

REF will be turned into a weak reference. This means that it will not hold a reference count on the object it references. Also when the reference count on that object reaches zero, REF will be set to undef.

This is useful for keeping copies of references , but you don't want to prevent the object being DESTROY-ed at its usual time.

```
{
  my $var;
  $ref = \ $var;
  weaken($ref);          # Make $ref a weak reference
}
# $ref is now undef
```

Note that if you take a copy of a scalar with a weakened reference, the copy will be a strong reference.

```
my $var;
my $foo = \ $var;
weaken($foo);          # Make
$foo a weak reference
my $bar = $foo;        # $bar is now a strong reference
```

This may be less obvious in other situations, such as `C<grep()>`, for instance when grepping through a list of weakened references to objects that may have been destroyed already:

```
@object = grep { defined } @object;
```

This will indeed remove all references to destroyed objects, but the remaining references to objects will be strong, causing the remaining objects to never be destroyed because there is now always a strong reference to them in the @object array.

=item isweak EXPR

If EXPR is a scalar which is a weak reference the result is true.

```
$ref = \$foo;
$weak = isweak($ref);      # false
weaken($ref);
$weak = isweak($ref);      # true
```

B<NOTE>: Copying a weak reference creates a normal, strong, reference.

```
$copy = $ref;
$weak = isweak($copy);     # false
```

=back

=head1 DIAGNOSTICS

Module use may give one of the following errors during import.

=over

=item Weak references are not implemented in the version of perl

The version of perl that you are using does not implement weak references, to use C<isweak> or C<weaken> you will need to use a newer release of perl.

=item Vstrings are not implemented in the version of perl

The version of perl that you are using does not implement Vstrings, to use C<isvstring> you will need to use a newer release of perl.

=item C<NAME> is only available with the XS version of Scalar::Util

C<Scalar::Util> contains both perl and C implementations of many of its functions so that those without access to a C compiler may still use it. However some of the functions are only available when a C compiler was available to compile the XS version of the extension.

At present that list is: weaken, isweak, dualvar, isvstring, set_prototype

=back

=head1 KNOWN BUGS

There is a bug in perl5.6.0 with UV's that are >= 1<<31. This will show up as tests 8 and 9 of dualvar.t failing

=head1 SEE
ALSO

L<List::Util>

=head1 COPYRIGHT

Copyright (c) 1997-2007 Graham Barr <gbarr@pobox.com>. All rights reserved.
This program is free software; you can redistribute it and/or modify it
under the same terms as Perl itself.

Except weaken and isweak which are

Copyright (c) 1999 Tuomas J. Lukka <lukka@iki.fi>. All rights reserved.
This program is free software; you can redistribute it and/or modify it
under the same terms as perl itself.

=cut

Found in path(s):

* /opt/cola/permits/1204658050_1634081982.71/0/perl-Scalar-List-Utils-1.27-248.amzn2.0.2.src.rpm-cosi-expand-
archive-jwX8rQIm/Scalar-List-Utils-1.27.tar.gz-cosi-expand-archive-lfoqVKiM/Scalar-List-Utils-
1.27/lib/Scalar/Util.pm

1.132 perl-storable 2.45-3.amzn2.0.2

1.132.1 Available under license :

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

abstract: unknown

author:

- unknown

build_requires:

ExtUtils::MakeMaker: 0

configure_requires:

ExtUtils::MakeMaker: 0

dynamic_config: 1

generated_by: 'ExtUtils::MakeMaker version 6.68, CPAN::Meta::Converter version 2.112621'

license: unknown

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: Storable

no_index:

directory:

- t
- inc
requires:
XSLoader: 0
resources:
bugtracker: <http://rt.perl.org/perlbug/>
version: 2.45

Found in path(s):

* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-KSiZRTQn/Storable-2.45.tar.gz-cosi-expand-archive-JQMmlbh1/Storable-2.45/META.yml

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

/*

ppport.h -- Perl/Pollution/Portability Version 3.19

Automatically created by Devel::PPPort running under perl 5.012003.

Do NOT edit this file directly! -- Edit PPPort_pm.PL and the
includes in parts/inc/ instead.

Use 'perldoc ppport.h' to view the documentation below.

SKIP

=pod

=head1 NAME

ppport.h - Perl/Pollution/Portability version 3.19

=head1 SYNOPSIS

perl ppport.h [options] [source files]

Searches current directory for files if no [source files] are given

--help show short help

--version show version

--patch=file write one patch file with changes

--copy=suffix write changed copies with suffix

--diff=program use diff program and options

--compat-version=version
provide compatibility with Perl version

--plusplus accept C++ comments

--quiet don't output anything except fatal errors

--nodiag don't show diagnostics

--nohints don't show hints

--nochanges don't suggest changes

--nofilter don't filter input files

--strip strip all script and doc functionality from
ppport.h

--list-provided list provided API

--list-unsupported list unsupported API

--api-info=name show Perl API portability information

=head1 COMPATIBILITY

This version of F<ppport.h> is designed to support operation with Perl installations back to 5.003, and has been tested up to 5.10.0.

=head1 OPTIONS

=head2 --help

Display a brief usage summary.

=head2 --version

Display the version of F<ppport.h>.

=head2 --patch=I<file>

If this option is given, a single patch file will be created if any changes are suggested. This requires a working diff program to be installed on your system.

=head2 --copy=I<suffix>

If this option is given, a copy of each file will be saved with the given suffix that contains the suggested changes. This does not require any external programs. Note that this does not automatically add a dot between the original filename and the suffix. If you want the dot, you have to include it in the option argument.

If neither C<--patch> or C<--copy> are given, the default is to simply print the diffs for each file. This requires either C<Text::Diff> or a C<diff> program to be installed.

=head2 --diff=I<program>

Manually set the diff program and options to use. The default is to use C<Text::Diff>, when installed, and output unified context diffs.

=head2 --compat-version=I<version>

Tell F<ppport.h> to check for compatibility with the given Perl version. The default is to check for compatibility with Perl version 5.003.

You can use this option to reduce the output of F<ppport.h> if you intend to be backward compatible only down to a certain Perl version.

=head2 --cplusplus

Usually, F<ppport.h> will detect C++ style comments and replace them with C style comments for portability reasons. Using this option instructs F<ppport.h> to leave C++ comments untouched.

=head2 --quiet

Be quiet. Don't print anything except fatal errors.

=head2 --nodiag

Don't output any diagnostic messages. Only portability alerts will be printed.

=head2 --nohints

Don't output any hints. Hints often contain useful portability notes. Warnings will still be displayed.

=head2 --nochanges

Don't suggest any changes. Only give diagnostic output and hints unless these are also deactivated.

=head2 --nofilter

Don't filter the list of input files. By default, files not looking like source code (i.e. not *.xs, *.c, *.cc, *.cpp or *.h) are skipped.

=head2 --strip

Strip all script and documentation functionality from F<ppport.h>.

This

reduces the size of F<ppport.h> dramatically and may be useful if you want to include F<ppport.h> in smaller modules without increasing their distribution size too much.

The stripped F<ppport.h> will have a C<--unstrip> option that allows you to undo the stripping, but only if an appropriate C<Devel::PPPort> module is installed.

=head2 --list-provided

Lists the API elements for which compatibility is provided by F<ppport.h>. Also lists if it must be explicitly requested, if it has dependencies, and if there are hints or warnings for it.

=head2 --list-unsupported

Lists the API elements that are known not to be supported by F<ppport.h> and below which version of Perl they probably won't be available or work.

=head2 --api-info=I<name>

Show portability information for API elements matching I<name>. If I<name> is surrounded by slashes, it is interpreted as a regular expression.

=head1 DESCRIPTION

In order for a Perl extension (XS) module to be as portable as possible across differing versions of Perl itself, certain steps need to be taken.

=over 4

=item *

Including this header is the first major one. This alone will give you access to a large part of the Perl API that hasn't been available in earlier Perl releases. Use

```
perl ppport.h --list-provided
```

to see which API elements are provided by ppport.h.

=item *

You should avoid using deprecated parts of the API. For example, using global Perl variables without the C<PL_> prefix is deprecated. Also, some API functions used to have a C<perl_> prefix. Using this form is also deprecated. You can safely use the supported API, as F<ppport.h> will provide wrappers for older Perl versions.

=item *

If you use one of a few functions or variables that were not present in earlier versions of Perl, and that can't be provided using a macro, you have to explicitly request support for these functions by adding one or more C<#define>s in your source code before the inclusion of F<ppport.h>.

These functions or variables will be marked C<explicit> in the list shown by C<--list-provided>.

Depending on whether your module has a single or multiple files that use such functions or variables, you want either C<static> or global variants.

For a C<static> function or variable (used only in a single source file), use:

```
#define NEED_function
#define NEED_variable
```

For a global function or variable (used in multiple source files), use:

```
#define NEED_function_GLOBAL
#define NEED_variable_GLOBAL
```

Note that you mustn't have more than one global request for the same function or variable in your project.

Function / Variable	Static Request	Global Request
PL_parser	NEED_PL_parser	NEED_PL_parser_GLOBAL
PL_signals	NEED_PL_signals	NEED_PL_signals_GLOBAL
eval_pv()	NEED_eval_pv	NEED_eval_pv_GLOBAL
grok_bin()	NEED_grok_bin	NEED_grok_bin_GLOBAL
grok_hex()	NEED_grok_hex	NEED_grok_hex_GLOBAL

grok_number()	NEED_grok_number	NEED_grok_number_GLOBAL
grok_numeric_radix()	NEED_grok_numeric_radix	NEED_grok_numeric_radix_GLOBAL
grok_oct()	NEED_grok_oct	NEED_grok_oct_GLOBAL
load_module()	NEED_load_module	NEED_load_module_GLOBAL
my_snprintf()	NEED_my_snprintf	NEED_my_snprintf_GLOBAL
my_sprintf()	NEED_my_sprintf	NEED_my_sprintf_GLOBAL
my_strlcat()	NEED_my_strlcat	NEED_my_strlcat_GLOBAL
my_strncpy()	NEED_my_strncpy	NEED_my_strncpy_GLOBAL
newCONSTSUB()	NEED_newCONSTSUB	NEED_newCONSTSUB_GLOBAL
newRV_noinc()	NEED_newRV_noinc	NEED_newRV_noinc_GLOBAL
newSV_type()	NEED_newSV_type	NEED_newSV_type_GLOBAL
newSVpvn_flags()	NEED_newSVpvn_flags	NEED_newSVpvn_flags_GLOBAL
newSVpvn_share()	NEED_newSVpvn_share	NEED_newSVpvn_share_GLOBAL
pv_display()	NEED_pv_display	NEED_pv_display_GLOBAL
pv_escape()	NEED_pv_escape	NEED_pv_escape_GLOBAL
pv_pretty()	NEED_pv_pretty	NEED_pv_pretty_GLOBAL
sv_2pv_flags()	NEED_sv_2pv_flags	NEED_sv_2pv_flags_GLOBAL
sv_2pvbyte()	NEED_sv_2pvbyte	NEED_sv_2pvbyte_GLOBAL
sv_catpvf_mg()	NEED_sv_catpvf_mg	NEED_sv_catpvf_mg_GLOBAL
sv_catpvf_mg_nocontext()	NEED_sv_catpvf_mg_nocontext	NEED_sv_catpvf_mg_nocontext_GLOBAL
sv_pvn_force_flags()	NEED_sv_pvn_force_flags	NEED_sv_pvn_force_flags_GLOBAL
sv_setpvf_mg()	NEED_sv_setpvf_mg	
NEED_sv_setpvf_mg_GLOBAL		
sv_setpvf_mg_nocontext()	NEED_sv_setpvf_mg_nocontext	NEED_sv_setpvf_mg_nocontext_GLOBAL
vload_module()	NEED_vload_module	NEED_vload_module_GLOBAL
vnewSVpvf()	NEED_vnewSVpvf	NEED_vnewSVpvf_GLOBAL
warnr()	NEED_warnr	NEED_warnr_GLOBAL

To avoid namespace conflicts, you can change the namespace of the explicitly exported functions / variables using the C<DPPP_NAMESPACE> macro. Just C<#define> the macro before including C<ppport.h>:

```
#define DPPP_NAMESPACE MyOwnNamespace_
#include "ppport.h"
```

The default namespace is C<DPPP_>.

=back

The good thing is that most of the above can be checked by running F<ppport.h> on your source code. See the next section for details.

=head1 EXAMPLES

To verify whether F<ppport.h> is needed for your module, whether you should make any changes to your code, and whether any special defines should be used, F<ppport.h> can be

run as a Perl script to check your source code. Simply say:

```
perl ppport.h
```

The result will usually be a list of patches suggesting changes that should at least be acceptable, if not necessarily the most efficient solution, or a fix for all possible problems.

If you know that your XS module uses features only available in newer Perl releases, if you're aware that it uses C++ comments, and if you want all suggestions as a single patch file, you could use something like this:

```
perl ppport.h --compat-version=5.6.0 --cplusplus --patch=test.diff
```

If you only want your code to be scanned without any suggestions for changes, use:

```
perl ppport.h --nochanges
```

You can specify a different C<diff> program or options, using the C<--diff> option:

```
perl ppport.h --diff='diff -C 10'
```

This would output context diffs with 10 lines of context.

If you want to create patched copies of your files instead, use:

```
perl ppport.h --copy=.new
```

To display portability information for the C<newSVpv> function, use:

```
perl ppport.h --api-info=newSVpv
```

Since the argument to C<--api-info> can be a regular expression, you can use

```
perl ppport.h --api-info=/_nomg$/
```

to display portability information for all C<_nomg> functions or

```
perl ppport.h --api-info=./
```

to display information for all known API elements.

=head1 BUGS

If this version of F<ppport.h> is causing failure during the compilation of this module, please check if newer versions of either this module or C<Devel::PPPport> are available on CPAN before sending a bug report.

If F<ppport.h> was generated using the latest version of C<Devel::PPPport> and is causing failure of this module, please file a bug report using the CPAN Request Tracker at L<<http://rt.cpan.org/>>.

Please include the following information:

=over 4

=item 1.

The complete output from running "perl -V"

=item 2.

This file.

=item 3.

The name and version of the module you were trying to build.

=item 4.

A full log of the build that failed.

=item

5.

Any other information that you think could be relevant.

=back

For the latest version of this code, please get the C<Devel::PPPport> module from CPAN.

=head1 COPYRIGHT

Version 3.x, Copyright (c) 2004-2009, Marcus Holland-Moritz.

Version 2.x, Copyright (C) 2001, Paul Marquess.

Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

This program is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

=head1 SEE ALSO

See L<Devel::PPort>.

=cut

use strict;

Disable broken TRIE-optimization

BEGIN { eval '\${^RE_TRIE_MAXBUF} = -1' if \$] >= 5.009004 && \$] <= 5.009005 }

my \$VERSION = 3.19;

```
my %opt = (
  quiet => 0,
  diag  => 1,
  hints => 1,
  changes => 1,
  cplusplus => 0,
  filter => 1,
  strip  => 0,
  version => 0,
);
```

```
my($ppport) = $0 =~ /([\w.]+)$/;
my $LF = '(?:\r\n|[\r\n])'; # line feed
my $HS = "[\t]";          # horizontal whitespace
```

Never use C comments in this file!

```
my $ccs = '!.*';
my
  $cce = '!.*/';
my $rccs = quotemeta $ccs;
my $rcce = quotemeta $cce;
```

```
eval {
  require Getopt::Long;
  Getopt::Long::GetOptions(\%opt, qw(
    help quiet diag! filter! hints! changes! cplusplus strip version
    patch=s copy=s diff=s compat-version=s
    list-provided list-unsupported api-info=s
  )) or usage();
};
```

```

if ($@ and grep /^-/, @ARGV) {
    usage() if "@ARGV" =~ /^--?h(?:elp)?$/;
    die "Getopt::Long not found. Please don't use any options.\n";
}

if ($opt{version}) {
    print "This is $0 $VERSION.\n";
    exit 0;
}

usage() if $opt{help};
strip() if $opt{strip};

if (exists $opt{'compat-version'}) {
    my($r,$v,$s) = eval { parse_version($opt{'compat-version'}) };
    if ($@) {
        die "Invalid version number format: '$opt{'compat-version'}'\n";
    }
    die "Only Perl 5 is supported\n" if $r != 5;
    die "Invalid version number: $opt{'compat-version'}\n" if $v >= 1000 || $s >= 1000;
    $opt{'compat-version'} = sprintf "%d.%03d%03d", $r, $v, $s;
}
else {
    $opt{'compat-version'} = 5;
}

my
%API = map { /^(\w+)\s*([\^]*\s*)([\^]*\s*)(\w*)$/
    ? ( $1 => {
        ($2      ? ( base   => $2 ) : ()),
        ($3      ? ( todo   => $3 ) : ()),
        (index($4, 'v') >= 0 ? ( varargs => 1 ) : ()),
        (index($4, 'p') >= 0 ? ( provided => 1 ) : ()),
        (index($4, 'n') >= 0 ? ( nothxarg => 1 ) : ()),
    } )
    : die "invalid spec: $_" } qw(
AvFILLp|5.004050||p
AvFILL|||
CLASS|||n
CPERLscope|5.005000||p
CX_CURPAD_SAVE|||
CX_CURPAD_SV|||
CopFILEAV|5.006000||p
CopFILEGV_set|5.006000||p
CopFILEGV|5.006000||p
CopFILESV|5.006000||p
CopFILE_set|5.006000||p

```

CopFILE|5.006000||p
CopSTASHPV_set|5.006000||p
CopSTASHPV|5.006000||p
CopSTASH_eq|5.006000||p
CopSTASH_set|5.006000||p
CopSTASH|5.006000||p
CopyD|5.009002||p
Copy|||
CvPADLIST|||
CvSTASH|||
CvWEAKOUTSIDE|||
DEFSV_set|5.011000||p
DEFSV|5.004050||p
END_EXTERN_C|5.005000||p
ENTER|||
ERRSV|5.004050||p
EXTEND|||
EXTERN_C|5.005000||p
F0convert|||n
FREETMPS|||
GIMME_V||5.004000|n
GIMME|||n
GROK_NUMERIC_RADIX|5.007002||p
G_ARRAY|||
G_DISCARD|||
G_EVAL|||
G_METHOD|5.006001||p
G_NOARGS|||
G_SCALAR|||
G_VOID||5.004000|
GetVars|||
GvSVn|5.009003||p
GvSV|||
Gv_AMupdate|||
HEf_SVKEY||5.004000|
HeHASH||5.004000|
HeKEY||5.004000|
HeKLEN||5.004000|
HePV||5.004000|
HeSVKEY_force||5.004000|
HeSVKEY_set||5.004000|
HeSVKEY||5.004000|
HeUTF8||5.011000|
HeVAL||5.004000|
HvNAMELEN_get|5.009003||p
HvNAME_get|5.009003||p
HvNAME|||
INT2PTR|5.006000||p

IN_LOCALE_COMPILETIME|5.007002||p
IN_LOCALE_RUNTIME|5.007002||p
IN_LOCALE|5.007002||p
IN_PERL_COMPILETIME|5.008001||p
IS_NUMBER_GREATER_THAN_UV_MAX|5.007002||p
IS_NUMBER_INFINITY|5.007002||p
IS_NUMBER_IN_UV|5.007002||p
IS_NUMBER_NAN|5.007003||p
IS_NUMBER_NEG|5.007002||p
IS_NUMBER_NOT_INT|5.007002||p
IVSIZE|5.006000||p
IVTYPE|5.006000||p
IVdf|5.006000||p
LEAVE|||
LVRET|||
MARK|||
MULTICALL||5.011000|
MY_CXT_CLONE|5.009002||p
MY_CXT_INIT|5.007003||p
MY_CXT|5.007003||p
MoveD|5.009002||p
Move|||
NOOP|5.005000||p
NUM2PTR|5.006000||p
NVTYPE|5.006000||p
NVef|5.006001||p
NVff|5.006001||p
NVgf|5.006001||p
Newxc|5.009003||p
Newxz|5.009003||p
Newx|5.009003||p
Nullav|||
Nullch|||
Nullcv|||
Nullhv|||
Nullsv|||
ORIGMARK|||
PAD_BASE_SV|||
PAD_CLONE_VARS|||
PAD_COMPNAME_FLAGS|||
PAD_COMPNAME_GEN_set|||
PAD_COMPNAME_GEN|||
PAD_COMPNAME_OURSTASH|||
PAD_COMPNAME_PV|||
PAD_COMPNAME_TYPE|||
PAD_DUP|||
PAD_RESTORE_LOCAL|||
PAD_SAVE_LOCAL|||

PAD_SAVE_SETNULLPAD|||
PAD_SETSV|||
PAD_SET_CUR_NOSAVE|||
PAD_SET_CUR|||
PAD_SV1|||
PAD_SV|||
PERLIO_FUNCS_CAST|5.009003|p
PERLIO_FUNCS_DECL|5.009003|p
PERL_ABS|5.008001|p
PERL_BCDVERSION|5.011000|p
PERL_GCC_BRACE_GROUPS_FORBIDDEN|5.008001|p
PERL_HASH|5.004000|p
PERL_INT_MAX|5.004000|p
PERL_INT_MIN|5.004000|p
PERL_LONG_MAX|5.004000|p
PERL_LONG_MIN|5.004000|p
PERL_MAGIC_arylen|5.007002|p
PERL_MAGIC_backref|5.007002|p
PERL_MAGIC_bm|5.007002|p
PERL_MAGIC_collxfrm|5.007002|p
PERL_MAGIC_dbfile|5.007002|p
PERL_MAGIC_dbline|5.007002|p
PERL_MAGIC_defelem|5.007002|p
PERL_MAGIC_envelem|5.007002|p
PERL_MAGIC_env|5.007002|p
PERL_MAGIC_ext|5.007002|p
PERL_MAGIC_fm|5.007002|p
PERL_MAGIC_glob|5.011000|p
PERL_MAGIC_isaelem|5.007002|p
PERL_MAGIC_isa|5.007002|p
PERL_MAGIC_mutex|5.011000|p
PERL_MAGIC_nkeys|5.007002|p
PERL_MAGIC_overload_elem|5.007002|p
PERL_MAGIC_overload_table|5.007002|p
PERL_MAGIC_overload|5.007002|p
PERL_MAGIC_pos|5.007002|p
PERL_MAGIC_qr|5.007002|p
PERL_MAGIC_regdata|5.007002|p
PERL_MAGIC_regdatum|5.007002|p
PERL_MAGIC_regex_global|5.007002|p
PERL_MAGIC_shared_scalar|5.007003|p
PERL_MAGIC_shared|5.007003|p
PERL_MAGIC_sigelem|5.007002|p
PERL_MAGIC_sig|5.007002|p
PERL_MAGIC_substr|5.007002|p
PERL_MAGIC_sv|5.007002|p
PERL_MAGIC_taint|5.007002|p
PERL_MAGIC_tiedelem|5.007002|p

PERL_MAGIC_tiedscalar|5.007002||p
PERL_MAGIC_tied|5.007002||p
PERL_MAGIC_utf8|5.008001||p
PERL_MAGIC_uvar_elem|5.007003||p
PERL_MAGIC_uvar|5.007002||p
PERL_MAGIC_vec|5.007002||p
PERL_MAGIC_vstring|5.008001||p
PERL_PV_ESCAPE_ALL|5.009004||p
PERL_PV_ESCAPE_FIRSTCHAR|5.009004||p
PERL_PV_ESCAPE_NOBACKSLASH|5.009004||p
PERL_PV_ESCAPE_NOCLEAR|5.009004||p
PERL_PV_ESCAPE_QUOTE|5.009004||p
PERL_PV_ESCAPE_RE|5.009005||p
PERL_PV_ESCAPE_UNI_DETECT|5.009004||p
PERL_PV_ESCAPE_UNI|5.009004||p
PERL_PV_PRETTY_DUMP|5.009004||p
PERL_PV_PRETTY_ELLIPSES|5.010000||p
PERL_PV_PRETTY_LTGT|5.009004||p
PERL_PV_PRETTY_NOCLEAR|5.010000||p
PERL_PV_PRETTY_QUOTE|5.009004||p
PERL_PV_PRETTY_REGPROP|5.009004||p
PERL_QUAD_MAX|5.004000||p
PERL_QUAD_MIN|5.004000||p
PERL_REVISION|5.006000||p
PERL_SCAN_ALLOW_UNDERSCORES|5.007003||p
PERL_SCAN_DISALLOW_PREFIX|5.007003||p
PERL_SCAN_GREATER_THAN_UV_MAX|5.007003||p
PERL_SCAN_SILENT_ILLDIGIT|5.008001||p
PERL_SHORT_MAX|5.004000||p
PERL_SHORT_MIN|5.004000||p
PERL_SIGNALS_UNSAFE_FLAG|5.008001||p
PERL_SUBVERSION|5.006000||p
PERL_SYS_INIT3||5.006000|
PERL_SYS_INIT||
PERL_SYS_TERM||5.011000|
PERL_UCHAR_MAX|5.004000||p
PERL_UCHAR_MIN|5.004000||p
PERL_UINT_MAX|5.004000||p
PERL_UINT_MIN|5.004000||p
PERL_ULONG_MAX|5.004000||p
PERL_ULONG_MIN|5.004000||p
PERL_UNUSED_ARG|5.009003||p
PERL_UNUSED_CONTEXT|5.009004||p
PERL_UNUSED_DECL|5.007002||p
PERL_UNUSED_VAR|5.007002||p
PERL_UQUAD_MAX|5.004000||p
PERL_UQUAD_MIN|5.004000||p
PERL_USE_GCC_BRACE_GROUPS|5.009004||p

PERL_USHORT_MAX|5.004000||p
PERL_USHORT_MIN|5.004000||p
PERL_VERSION|5.006000||p
PL_DBsignal|5.005000||p
PL_DBsingle|||pn
PL_DBsub|||pn
PL_DBtrace|||pn
PL_Sv|5.005000||p
PL_bufend|5.011000||p
PL_bufptr|5.011000||p
PL_compiling|5.004050||p
PL_copline|5.011000||p
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sv_recode_to_utf8|5.007003|
sv_reftype||
sv_release_COW||
sv_replace||
sv_report_used||
sv_reset||
sv_rvweaken|5.006000|
sv_setiv_mg|5.004050|p
sv_setiv||
sv_setnv_mg|5.006000|p
sv_setnv||
sv_setpv_mg|5.004050|p
sv_setpvf_mg_nocontext||pvn
sv_setpvf_mg|5.006000|5.004000|pv
sv_setpvf_nocontext||vn
sv_setpvf|5.004000|v
sv_setpviv_mg|5.008001|
sv_setpviv|5.008001|
sv_setpvn_mg|5.004050|p
sv_setpvn||
sv_setpvs|5.009004|p
sv_setpv||
sv_setref_iv||

sv_setref_nv|||
sv_setref_pvn|||
sv_setref_pv|||
sv_setref_uv|5.007001|
sv_setsv_cow|||
sv_setsv_flags|5.007002|
sv_setsv_mg|5.004050|p
sv_setsv_nomg|5.007002|p
sv_setsv|||
sv_setuv_mg|5.004050|p
sv_setuv|5.004000|p
sv_tainted|5.004000|
sv_taint|5.004000|
sv_true|5.005000|
sv_unglob|||
sv_uni_display|5.007003|
sv_unmagic|||
sv_unref_flags|5.007001|
sv_unref|||
sv_untaint|5.004000|
sv_upgrade|||
sv_usepvn_flags|5.009004|
sv_usepvn_mg|5.004050|p
sv_usepvn|||
sv_utf8_decode|5.006000|
sv_utf8_downgrade|5.006000|
sv_utf8_encode|5.006000|
sv_utf8_upgrade_flags_grow|5.011000|
sv_utf8_upgrade_flags|5.007002|
sv_utf8_upgrade_nomg|5.007002|
sv_utf8_upgrade|5.007001|
sv_uv|5.005000|p
sv_vcatpvf_mg|5.006000|5.004000|p
sv_vcatpvfn|5.004000|
sv_vcatpvf|5.006000|5.004000|p
sv_vsetpvf_mg|5.006000|5.004000|p
sv_vsetpvfn|5.004000|
sv_vsetpvf|5.006000|5.004000|p
sv_xmlpeek|||
svtype|||
swallow_bom|||
swap_match_buff|||
swash_fetch|5.007002|
swash_get|||
swash_init|5.006000|
sys_init3|5.010000|n
sys_init|5.010000|n
sys_intern_clear|||

sys_intern_dup||
sys_intern_init||
sys_term|5.010000|n
taint_env||
taint_proper||
tmpls_grow|5.006000|
toLOWER||
toUPPER||
to_byte_substr||
to_uni_fold|5.007003|
to_uni_lower_lc|5.006000|
to_uni_lower|5.007003|
to_uni_title_lc|5.006000|
to_uni_title|5.007003|
to_uni_upper_lc|5.006000|
to_uni_upper|5.007003|
to_utf8_case|5.007003|
to_utf8_fold|5.007003|
to_utf8_lower|5.007003|
to_utf8_substr||
to_utf8_title|5.007003|
to_utf8_upper|5.007003|
token_free||
token_getmad||
tokenize_use||
tokeq||
tokereport||
too_few_arguments||
too_many_arguments||
uiv_2buf||n
unlnk||
unpack_rec||
unpack_str|5.007003|
unpackstring|5.008001|
unshare_hek_or_pvn||
unshare_hek||
unsharepvn|5.004000|
unwind_handler_stack||
update_debugger_info||
upg_version|5.009005|
usage||
utf16_to_utf8_reversed|5.006001|
utf16_to_utf8|5.006001|
utf8_distance|5.006000|
utf8_hop|5.006000|
utf8_length|5.007001|
utf8_mg_pos_cache_update||
utf8_to_bytes|5.006001|

utf8_to_uvchr||5.007001|
utf8_to_uvuni||5.007001|
utf8n_to_uvchr||
utf8n_to_uvuni||5.007001|
utilize||
uvchr_to_utf8_flags||5.007003|
uvchr_to_utf8||
uvuni_to_utf8_flags||5.007003|
uvuni_to_utf8||5.007001|
validate_suid||
varname||
vcmp||5.009000|
vcroak||5.006000|
vdeb||5.007003|
vdie_common||
vdie_croak_common||
vdie||
vform||5.006000|
visit||
vivify_defelem||
vivify_ref||
vload_module|5.006000|p
vmess||5.006000|
vnewSVpvf|5.006000|5.004000|p
vnormal||5.009002|
vnumify||5.009000|
vstringify||5.009000|
vverify||5.009003|
vwarner||5.006000|
vwarn||5.006000|
wait4pid||
warn_nocontext||vn
warner_nocontext||vn
warner|5.006000|5.004000|pv
warn||v
watch||
whichsig||
write_no_mem||
write_to_stderr||
xmldump_all||
xmldump_attr||
xmldump_eval||
xmldump_form||
xmldump_indent||v
xmldump_packsubs||
xmldump_sub||
xmldump_vindent||
yyerror||


```

yylex|||
yyvsparse|||
yywarn|||
);

if
(exists $opt{'list-unsupported'}) {
my $f;
for $f (sort { lc $a cmp lc $b } keys %API) {
next unless $API{$f}{todo};
print "$f ", '!x(40-length($f)), " ", format_version($API{$f}{todo}), "\n";
}
exit 0;
}

# Scan for possible replacement candidates

my(%replace, %need, %hints, %warnings, %depends);
my $replace = 0;
my($hint, $define, $function);

sub find_api
{
my $code = shift;
$code =~ s{
/ (? : \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* / | /[\r\n]*
| "[^"]\]*(?:\\.[^"]\)*"
| '[^\']*?(?:\\.[^\']*)*' }{ } egsx;
grep { exists $API{$_} } $code =~ /(\w+)/mg;
}

while (<DATA>) {
if ($hint) {
my $h = $hint->[0] eq 'Hint' ? \%hints : \%warnings;
if (m{^\s*\s(?:\s*)\s*$}) {
for (@{$hint->[1]}) {
$h->{$_} ||= ""; # suppress warning with older
perls
$h->{$_} .= "$1\n";
}
}
else { undef $hint }
}

$hint = [$1, [split /,?\s+/, $2]]
if m{^\s*$rcss\s+(Hint|Warning):\s+(\w+(?:,\s+\w+)*)\s*$};

if ($define) {

```

```

if ($define->[1] =~ /\$/) {
    $define->[1] .= $_;
}
else {
    if (exists $API{$define->[0]} && $define->[1] !~ /^DPPP_\(/) {
        my @n = find_api($define->[1]);
        push @{$depends{$define->[0]}}, @n if @n
    }
    undef $define;
}
}

$define = [$1, $2] if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(.*)};

if ($function) {
    if (/^/) {
        if (exists $API{$function->[0]}) {
            my @n = find_api($function->[1]);
            push @{$depends{$function->[0]}}, @n if @n
        }
        undef $function;
    }
    else {
        $function->[1] .= $_;
    }
}

$function = [$1, ""] if m{^DPPP_(my_(\w+))};

$replace = $1 if m{^\s*$rcce\s+Replace:\s+(\d+)\s+$rcce\s*$};
$replace{$2} = $1 if $replace and m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+)};
$replace{$2} = $1 if m{^\s*#\s*define\s+(\w+)(?:\([^\)]*\))?\s+(\w+).*\s*$rcce\s+Replace\s+$rcce};
$replace{$1} = $2 if m{^\s*$rcce\s+Replace (\w+) with (\w+)\s+$rcce\s*$};

if (m{^\s*$rcce\s+(\w+(\s*,\s*\w+)*)\s+depends\s+on\s+(\w+(\s*,\s*\w+)*)\s+$rcce\s*$}) {
    my @deps = map { s/\s+//g; $_ } split /,/, $3;
    my $d;
    for $d (map { s/\s+//g; $_ } split /,/, $1) {
        push @{$depends{$d}}, @deps;
    }
}

$need{$1} = 1 if m{^#\s+defined\((NEED_(\w+)(?:_GLOBAL)?)\)};
}

for (values %depends) {
    my %s;
    $_ = [sort grep !$s{$_}++, @$_];
}

```

```

}

if (exists $opt{'api-info'}) {
    my $f;
    my $count = 0;
    my $match = $opt{'api-info'} =~ m!^(.*)/?! ? $1 : "\Q$opt{'api-info'}\E\$";
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $f =~ /$match/;
        print "\n=== $f ===\n\n";
        my $info = 0;
        if ($API{$f}{base} || $API{$f}{todo}) {
            my $base = format_version($API{$f}{base} || $API{$f}{todo});
            print "Supported at least starting from perl-$base.\n";
            $info++;
        }
        if ($API{$f}{provided}) {
            my $todo = $API{$f}{todo} ? format_version($API{$f}{todo}) : "5.003";
            print "Support by $ppport provided back to perl-$todo.\n";
            print "Support needs to be explicitly requested by NEED_$f.\n" if exists $need{$f};
            print "Depends on: ", join(', ', @{$depends{$f}}), ".\n" if exists $depends{$f};
            print "\n$hints{$f}" if exists $hints{$f};
            print "\nWARNING:\n$warnings{$f}" if exists $warnings{$f};
            $info++;
        }
        print "No portability information available.\n" unless $info;
        $count++;
    }
    $count or print "Found no API matching '$opt{'api-info'}'.";
    print "\n";
    exit 0;
}

if (exists $opt{'list-provided'}) {
    my $f;
    for $f (sort { lc $a cmp lc $b } keys %API) {
        next unless $API{$f}{provided};
        my @flags;
        push @flags, 'explicit' if exists $need{$f};
        push @flags, 'depend' if exists $depends{$f};
        push @flags, 'hint' if exists $hints{$f};
        push @flags, 'warning'
        if exists $warnings{$f};
        my $flags = @flags ? ' [' . join(', ', @flags) . ']': "";
        print "$f$flags\n";
    }
    exit 0;
}

```

```

my @files;
my @srcext = qw( .xs .c .h .cc .cpp -c.inc -xs.inc );
my $srcext = join '|', map { quotemeta $_ } @srcext;

if (@ARGV) {
  my %seen;
  for (@ARGV) {
    if (-e) {
      if (-f) {
        push @files, $_ unless $seen{$_}++;
      }
      else { warn "'$_' is not a file.\n" }
    }
    else {
      my @new = grep { -f } glob $_
        or warn "'$_' does not exist.\n";
      push @files, grep { !$seen{$_}++ } @new;
    }
  }
}
else {
  eval {
    require File::Find;
    File::Find::find(sub {
      $File::Find::name =~ /($srcext)$/i
        and push @files, $File::Find::name;
    }, '.');
  };
  if ($?) {
    @files = map { glob "*/$_" } @srcext;
  }
}

if (!@ARGV || $opt{filter}) {
  my(@in, @out);
  my %xsc = map { /\.(.*)\.xs$/ ? ("$.c" => 1, "$.cc" => 1) : () } @files;
  for (@files) {
    my $out = exists $xsc{$_} || /\bQ$ppport\E$/i || !($srcext)$/i;
    push @ { $out ? \@out : \@in }, $_;
  }
  if (@ARGV && @out) {
    warning("Skipping the following files (use --nofilter to avoid this):\n| ", join "\n| ", @out);
  }
  @files = @in;
}

die "No input files given!\n" unless @files;

```

```

my(%files, %global, %revreplace);
%revreplace = reverse %replace;
my $filename;
my $patch_opened = 0;

for $filename (@files) {
  unless (open IN, "<$filename") {
    warn "Unable to read from $filename: $!\n";
    next;
  }

  info("Scanning $filename ...");

  my $c = do { local $/; <IN> };
  close IN;

  my %file = (orig => $c, changes => 0);

  # Temporarily remove C/XS comments and strings from the code
  my @ccom;

  $c =~ s{
    ( ^$HS*#$HS*include\b[^\r\n]+\b(?:Q$ppport\E|XSUB\.h)\b[^\r\n]*
    | ^$HS*#$HS*(?:define|elif|if(?:def?))\b[^\r\n]* )
  | ( ^$HS*#[^\r\n]*
    | "[^\\]*(?:\\.[^\\])*"
    | '[^\\]*(?:\\.[^\\])*'
    | /(?: \*[^\*]*\*+(?:[^\$ccs][^\*]*+)* /|/[^\r\n]* ) )
  }{ defined $2 and push @ccom, $2;
    defined
  }
  $1 ? $1 : "$ccs$#ccom$ce" }mgsex;

  $file{ccom} = \@ccom;
  $file{code} = $c;
  $file{has_inc_ppport} = $c =~ /^$HS*#$HS*include[^\r\n]+\bQ$ppport\E\b/m;

  my $func;

  for $func (keys %API) {
    my $match = $func;
    $match .= "$revreplace{$func}" if exists $revreplace{$func};
    if ($c =~ /\b(?:Perl_)?($match)\b/) {
      $file{uses_replace}{$1}++ if exists $revreplace{$func} && $1 eq $revreplace{$func};
      $file{uses_Perl}{$func}++ if $c =~ /\bPerl_{$func}\b/;
      if (exists $API{$func}{provided}) {
        $file{uses_provided}{$func}++;
        if (!exists $API{$func}{base} || $API{$func}{base} > $opt{'compat-version'}) {
          $file{uses}{$func}++;
        }
      }
    }
  }
}

```

```

my @deps = rec_depend($func);
if (@deps) {
    $file{uses_deps}{$func} = \@deps;
    for (@deps) {
        $file{uses}{$_} = 0 unless exists $file{uses}{$_};
    }
}
for ($func, @deps) {
    $file{needs}{$_} = 'static' if exists $need{$_};
}
}
if (exists $API{$func}{todo} && $API{$func}{todo} > $opt{'compat-version'}) {
    if ($c =~ /\b$func\b/) {
        $file{uses_todo}{$func}++;
    }
}
}

while ($c =~ /^$HS*#$HS*define$HS+(NEED_(\w+?)(_GLOBAL)?)\b/mg) {
    if (exists $need{$2}) {
        $file{defined $3 ? 'needed_global' : 'needed_static'}{$2}++;
    }
    else { warning("Possibly wrong #define $1 in $filename") }
}

for (qw(uses needs uses_todo needed_global needed_static)) {
    for $func (keys %{$file{$_}}) {
        push @{$global{$_}{$func}}, $filename;
    }
}

$files{$filename} = \%file;
}

# Globally resolve NEED_'s
my $need;
for $need (keys %{$global{needs}}) {
    if (@{$global{needs}{$need}} > 1) {
        my @targets = @{$global{needs}{$need}};
        my @t = grep $files{$_}{needed_global}{$need}, @targets;
        @targets = @t if @t;
        @t = grep /\.xs$/i, @targets;
        @targets = @t if @t;
        my $target = shift @targets;
        $files{$target}{needs}{$need}
    }
}

```

```

= 'global';
for (@{$global{needs}{$need}}) {
    $files{$_}{needs}{$need} = 'extern' if $_ ne $target;
}
}
}

for $filename (@files) {
exists $files{$filename} or next;

info("=== Analyzing $filename ===");

my %file = %{$files{$filename}};
my $func;
my $c = $file{code};
my $warnings = 0;

for $func (sort keys %{$file{uses_Perl}}) {
    if ($API{$func}{varargs}) {
        unless ($API{$func}{nothxarg}) {
            my $changes = ($c =~ s{\b(Perl_$func\s*\(\s*(?!aTHX_?)\(\)[^\s]*)\)}
                { $1 . ($2 eq ') ? 'aTHX' : 'aTHX_' ) . $2 }ge);
            if ($changes) {
                warning("Doesn't pass interpreter argument aTHX to Perl_$func");
                $file{changes} += $changes;
            }
        }
    }
    else {
        warning("Uses Perl_$func instead of $func");
        $file{changes} += ($c =~ s{\bPerl_$func(\s*\(\s*aTHX_?\)?\s*}
            {$func$1()}g);
    }
}

for $func (sort keys %{$file{uses_replace}}) {
    warning("Uses
$func instead of $replace{$func}");
    $file{changes} += ($c =~ s/\b$func\b/$replace{$func}/g);
}

for $func (sort keys %{$file{uses_provided}}) {
    if ($file{uses}{$func}) {
        if (exists $file{uses_deps}{$func}) {
            diag("Uses $func, which depends on ", join(', ', @{$file{uses_deps}{$func}}));
        }
    }
    else {
        diag("Uses $func");
    }
}

```

```

    }
  }
  $warnings += hint($func);
}

unless ($opt{quiet}) {
  for $func (sort keys %{$file{uses_todo}}) {
    print "*** WARNING: Uses $func, which may not be portable below perl ",
      format_version($API{$func}{todo}), ", even with '$ppport'\n";
    $warnings++;
  }
}

for $func (sort keys %{$file{needed_static}}) {
  my $message = "";
  if (not exists $file{uses}{$func}) {
    $message = "No need to define NEED_$func if $func is never used";
  }
  elsif (exists $file{needs}{$func} && $file{needs}{$func} ne 'static') {
    $message = "No need to define NEED_$func when already
needed globally";
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_$func\b.*$LF//mg);
  }
}

for $func (sort keys %{$file{needed_global}}) {
  my $message = "";
  if (not exists $global{uses}{$func}) {
    $message = "No need to define NEED_{func}_GLOBAL if $func is never used";
  }
  elsif (exists $file{needs}{$func}) {
    if ($file{needs}{$func} eq 'extern') {
      $message = "No need to define NEED_{func}_GLOBAL when already needed globally";
    }
    elsif ($file{needs}{$func} eq 'static') {
      $message = "No need to define NEED_{func}_GLOBAL when only used in this file";
    }
  }
  if ($message) {
    diag($message);
    $file{changes} += ($c =~ s/^\$HS*#\$HS*define\$HS+NEED_{func}_GLOBAL\b.*$LF//mg);
  }
}

$file{needs_inc_ppport} = keys %{$file{uses}};

```



```

if ($file{needs_inc_ppport}) {
  my $pp = "";

  for $func (sort keys %{$file{needs}}) {
    my $type = $file{needs}{$func};
    next if $type eq 'extern';
    my $suffix = $type eq 'global' ? '_GLOBAL' : "";
    unless (exists $file{"needed_$type"}{$func}) {
      if ($type eq 'global') {
        diag("Files [ @{$global{needs}{$func}} ] need $func, adding global request");
      }
      else {
        diag("File needs $func, adding static request");
      }
      $pp .= "#define NEED_$func$suffix\n";
    }
  }
}

if ($pp && ($c =~ s/^(?=$HS*#$HS*define$HS+NEED_\w+)/$pp/m)) {
  $pp = "";
  $file{changes}++;
}

unless ($file{has_inc_ppport}) {
  diag("Needs to include 'Sppport'");
  $pp .= qq(#include "Sppport"\n)
}

if ($pp) {
  $file{changes} += ($c =~ s/^(HS*#$HS*define$HS+NEED_\w+.*?)/$1$pp/ms)
    || ($c =~ s/^(?=$HS*#$HS*include.*\Q$ppport\E)/$pp/m)
    || ($c =~ s/^(HS*#$HS*include.*XSUB.*\s*?)/$1$pp/m)
    || ($c =~ s/^\/$pp/);
}
}
else {
  if ($file{has_inc_ppport})
  {
    diag("No need to include 'Sppport'");
    $file{changes} += ($c =~ s/^\$HS*?#\$HS*include.*\Q$ppport\E.*?$LF//m);
  }
}

# put back in our C comments
my $ix;
my $cppc = 0;
my @ccom = @{$file{ccom}};

```

```

for $ix (0 .. $#ccom) {
  if (!$opt{cplusplus} && $ccom[$ix] =~ s!^/!!) {
    $cppc++;
    $file{changes} += $c =~ s/$rccs$ix$rcce/$ccs$ccom[$ix] $cce/;
  }
  else {
    $c =~ s/$rccs$ix$rcce/$ccom[$ix]/;
  }
}

if ($cppc) {
  my $s = $cppc != 1 ? 's' : '';
  warning("Uses $cppc C++ style comment$s, which is not portable");
}

my $s = $warnings != 1 ? 's' : '';
my $warn = $warnings ? " ($warnings warning$s)" : '';
info("Analysis completed$warn");

if ($file{changes}) {
  if (exists $opt{copy}) {
    my $newfile = "$filename$opt{copy}";
    if (-e $newfile) {
      error("$newfile' already exists, refusing to write copy of '$filename'");
    }
    else {
      local *F;
      if (open F, ">$newfile") {
        info("Writing
copy of '$filename' with changes to '$newfile'");
        print F $c;
        close F;
      }
      else {
        error("Cannot open '$newfile' for writing: $!");
      }
    }
  }
}

elsif (exists $opt{patch} || $opt{changes}) {
  if (exists $opt{patch}) {
    unless ($patch_opened) {
      if (open PATCH, ">$opt{patch}") {
        $patch_opened = 1;
      }
    }
    else {
      error("Cannot open '$opt{patch}' for writing: $!");
      delete $opt{patch};
      $opt{changes} = 1;
    }
  }
}

```

```

        goto fallback;
    }
}
mydiff(\*PATCH, $filename, $c);
}
else {
fallback:
    info("Suggested changes:");
    mydiff(\*STDOUT, $filename, $c);
}
}
else {
    my $s = $file{changes} == 1 ? " : 's';
    info("$file{changes} potentially required change$s detected");
}
}
else {
    info("Looks good");
}
}

```

```
close PATCH if $patch_opened;
```

```
exit 0;
```

```
sub try_use { eval
"use @_;" return @$@ eq " }
```

```
sub mydiff
{
    local *F = shift;
    my($file, $str) = @_;
    my $diff;

    if (exists $opt{diff}) {
        $diff = run_diff($opt{diff}, $file, $str);
    }

    if (!defined $diff and try_use("Text::Diff")) {
        $diff = Text::Diff::diff($file, \ $str, { STYLE => 'Unified' });
        $diff = <<HEADER . $diff;
    }
}

--- $file
+++ $file.patched
HEADER
}

```

```
if (!defined $diff) {
```

```

$diff = run_diff('diff -u', $file, $str);
}

if (!defined $diff) {
    $diff = run_diff('diff', $file, $str);
}

if (!defined $diff) {
    error("Cannot generate a diff. Please install Text::Diff or use --copy.");
    return;
}

print F $diff;
}

sub run_diff
{
    my($prog, $file, $str) = @_ ;
    my $tmp = 'dppptemp';
    my $suf = 'aaa';
    my $diff = "";
    local *F;

    while (-e "$tmp.$suf") { $suf++ }
    $tmp = "$tmp.$suf";

    if (open F, ">$tmp") {
        print F $str;
        close F;

        if (open F, "$prog $file $tmp |") {
            while (<F>) {
                s/^Q$tmp\E/$file.patched/;
                $diff
            }
            .= $_;
        }
        close F;
        unlink $tmp;
        return $diff;
    }

    unlink $tmp;
}
else {
    error("Cannot open '$tmp' for writing: $!");
}

return undef;

```

```

}

sub rec_depend
{
my($func, $seen) = @_ ;
return () unless exists $depends{$func};
$seen = {%{$seen|{}}};
return () if $seen->{$func}++;
my %s;
grep !$s{$_}++, map { ($_, rec_depend($_, $seen)) } @{$depends{$func}};
}

sub parse_version
{
my $ver = shift;

if ($ver =~ /^(d+)\.(d+)\.(d+)$/) {
return ($1, $2, $3);
}
elsif ($ver !~ /^(d+\.[d_]+$)/) {
die "cannot parse version '$ver'\n";
}

$ver =~ s/_//g;
$ver =~ s/$/000000/;

my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;
$s = int $s;

if ($r < 5 || ($r == 5 && $v < 6)) {
if ($s % 10) {
die "cannot parse version '$ver'\n";
}
}

return ($r, $v, $s);
}

sub format_version
{
my $ver = shift;

$ver =~ s/$/000000/;
my($r,$v,$s) = $ver =~ /(\d+)\.(\d{3})(\d{3})/;

$v = int $v;

```

```

$s =
int $s;

if ($r < 5 || ($r == 5 && $v < 6)) {
  if ($s % 10) {
    die "invalid version '$ver'\n";
  }
  $s /= 10;

  $ver = sprintf "%d.%03d", $r, $v;
  $s > 0 and $ver .= sprintf "_%02d", $s;

  return $ver;
}

return sprintf "%d.%d.%d", $r, $v, $s;
}

sub info
{
  $opt{quiet} and return;
  print @_, "\n";
}

sub diag
{
  $opt{quiet} and return;
  $opt{diag} and print @_, "\n";
}

sub warning
{
  $opt{quiet} and return;
  print "*** ", @_, "\n";
}

sub error
{
  print "*** ERROR: ", @_, "\n";
}

my %given_hints;
my %given_warnings;
sub hint
{
  $opt{quiet} and return;
  my $func = shift;
  my $rv = 0;

```

```

if (exists $warnings{$func} && !$given_warnings{$func}++) {
    my $warn = $warnings{$func};
    $warn =~ s/^\!*** !mg;
    print "*** WARNING: $func\n", $warn;
    $rv++;
}
if ($opt{hints} && exists $hints{$func} && !$given_hints{$func}++) {
    my $hint = $hints{$func};
    $hint =~ s/^\s+ /mg;
    print " --- hint for $func ---\n", $hint;
}
$rv;
}

sub
usage
{
    my($usage) = do { local(@ARGV,$/)=($0); <> } =~ /^=head\d$HS+SYNOPSIS\s*^(.*?)\s*^=/ms;
    my %M = ( 'T' => '*' );
    $usage =~ s/^\s*perl\s+\S+/$^X $0/;
    $usage =~ s/([A-Z])<([>]+)>/M{$1}$2M{$1}/g;

    print <<ENDUSAGE;

Usage: $usage

See perldoc $0 for details.

ENDUSAGE

    exit 2;
}

sub strip
{
    my $self = do { local(@ARGV,$/)=($0); <> };
    my($copy) = $self =~ /^=head\d\s+COPYRIGHT\s*^(.*?)^=\w+/ms;
    $copy =~ s/^(?=\S+)/ /gms;
    $self =~ s/^\$HS+Do NOT edit.*?(?=-)/$copy/ms;
    $self =~ s/^\$SKIP.*(?:=__DATA__)/SKIP
if (\@ARGV && $ARGV[0] eq '--unstrip') {
    eval { require Devel::PPPport };
    \@ and die "Cannot require Devel::PPPport, please install.\n";
    if (eval $Devel::PPPport::VERSION < $VERSION) {
        die "$0 was originally generated with Devel::PPPport $VERSION.\n"
            . "Your Devel::PPPport is only version $Devel::PPPport::VERSION.\n"
            . "Please install a newer version, or --unstrip will not work.\n";
    }
}

```

```

Devel::PPPport::WriteFile(\$0);
exit 0;
}
print
<<END;

```

Sorry, but this is a stripped version of \\$0.

To be able to use its original script and doc functionality,
please try to regenerate this file using:

```
\$^X \$0 --unstrip
```

END

```
/ms;
```

```
my($pl, $c) = $self =~ /(.*^__DATA__)(.*)/ms;
```

```
$c =~ s{
```

```
 / (? : \*[^\*]*\*+(?:[^\$ccs][^\*]*\*+)* / | /[\r\n]*
```

```
 | ( "[^\\"]*?(?:\\.["\\"])*"
```

```
 | '[^\']*?(?:\\.['\\'])*'
```

```
 | ($HS+) ){ defined $2 ? ' ' : ($1 || " ) }gsex;
```

```
$c =~ s!\s+!!mg;
```

```
$c =~ s!^\$LF!!mg;
```

```
$c =~ s!\s*#\s*!#!mg;
```

```
$c =~ s!\s+!!mg;
```

```
open OUT, ">$0" or die "cannot strip $0: $!\n";
```

```
print OUT "$pl$c\n";
```

```
exit 0;
```

```
}
```

```
__DATA__
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-KSiZRTQn/Storable-2.45.tar.gz-cosi-expand-archive-JQMmlbh1/Storable-2.45/ppport.h
```

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

=head1 THREADS

In perl 5.8.0 and later, Test::Builder is thread-safe. The test number is shared amongst all threads. This means if one thread sets the test number using current_test() they will all be effected.

=head1 EXAMPLES

CPAN can provide the best examples. Test::Simple, Test::More, Test::Exception and Test::Differences all use Test::Builder.

=head1 SEE ALSO

Test::Simple, Test::More, Test::Harness

=head1 AUTHORS

Original code by chromatic, maintained by Michael G Schwern
E<lt>schwern@pobox.comE<gt>

=head1 COPYRIGHT

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Michael G Schwern E<lt>schwern@pobox.comE<gt>.

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See F<http://www.perl.com/perl/misc/Artistic.html>

=cut

Found in path(s):

* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-KSiZRTQn/Storable-2.45.tar.gz-cosi-expand-archive-JQMmlbh1/Storable-2.45/t/compat/Test/Builder.pm
No license file was found, but licenses were detected in source scan.

=back

Test::Simple will start by printing number of tests run in the form "1..M" (so "1..5" means you're going to run 5 tests). This strange format lets Test::Harness know how many tests you plan on running in case something goes horribly wrong.

If all your tests passed, Test::Simple will exit with zero (which is normal). If anything failed it will exit with how many failed. If you run less (or more) tests than you planned, the missing (or extras) will be considered failures. If no tests were ever run Test::Simple will throw a warning and exit with 255. If the test died, even after having successfully completed all its tests, it will still be considered a failure and will exit with 255.

So the exit codes are...

0	all tests successful
255	test died

any other number how many failed (including missing or extras)

If you fail more than 254 tests, it will be reported as 254.

This module is by no means trying to be a complete testing system. It's just to get you started. Once you're off the ground its recommended you look at [L<Test::More>](#).

=head1 EXAMPLE

Here's an example of a simple .t file for the fictional Film module.

```
use Test::Simple tests => 5;

use Film; # What you're testing.

my $btaste = Film->new({ Title => 'Bad Taste',
                      Director => 'Peter Jackson',
                      Rating => 'R',
                      NumExplodingSheep => 1
                      });
ok( defined($btaste) and ref $btaste eq 'Film', 'new() works' );

ok( $btaste->Title eq 'Bad Taste', 'Title() get' );
ok( $btaste->Director eq 'Peter Jackson', 'Director() get' );
ok( $btaste->Rating eq 'R', 'Rating() get' );
ok( $btaste->NumExplodingSheep == 1, 'NumExplodingSheep() get' );
```

It will produce output like this:

```
1..5
ok 1 - new() works
ok 2 - Title() get
ok 3 - Director() get
not ok 4 - Rating() get
# Failed test (t/film.t at line 14)
ok 5 - NumExplodingSheep() get
# Looks like you failed 1 tests of 5
```

Indicating the Film::Rating() method is broken.

=head1 CAVEATS

Test::Simple will only report a maximum of 254 failures in its exit code. If this is a problem, you probably have a huge test script.

Split it into multiple files. (Otherwise blame the Unix folks for using an unsigned short integer as the exit status).

Because VMS's exit codes are much, much different than the rest of the universe, and perl does horrible mangling to them that gets in my way, it works like this on VMS.

```
0  SS$_NORMAL    all tests successful
4  SS$_ABORT     something went wrong
```

Unfortunately, I can't differentiate any further.

=head1 NOTES

Test::Simple is B<explicitly> tested all the way back to perl 5.004.

Test::Simple is thread-safe in perl 5.8.0 and up.

=head1 HISTORY

This

module was conceived while talking with Tony Bowden in his kitchen one night about the problems I was having writing some really complicated feature into the new Testing module. He observed that the main problem is not dealing with these edge cases but that people hate to write tests B<at all>. What was needed was a dead simple module that took all the hard work out of testing and was really, really easy to learn. Paul Johnson simultaneously had this idea (unfortunately, he wasn't in Tony's kitchen). This is it.

=head1 SEE ALSO

=over 4

=item L<Test::More>

More testing functions! Once you outgrow Test::Simple, look at Test::More. Test::Simple is 100% forward compatible with Test::More (i.e. you can just use Test::More instead of Test::Simple in your programs and things will still work).

=item L<Test>

The original Perl testing module.

=item L<Test::Unit>

Elaborate unit testing.

=item L<Test::Inline>, L<SelfTest>

Embed tests in your code!

=item L<Test::Harness>

Interprets

the output of your test program.

=back

=head1 AUTHORS

Idea by Tony Bowden and Paul Johnson, code by Michael G Schwern
E<lt>schwern@pobox.comE<gt>, wardrobe by Calvin Klein.

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* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-
KSiZRTQn/Storable-2.45.tar.gz-cosi-expand-archive-JQMmlbh1/Storable-2.45/t/compat/Test/Simple.pm

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Found in path(s):

* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-
KSiZRTQn/Storable-2.45.tar.gz-cosi-expand-archive-JQMmlbh1/Storable-2.45/t/forgive.t

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

Storable 2.14

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Copyright (c) 2001-2004, Larry Wall

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it under the same terms as Perl 5 itself.

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
Perl 5 License schemes for more details.

+-----
| Storable is distributed as a module, but is also part of the official
| Perl core distribution, as of perl 5.8.
| Maintenance is now done by the perl5-porters. We thank Raphael
| Manfredi for providing us with this very
| useful module.
+-----

The Storable extension brings persistence to your data.

You may recursively store to disk any data structure, no matter how
complex and circular it is, provided it contains only SCALAR, ARRAY,
HASH (possibly tied) and references (possibly blessed) to those items.

At a later stage, or in another program, you may retrieve data from
the stored file and recreate the same hierarchy in memory. If you
had blessed references, the retrieved references are blessed into
the same package, so you must make sure you have access to the
same perl class than the one used to create the relevant objects.

There is also a dclone() routine which performs an optimized mirroring
of any data structure, preserving its topology.

Objects (blessed references) may also redefine the way storage and
retrieval is performed, and/or what deep cloning should do on those
objects.

To compile this extension, run:

```
perl Makefile.PL  
[PERL_SRC=...where you put perl sources...]  
make  
make install
```

There is an embedded POD manual page in Storable.pm.

Storable was written by Raphael Manfredi <Raphael_Manfredi@pobox.com>

Maintenance is now done by the perl5-porters <perl5-porters@perl.org>

Please e-mail us with problems, bug fixes, comments and complaints, although if you have complements you should send them to Raphael. Please don't e-mail Raphael with problems, as he no longer works on Storable, and your message will be delayed while he forwards it to us.

Thanks to (in chronological order):

Jarkko Hietaniemi <jhi@iki.fi>
Ulrich Pfeifer <pfeifer@charly.informatik.uni-dortmund.de>
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Marc Lehmann <pcg@opengroup.org>
Justin Banks <justinb@wamnet.com>
Jarkko Hietaniemi <jhi@iki.fi> (AGAIN, as perl 5.7.0 Pumpkin!)

for their contributions.

A Japanese translation of this man page is available at the Japanized Perl Resources Project <<https://sourceforge.jp/projects/perldocjp/>>.

The perl5-porters would like to thank

Raphael Manfredi <Raphael_Manfredi@pobox.com>

According to the perl5.8 Changes file, the following people have helped bring you this Storable release:

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Tim Bunce <Tim.Bunce@pobox.com>
VMSperlrs
Yitzchak Scott-Thoennes <sthoenna@efn.org>

If I've missed you out, please accept my apologies, and e-mail your patch to perl5-porters@perl.org.

Found in path(s):

* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-KSiZRTQn/Storable-2.45.tar.gz-cosi-expand-archive-JQMmlbh1/Storable-2.45/README

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=back

=head1 NOTES

Test::More is B<explicitly> tested all the way back to perl 5.004.

Test::More is thread-safe for perl 5.8.0 and up.

=head1 BUGS and CAVEATS

=over 4

=item Making your own ok()

If you are trying to extend Test::More, don't. Use Test::Builder instead.

=item The eq_* family has some caveats.

=item Test::Harness upgrades

no_plan and todo depend on new Test::Harness features and fixes. If you're going to distribute tests that use no_plan or todo your end-users will have to upgrade Test::Harness to the latest one on CPAN. If you avoid no_plan and TODO tests, the stock Test::Harness will work fine.

If you simply depend on Test::More, it's own dependencies will cause a Test::Harness upgrade.

=back

=head1 HISTORY

This is a case of convergent evolution with Joshua Pritikin's Test module. I was largely unaware of its existence when I'd first written my own ok() routines. This module exists because I can't figure out how to easily wedge test names into Test's interface (along with a few other problems).

The goal here is to have a testing utility that's simple to learn, quick to use and difficult to trip yourself up with while still providing more flexibility than the existing Test.pm. As such, the names of the most common routines are kept tiny, special cases and magic side-effects are kept to a minimum. WYSIWYG.

=head1 SEE ALSO

L<Test::Simple> if all this confuses you and you just want to write some tests. You can upgrade to Test::More later (it's forward compatible).

L<Test::Differences> for more ways to test complex data structures. And it plays well with Test::More.

L<Test> is the old testing module. Its main benefit is that it has been distributed with Perl since 5.004_05.

L<Test::Harness> for details on how your test results are interpreted by Perl.

L<Test::Unit> describes a very featureful unit testing interface.

L<Test::Inline> shows the idea of embedded testing.

L<SelfTest> is another approach to embedded testing.

=head1 AUTHORS

Michael G Schwern E<lt>schwern@pobox.comE<gt> with much inspiration from Joshua Pritikin's Test module and lots of help from Barrie Slaymaker, Tony Bowden, chromatic and the perl-qa gang.

=head1 COPYRIGHT

Copyright 2001 by Michael G Schwern E<lt>schwern@pobox.comE<gt>.

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See F<http://www.perl.com/perl/misc/Artistic.html>

=cut

Found in path(s):

* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-KSiZRTQn/Storable-2.45.tar.gz-cosi-expand-archive-JQMmlbh1/Storable-2.45/t/compat/Test/More.pm

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Found in path(s):

* /opt/cola/permits/1204657894_1634082085.34/0/perl-Storable-2.45-3.amzn2.0.2.src.rpm-cosi-expand-archive-KSiZRTQn/perl-Storable.spec

1.133 perl-pod-simple 3.28-4.amzn2

1.133.1 Available under license :

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

=head1 NAME

Pod::Simple::Methody -- turn Pod::Simple events into method calls

=head1 SYNOPSIS

```
require 5;
use strict;
package SomePodFormatter;
use base qw(Pod::Simple::Methody);
```

```
sub handle_text {
    my($self, $text) = @_;
    ...
}
```

```
sub start_head1 {
    my($self, $attrs) = @_;
```

```

...
}
sub end_head1 {
    my($self) = @_;
    ...
}

```

...and start `_end_` methods for whatever other events you want to catch.

`=head1 DESCRIPTION`

This class is of interest to people writing Pod formatters based on `Pod::Simple`.

This class (which is very small -- read the source) overrides `Pod::Simple`'s `_handle_element_start`, `_handle_text`, and `_handle_element_end` methods so that parser events are turned into method calls. (Otherwise, this is a subclass of `L<Pod::Simple>` and inherits all its methods.)

You can use this class as the base class for a Pod formatter/processor.

`=head1 METHOD CALLING`

When `Pod::Simple` sees a `"=head1 Hi there"`, for example, it basically does this:

```

$parser->_handle_element_start( "head1", \%attributes );
$parser->_handle_text( "Hi there" );
$parser->_handle_element_end( "head1" );

```

But if you subclass `Pod::Simple::Methody`, it will instead do this when it sees a `"=head1 Hi there"`:

```

$parser->start_head1( \%attributes ) if $parser->can('start_head1');
$parser->handle_text( "Hi there" ) if $parser->can('handle_text');
$parser->end_head1() if $parser->can('end_head1');

```

If `Pod::Simple` sends an event where the element name has a dash, period, or colon, the corresponding method name will have an underscore in its place. For example, `"foo.bar:baz"` becomes `start_foo_bar_baz` and `end_foo_bar_baz`.

See the source for `Pod::Simple::Text` for an example of using this class.

`=head1 SEE ALSO`

L<Pod::Simple>, L<Pod::Simple::Subclassing>

=head1 SUPPORT

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

This module is managed in an open GitHub repository, L<<https://github.com/theory/pod-simple/>>. Feel free to fork and contribute, or to clone L<[git://github.com/theory/pod-simple.git](https://github.com/theory/pod-simple.git)> and send patches!

Patches against Pod::Simple are welcome. Please send bug reports to <bug-pod-simple@rt.cpan.org>.

=head1 COPYRIGHT AND DISCLAIMERS

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This library is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

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.

=head1 AUTHOR

Pod::Simple was created by Sean M. Burke <sburke@cpan.org>. But don't bother him, he's retired.

Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

=cut

Found

in path(s):

```
* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-
WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-
3.28/lib/Pod/Simple/Methody.pm
```

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=head1 Pod::Simple version 3.28

Pod::Simple is a Perl library for parsing text in the Pod ("plain old documentation") markup language that is typically used for writing documentation for Perl and for Perl modules. The Pod format is explained L<perlpod>; the most common formatter is called C<perldoc>.

Pod formatters can use Pod::Simple to parse Pod documents and render them into plain text, HTML, or any number of other formats.

=head2 Installation

To install this module, type the following:

```
perl Makefile.PL
make
make test
make install
```

=head2 Support

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

This module is managed in an open GitHub repository, L<<https://github.com/theory/pod-simple/>>. Feel free to fork and contribute, or to clone L<[git://github.com/theory/pod-simple.git](https://github.com/theory/pod-simple.git)> and send patches!

Patches against Pod::Simple are welcome. Please send bug reports to <bug-pod-simple@rt.cpan.org>.

=head1 copyright and Disclaimers

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merchantability or fitness for a particular purpose.

=head1 Author

Pod::Simple was created by Sean M. Burke <sburke@cpan.org>. But don't bother him, he's retired.

Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

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Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/README

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=head1 NAME

perlfaq3 - Programming Tools (\$Revision: 1.38 \$, \$Date: 1999/05/23 16:08:30 \$)

=head1 DESCRIPTION

This section of the FAQ answers questions related to programmer tools and programming support.

=head2 How do I do (anything)?

Have you looked at CPAN (see [L<perlfaq2>](#))? The chances are that someone has already written a module that can solve your problem. Have you read the appropriate man pages? Here's a brief index:

Basics [perldata](#), [perlvar](#), [perlsyn](#), [perlop](#), [perlsub](#)

Execution [perlrun](#), [perldebug](#)

Functions [perlfunc](#)

Objects [perlref](#), [perlmod](#), [perlobj](#), [perltie](#)

Data Structures [perlref](#), [perllol](#), [perldsc](#)

Modules [perlmod](#), [perlmodlib](#), [perlsub](#)

Regexes [perlre](#), [perlfunc](#), [perlop](#), [perllocale](#)

Moving to perl5 perltrap, perl
Linking w/C perlxtut, perlxs, perlcall, perlguts, perlembed
Various <http://www.perl.com/CPAN/doc/FMTEYEWTK/index.html>
(not a man-page but still useful)

A crude table of
contents for the Perl man page set is found in L<perltoc>.

=head2 How can I use Perl interactively?

The typical approach uses the Perl debugger, described in the
perldebug(1) man page, on an ``empty" program, like this:

```
perl -de 42
```

Now just type in any legal Perl code, and it will be immediately
evaluated. You can also examine the symbol table, get stack
backtraces, check variable values, set breakpoints, and other
operations typically found in symbolic debuggers.

=head2 Is there a Perl shell?

In general, no. The Shell.pm module (distributed with Perl) makes
Perl try commands which aren't part of the Perl language as shell
commands. perlsh from the source distribution is simplistic and
uninteresting, but may still be what you want.

=head2 How do I debug my Perl programs?

Have you tried C<use warnings> or used C<-w>? They enable warnings
to detect dubious practices.

Have you tried C<use strict>? It prevents you from using symbolic
references, makes you predeclare any
subroutines that you call as bare
words, and (probably most importantly) forces you to predeclare your
variables with C<my>, C<our>, or C<use vars>.

Did you check the return values of each and every system call? The operating
system (and thus Perl) tells you whether they worked, and if not
why.

```
open(FH, "> /etc/cantwrite")  
or die "Couldn't write to /etc/cantwrite: $!\n";
```

Did you read L<perltrap>? It's full of gotchas for old and new Perl
programmers and even has sections for those of you who are upgrading
from languages like I<awk> and I<C>.

Have you tried the Perl debugger, described in [L<perldebug>](#)? You can step through your program and see what it's doing and thus work out why what it's doing isn't what it should be doing.

=head2 How do I profile my Perl programs?

You should get the `Devel::DProf` module from the standard distribution (or separately on CPAN) and also use `Benchmark.pm` from the standard distribution. The `Benchmark` module lets you time specific portions of your code, while `Devel::DProf` gives detailed breakdowns of where your code spends its time.

Here's a sample use of `Benchmark`:

```
use Benchmark;

@junk = `cat /etc/motd`;
$count = 10_000;

timethese($count, {
    'map' => sub { my @a = @junk;
        map { s/a/b/ } @a;
        return @a
    },
    'for' => sub { my @a = @junk;
        local $_;
        for (@a) { s/a/b/ };
        return @a },
    });
```

This is what it prints (on one machine--your results will be dependent on your hardware, operating system, and the load on your machine):

```
Benchmark: timing 10000 iterations of for, map...
for: 4 secs ( 3.97 usr 0.01 sys = 3.98 cpu)
map: 6 secs ( 4.97 usr 0.00 sys = 4.97 cpu)
```

Be aware that a good benchmark is very hard to write. It only tests the data you give it and proves little about the differing complexities of contrasting algorithms.

=head2 How do I cross-reference my Perl programs?

The `B::Xref` module, shipped with the new, alpha-release Perl compiler (not the general distribution prior to the 5.005 release), can be used

to generate cross-reference reports for Perl programs.

```
perl -MO=Xref[,OPTIONS] scriptname.plx
```

=head2 Is there a pretty-printer (formatter) for Perl?

There is no program that will reformat Perl as much as `indent(1)` does for C. The complex feedback between the scanner and the parser (this feedback is what confuses the `vgrind` and `emacs` programs) makes it challenging at best to write a stand-alone Perl parser.

Of course, if you simply follow the guidelines in `L<perlstyle>`, you shouldn't need to reformat. The habit of formatting your code as you write it will help prevent bugs. Your editor can and should help you with this. The `perl-mode` or newer `cperl-mode` for `emacs` can provide remarkable amounts of help with most (but not all) code, and even less programmable editors can provide significant assistance. Tom swears by the following settings in `vi` and its clones:

```
set ai sw=4
```

```
map! ^O {^M}^[O^T
```

Now put that in your `F<.exerc>` file (replacing the caret characters with control characters) and away you go. In insert mode, `^T` is for indenting, `^D` is for unindenting, and `^O` is for blockdenting-- as it were. If you haven't used the last one, you're missing a lot. A more complete example, with comments, can be found at <http://www.perl.com/CPAN-local/authors/id/TOMC/scripts/toms.exerc.gz>

If you are used to using the `I<vgrind>` program for printing out nice code to a laser printer, you can take a stab at this using <http://www.perl.com/CPAN/doc/misc/tips/working.vgrind.entry>, but the results are not particularly satisfying for sophisticated code.

The `a2ps` at <http://www.infres.enst.fr/%7Edemaille/a2ps/> does lots of things related to generating nicely printed output of documents.

=head2 Is there a ctags for Perl?

There's a simple one at <http://www.perl.com/CPAN/authors/id/TOMC/scripts/ptags.gz> which may do the trick. And if not, it's easy to hack into what you want.

=head2

Is there an IDE or Windows Perl Editor?

Perl programs are just plain text, so any editor will do.

If you're on Unix, you already have an IDE--Unix itself. The UNIX philosophy is the philosophy of several small tools that each do one thing and do it well. It's like a carpenter's toolbox.

If you want a Windows IDE, check the following:

=over 4

=item CodeMagicCD

<http://www.codemagiccd.com/>

=item Komodo

ActiveState's cross-platform, multi-language IDE has Perl support, including a regular expression debugger and remote debugging (<http://www.ActiveState.com/Products/Komodo/index.html>). (Visual Perl, a Visual Studio.NET plug-in is currently (early 2001) in beta (<http://www.ActiveState.com/Products/VisualPerl/index.html>)).

=item The Object System

(http://www.castlelink.co.uk/object_system/) is a Perl web applications development IDE.

=item PerlBuilder

(<http://www.solutionsoft.com/perl.htm>) is an integrated development environment for Windows that supports Perl development.

=item

Perl code magic

(<http://www.petes-place.com/codemagic.html>).

=item visiPerl+

<http://helpconsulting.net/visiperl/>, from Help Consulting.

=back

For editors: if you're on Unix you probably have vi or a vi clone already, and possibly an emacs too, so you may not need to download anything. In any emacs the cperl-mode (M-x cperl-mode) gives you perhaps the best available Perl editing mode in any editor.

For Windows editors: you can download an Emacs

=over 4

=item GNU Emacs

<http://www.gnu.org/software/emacs/windows/nemacs.html>

=item MicroEMACS

<http://members.nbc.com/uemacs/>

=item XEmacs

<http://www.xemacs.org/Download/index.html>

=back

or a vi clone such as

=over 4

=item Elvis

<ftp://ftp.cs.pdx.edu/pub/elvis/> <http://www.fh-wedel.de/elvis/>

=item Vile

<http://vile.cx/>

=item Vim

<http://www.vim.org/>

win32: <http://www.cs.vu.nl/~7Etmgil/vi.html>

=back

For vi lovers in general, Windows or elsewhere:

<http://www.thomer.com/thomer/vi/vi.html>.

nvi (<http://www.bostic.com/vi/>,

available from CPAN in src/misc/) is

yet another vi clone, unfortunately not available for Windows, but in UNIX platforms you might be interested in trying it out, firstly because strictly speaking it is not a vi clone, it is the real vi, or the new incarnation of it, and secondly because you can embed Perl inside it to use Perl as the scripting language. nvi is not alone in this, though: at least also vim and vile offer an embedded Perl.

The following are Win32 multilanguage editor/IDESs that support Perl:

=over 4

=item Codewright

<http://www.starbase.com/>

=item MultiEdit

<http://www.MultiEdit.com/>

=item SlickEdit

<http://www.slickedit.com/>

=back

There is also a toyedit Text widget based editor written in Perl that is distributed with the Tk module on CPAN. The ptkdb (<http://world.std.com/~aep/ptkdb/>) is a Perl/tk based debugger that acts as a development environment of sorts. Perl Composer (<http://perlcomposer.sourceforge.net/vperl.html>) is an IDE for Perl/Tk GUI creation.

In

addition to an editor/IDE you might be interested in a more powerful shell environment for Win32. Your options include

=over 4

=item Bash

from the Cygwin package (<http://sources.redhat.com/cygwin/>)

=item Ksh

from the MKS Toolkit (<http://www.mks.com/>), or the Bourne shell of the U/WIN environment (<http://www.research.att.com/sw/tools/uwin/>)

=item Tcsh

<ftp://ftp.astron.com/pub/tcsh/>, see also
<http://www.primaite.wisc.edu/software/csh-tcsh-book/>

=item Zsh

<ftp://ftp.blarg.net/users/amol/zsh/>, see also <http://www.zsh.org/>

=back

MKS and U/WIN are commercial (U/WIN is free for educational and research purposes), Cygwin is covered by the GNU Public License (but that shouldn't matter for Perl use). The Cygwin, MKS, and U/WIN all contain (in addition to the shells) a comprehensive set of standard UNIX toolkit utilities.

If you're transferring text files between Unix and Windows using FTP be sure to transfer them in ASCII mode so the ends of lines are appropriately converted.

On

Mac OS the MacPerl Application comes with a simple 32k text editor that behaves like a rudimentary IDE. In contrast to the MacPerl Application the MPW Perl tool can make use of the MPW Shell itself as an editor (with no 32k limit).

=over 4

=item BBEdit and BBEdit Lite

are text editors for Mac OS that have a Perl sensitivity mode (<http://web.barebones.com/>).

=item Alpha

is an editor, written and extensible in Tcl, that nonetheless has built in support for several popular markup and programming languages including Perl and HTML (<http://alpha.olm.net/>).

=back

Pepper and Pe are programming language sensitive text editors for Mac OS X and BeOS respectively (<http://www.hekkelman.com/>).

=head2 Where can I get Perl macros for vi?

For a complete version of Tom Christiansen's vi configuration file, see http://www.perl.com/CPAN/authors/Tom_Christiansen/scripts/toms.exrc.gz, the standard benchmark file for vi emulators. The file runs best with nvi, the current version of vi out of Berkeley, which incidentally can be built with an embedded Perl interpreter--see <http://www.perl.com/CPAN/src/misc>.

=head2 Where can I get perl-mode for emacs?

Since Emacs version 19 patchlevel 22 or so, there have been both a perl-mode.el and support for the Perl debugger built in. These should come with the standard Emacs 19 distribution.

In the Perl source directory, you'll find a directory called "emacs", which contains a cperl-mode that color-codes keywords, provides context-sensitive help, and other nifty things.

Note that the perl-mode of emacs will have fits with C<"main'foo"> (single quote), and mess up the indentation and highlighting. You are probably using C<"main:foo"> in new Perl code anyway, so this shouldn't be an issue.

=head2 How can I use curses with Perl?

The Curses module from CPAN provides a dynamically loadable object module interface to a curses library. A small demo can be found at the directory [http://www.perl.com/CPAN/authors/Tom_Christiansen/scripts/rep;](http://www.perl.com/CPAN/authors/Tom_Christiansen/scripts/rep;this) this program repeats a command and updates the screen as needed, rendering B<rep ps axu> similar to B<top>.

=head2 How can I use X or Tk with Perl?

Tk is a completely Perl-based, object-oriented interface to the Tk toolkit that doesn't force you to use Tcl just to get at Tk. Sx is an interface to the Athena Widget set. Both are available from CPAN. See the directory http://www.perl.com/CPAN/modules/by-category/08_User_Interfaces/

Invaluable for Perl/Tk programming are the Perl/Tk FAQ at <http://w4.lns.cornell.edu/%7Epvhp/ptk/ptkTOC.html> , the Perl/Tk Reference Guide available at http://www.perl.com/CPAN-local/authors/Stephen_O_Lidie/ , and the online manpages at <http://www-users.cs.umn.edu/%7Eamundson/perl/perlTk/toc.html> .

=head2 How can I generate simple menus without using CGI or Tk?

The <http://www.perl.com/CPAN/authors/id/SKUNZ/perlmenu.v4.0.tar.gz> module, which is curses-based, can help with this.

=head2 What is undump?

See the next question on ``How can I make my Perl program run faster?''

=head2 How can I make my Perl program run faster?

The best way to do this is to come up with a better algorithm. This can often make a dramatic difference. Jon Bentley's book `Programming Pearls` (that's not a misspelling!) has some good tips on optimization, too. Advice on benchmarking boils down to: benchmark and profile to make sure you're optimizing the right part, look for better algorithms instead of microtuning your code, and when all else fails consider just buying faster hardware.

A different approach is to autoload seldom-used Perl code. See the `AutoSplit` and `AutoLoader` modules in the standard distribution for that. Or you could locate the bottleneck and think about writing just that part in C, the way we used to take bottlenecks in C code and write them in assembler. Similar to rewriting in C, modules that have critical sections can be written in C (for instance, the `PDL` module from CPAN).

In some cases, it may be worth it to use the backend compiler to produce byte code (saving compilation time) or compile into C, which will certainly save compilation time and sometimes a small amount (but not much) execution time. See the question about compiling your Perl programs for more on the compiler--the wins aren't as obvious as you'd hope.

If you're currently linking your perl executable to a shared `libc.so`, you can often gain a 10-25% performance benefit by rebuilding it to link with a static `libc.a` instead. This will make a bigger perl executable, but your Perl programs (and programmers) may thank you for it. See the `INSTALL` file in the source distribution for more information.

Unsubstantiated reports allege that Perl interpreters that use `sfio` outperform those that don't (for I/O intensive applications). To try this, see the `INSTALL` file in the source distribution, especially the `Selecting File I/O mechanisms` section.

The `undump` program was an old attempt to speed up your Perl program by storing the already-compiled form to disk. This is no longer a viable option, as it only worked on a few architectures, and wasn't a good solution anyway.

=head2 How can I make my Perl program take less memory?

When it comes to time-space tradeoffs, Perl nearly always prefers to throw memory at a problem. Scalars in Perl use more memory than strings in C, arrays take more than that, and hashes use even more. While

there's still a lot to be done, recent releases have been addressing these issues. For example, as of 5.004, duplicate hash keys are shared amongst all hashes using them, so require no reallocation.

In some cases, using `substr()` or `vec()` to simulate arrays can be highly beneficial. For example, an array of a thousand booleans will take at least 20,000 bytes of space, but it can be turned into one 125-byte bit vector--a considerable memory savings. The standard `Tie::SubstrHash` module can also help for certain types of data structure. If you're working with specialist data structures (matrices, for instance) modules that implement these in C may use less memory than equivalent Perl modules.

Another thing to try is learning whether your Perl was compiled with the system `malloc` or with Perl's builtin `malloc`. Whichever one it is, try using the other one and see whether this makes a difference. Information about `malloc` is in the `F<INSTALL>` file in the source distribution. You can find out whether you are using perl's `malloc` by typing `C<perl -V:usemymalloc>`.

=head2 Is it unsafe to return a pointer to local data?

No, Perl's garbage collection system takes care of this.

```
sub makeone {
my @a = ( 1 .. 10 );
return \@a;
}

for $i ( 1 .. 10 ) {
    push @many, makeone();
}

print $many[4][5], "\n";

print "@many\n";
```

=head2 How can I free an array or hash so my program shrinks?

You can't. On most operating systems, memory allocated to a program can never be returned to the system. That's why long-running programs sometimes re-exec themselves. Some operating systems (notably, FreeBSD and Linux) allegedly reclaim large chunks of memory that is no longer used, but it doesn't appear to happen with Perl (yet). The Mac appears to be the only platform that will reliably (albeit, slowly) return memory to the OS.

We've had reports that on Linux (Redhat 5.1) on Intel, `C<undef $scalar>` will return memory to the system, while on Solaris 2.6 it won't. In general, try it yourself and see.

However, judicious use of `my()` on your variables will help make sure that they go out of scope so that Perl can free up that space for use in other parts of your program. A global variable, of course, never goes out of scope, so you can't get its space automatically reclaimed, although `undef()`ing and/or `delete()`ing it will achieve the same effect. In general, memory allocation and de-allocation isn't something you can or should be worrying about much in Perl, but even this capability (preallocation of data types) is in the works.

=head2

How can I make my CGI script more efficient?

Beyond the normal measures described to make general Perl programs faster or smaller, a CGI program has additional issues. It may be run several times per second. Given that each time it runs it will need to be re-compiled and will often allocate a megabyte or more of system memory, this can be a killer. Compiling into C B<isn't going to help you> because the process start-up overhead is where the bottleneck is.

There are two popular ways to avoid this overhead. One solution involves running the Apache HTTP server (available from <http://www.apache.org/>) with either of the `mod_perl` or `mod_fastcgi` plugin modules.

With `mod_perl` and the `Apache::Registry` module (distributed with `mod_perl`), `httpd` will run with an embedded Perl interpreter which pre-compiles your script and then executes it within the same address space without forking. The Apache extension also gives Perl access to the internal server API, so modules written in Perl can do just about anything a module written in C can. For more on `mod_perl`, see <http://perl.apache.org/>

With the `FCGI` module (from CPAN) and the `mod_fastcgi` module (available from <http://www.fastcgi.com/>) each of your Perl programs becomes a permanent CGI daemon process.

Both of these solutions can have far-reaching effects on your system and on the way you write your CGI programs, so investigate them with care.

See http://www.perl.com/CPAN/modules/by-category/15_World_Wide_Web_HTML_HTTP_CGI/.

A non-free, commercial product, ``The Velocity Engine for Perl", (<http://www.binevolve.com/> or <http://www.binevolve.com/velocigen/>) might also be worth looking at. It will allow you to increase the performance of your Perl programs, running programs up to 25 times faster than normal CGI Perl when running in persistent Perl mode or 4 to 5 times faster without any modification to your existing CGI programs. Fully functional evaluation copies are available from the web site.

=head2 How can I
hide the source for my Perl program?

Delete it. :-) Seriously, there are a number of (mostly unsatisfactory) solutions with varying levels of ``security".

First of all, however, you I<can't> take away read permission, because the source code has to be readable in order to be compiled and interpreted. (That doesn't mean that a CGI script's source is readable by people on the web, though--only by people with access to the filesystem.) So you have to leave the permissions at the socially friendly 0755 level.

Some people regard this as a security problem. If your program does insecure things and relies on people not knowing how to exploit those insecurities, it is not secure. It is often possible for someone to determine the insecure things and exploit them without viewing the source. Security through obscurity, the name for hiding your bugs instead of fixing them, is little security indeed.

You can try using encryption via source filters (Filter::* from CPAN), but any decent programmer will be able to decrypt it. You can try using the byte code compiler and interpreter described below, but the curious might still be able to de-compile it. You can try using the native-code compiler described below, but crackers might be able to disassemble it. These pose varying degrees of difficulty to people wanting to get at your code, but none can definitively conceal it (true of every language, not just Perl).

If you're concerned about people profiting from your code, then the bottom line is that nothing but a restrictive license will give you legal security. License your software and pepper it with threatening statements like ``This is unpublished proprietary software of XYZ Corp. Your access to it does not give you permission to use it blah blah blah." We are not lawyers, of course, so you should see a lawyer if you want to be sure your license's wording will stand up in court.

=head2 How can I compile my Perl program into byte code or C?

Malcolm Beattie has written a multifunction backend compiler, available from CPAN, that can do both these things. It is included in the perl5.005 release, but is still considered experimental. This means it's fun to play with if you're a programmer but not really for people looking for turn-key solutions.

Merely compiling into C does not in and of itself guarantee that your code will run very much faster. That's because except for lucky cases where a lot of native type inferencing is possible, the normal Perl run-time system is still present and so your program will take just as long to run and be just as big. Most programs save little more than compilation time, leaving execution no more than 10-30% faster. A few rare programs actually benefit significantly (even running several times faster), but this takes some tweaking of your code.

You'll probably be astonished to learn that the current version of the compiler generates a compiled form of your script whose executable is just as big as the original perl executable, and then some. That's because as currently written, all programs are prepared for a full eval() statement. You can tremendously reduce this cost by building a shared I<libperl.so> library and linking against that. See the F<INSTALL> podfile in the Perl source distribution for details. If you link your main perl binary with this, it will make it minuscule. For example, on one author's system, F</usr/bin/perl> is only 11k in size!

In general, the compiler will do nothing to make a Perl program smaller, faster, more portable, or more secure. In fact, it can make your situation worse. The executable will be bigger, your VM system may take longer to load the whole thing, the binary is fragile and hard to fix, and compilation never stopped software piracy in the form of crackers, viruses, or bootleggers. The real advantage of the compiler is merely packaging, and once you see the size of what it makes (well, unless you use a shared I<libperl.so>), you'll probably want a complete Perl install anyway.

=head2 How can I compile Perl into Java?

You can also integrate Java and Perl with the Perl Resource Kit from O'Reilly and Associates. See <http://www.oreilly.com/catalog/prkunix/>.

Perl 5.6 comes with Java Perl Lingo, or JPL. JPL, still in development, allows Perl code to be called from Java. See [jpl/README](#)

in the Perl source tree.

=head2 How can I get C<#!perl> to work on [MS-DOS,NT,...]?

For OS/2 just use

```
extproc perl -S -your_switches
```

as the first line in C<*.cmd> file (C<-S> due to a bug in cmd.exe's `extproc' handling). For DOS one should first invent a corresponding batch file and codify it in C<ALTERNATIVE_SHEBANG> (see the F<INSTALL> file in the source distribution for more information).

The Win95/NT installation, when using the ActiveState port of Perl, will modify the Registry to associate the C<.pl> extension with the perl interpreter. If you install another port, perhaps even building your own Win95/NT Perl from the standard sources by using a Windows port of gcc (e.g., with cygwin or mingw32), then you'll have to modify the Registry yourself. In addition to associating C<.pl> with the interpreter, NT people can use: C<SET PATHEXT=%PATHEXT%;.PL> to let them run the program C<install-linux.pl> merely by typing C<install-linux>.

Macintosh Perl programs will have the appropriate Creator and Type, so that double-clicking them will invoke the Perl application.

I<IMPORTANT!>: Whatever you do, PLEASE don't get frustrated, and just throw the perl interpreter into your cgi-bin directory, in order to get your programs working for a web server. This is an EXTREMELY big security risk. Take the time to figure out how to do it correctly.

=head2 Can I write useful Perl programs on the command line?

Yes. Read L<perlrun> for more information. Some examples follow. (These assume standard Unix shell quoting rules.)

```
# sum first and last fields
perl -lane 'print $F[0] + $F[-1]' *
```

```
# identify text files
perl -le 'for(@ARGV) {print if -f && -T _}' *
```

```
# remove (most) comments from C program
perl -0777 -pe 's/{\^.*.*?\/}{}gs' foo.c
```

```
# make file a month younger than today, defeating reaper daemons
perl -e '$X=24*60*60; utime(time(),time() + 30 * $X,@ARGV)' *
```

```
# find first unused uid
perl -le '$i++ while getpwuid($i); print $i'

# display reasonable manpath
echo $PATH | perl -nl -072 -e '
s![^/+]*$!man!&&-d&&!$s{$_}++&&push@m,$_;END{print"@m"}'
```

OK, the last one was actually an Obfuscated Perl Contest entry. :-)

=head2 Why don't Perl one-liners work on my DOS/Mac/VMS system?

The problem is usually that the command interpreters on those systems have rather different ideas about quoting than the Unix shells under which the one-liners were created. On some systems, you may have to change single-quotes to double ones, which you must I<NOT> do on Unix or Plan9 systems. You might also have to change a single % to a %%.

For example:

```
# Unix
perl
-e 'print "Hello world\n"'

# DOS, etc.
perl -e "print \"Hello world\n\""

# Mac
print "Hello world\n"
(then Run "Myscript" or Shift-Command-R)

# VMS
perl -e "print ""Hello world\n"""
```

The problem is that none of these examples are reliable: they depend on the command interpreter. Under Unix, the first two often work. Under DOS, it's entirely possible that neither works. If 4DOS was the command shell, you'd probably have better luck like this:

```
perl -e "print <Ctrl-x>\"Hello world\n<Ctrl-x>\""
```

Under the Mac, it depends which environment you are using. The MacPerl shell, or MPW, is much like Unix shells in its support for several quoting variants, except that it makes free use of the Mac's non-ASCII characters as control characters.

Using qq(), q(), and qx(), instead of "double quotes", 'single quotes', and `backticks`, may make one-liners easier to write.

There is no general solution to all of this. It is a mess, pure and simple. Sucks to be away from Unix, huh? :-)

[Some of this answer was contributed by Kenneth Albanowski.]

=head2 Where can I learn about CGI or Web programming in Perl?

For modules, get the CGI or LWP modules from CPAN. For textbooks, see the two especially dedicated to web stuff in the question on books. For problems and questions related to the web, like ``Why do I get 500 Errors" or ``Why doesn't it run from the browser right when it runs fine on the command line", see these sources:

WWW Security FAQ

<http://www.w3.org/Security/Faq/>

Web FAQ

<http://www.boutell.com/faq/>

CGI FAQ

<http://www.webthing.com/tutorials/cgifaq.html>

HTTP Spec

<http://www.w3.org/pub/WWW/Protocols/HTTP/>

HTML Spec

<http://www.w3.org/TR/REC-html40/>

<http://www.w3.org/pub/WWW/MarkUp/>

CGI Spec

<http://www.w3.org/CGI/>

CGI Security FAQ

<http://www.go2net.com/people/paulp/cgi-security/safe-cgi.txt>

=head2 Where can I learn about object-oriented Perl programming?

A good place to start is L<perltoot>, and you can use L<perlobj>, L<perlboot>, and L<perlbot> for reference. Perltoot didn't come out until the 5.004 release; you can get a copy (in pod, html, or postscript) from <http://www.perl.com/CPAN/doc/FMTEYEWTK/> .

=head2 Where can I learn about linking C with Perl? [h2xs, xsubpp]

If you want to call C from Perl, start with L<perlxstut>, moving on to L<perlxs>, L<xsubpp>, and L<perlguts>. If you want to

call Perl from C, then read [L<perlembed>](#), [L<perlcall>](#), and [L<perlguts>](#). Don't forget that you can learn a lot from looking at how the authors of existing extension modules wrote their code and solved their problems.

=head2 I've read [perlembed](#), [perlguts](#), etc., but I can't embed perl in my C program; what am I doing wrong?

Download the `ExtUtils::Embed` kit from CPAN and run ``make test'`. If the tests pass, read the pods again and again and again. If they fail, see [L<perlbug>](#) and send a bug report with the output of `C<make test TEST_VERBOSE=1>` along with `C<perl -V>`.

=head2 When I tried to run my script, I got this message. What does it mean?

A complete list of Perl's error messages and warnings with explanatory text can be found in [L<perldiag>](#). You can also use the `splain` program (distributed with Perl) to explain the error messages:

```
perl program 2>diag.out
splain [-v] [-p] diag.out
```

or change your program to explain the messages for you:

```
use diagnostics;
```

or

```
use diagnostics -verbose;
```

=head2 What's `MakeMaker`?

This module (part of the standard Perl distribution) is designed to write a `Makefile` for an extension module from a `Makefile.PL`. For more information, see [L<ExtUtils::MakeMaker>](#).

=head1 AUTHOR AND COPYRIGHT

Copyright (c) 1997-1999 Tom Christiansen and Nathan Torkington.
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When included as an integrated part of the Standard Distribution of Perl or of its documentation (printed or otherwise), this works is covered under Perl's Artistic License. For separate distributions of all or part of this FAQ outside of that, see [L<perlfaq>](#).

Irrespective of its distribution, all code examples here are in the public domain. You are permitted and encouraged to use this code and any derivatives thereof in your own programs for fun or for profit as you see fit. A simple comment in the code giving credit to the FAQ would be courteous but is not required.

Found in path(s):

```
* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/t/perlfaq.pod
```

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

=head1 NAME

Pod::Simple::Debug -- put Pod::Simple into trace/debug mode

=head1 SYNOPSIS

```
use Pod::Simple::Debug (5); # or some integer
```

Or:

```
my $debuglevel;
use Pod::Simple::Debug (\$debuglevel, 0);
...some stuff that uses Pod::Simple to do stuff, but which
you don't want debug output from...
```

```
$debug_level = 4;
...some stuff that uses Pod::Simple to do stuff, but which
you DO want debug output from...
```

```
$debug_level = 0;
```

=head1 DESCRIPTION

This is an internal module for controlling the debug level (a.k.a. trace level) of Pod::Simple. This is of interest only to Pod::Simple developers.

=head1 CAVEATS

Note that you should load this module I<before> loading Pod::Simple (or any Pod::Simple-based class). If you try loading Pod::Simple::Debug after &Pod::Simple::DEBUG is already defined, Pod::Simple::Debug will throw a fatal error to the effect that "it's s too late to call Pod::Simple::Debug".

Note that

the `C<use Pod::Simple::Debug (\$x, I<someenum>)>` mode will make `Pod::Simple` (et al) run rather slower, since `&Pod::Simple::DEBUG` won't be a constant sub anymore, and so `Pod::Simple` (et al) won't compile with constant-folding.

=head1 GUTS

Doing this:

```
use Pod::Simple::Debug (5); # or some integer
```

is basically equivalent to:

```
BEGIN { sub Pod::Simple::DEBUG () {5} } # or some integer
use Pod::Simple ();
```

And this:

```
use Pod::Simple::Debug (\$debug_level,0); # or some integer
```

is basically equivalent to this:

```
my $debug_level;
BEGIN { $debug_level = 0 }
BEGIN { sub Pod::Simple::DEBUG () { $debug_level } }
use Pod::Simple ();
```

=head1 SEE ALSO

L<Pod::Simple>

The article "Constants in Perl", in I<The Perl Journal> issue 21. See L<<http://interglacial.com/tpj/21/>>

=head1 SUPPORT

Questions or discussion about POD and `Pod::Simple` should be sent to the `pod-people@perl.org` mail list. Send an empty email to `pod-people-subscribe@perl.org` to subscribe.

This module is managed in an open GitHub repository, L<<https://github.com/theory/pod-simple/>>. Feel free to fork and contribute, or to clone L<[git://github.com/theory/pod-simple.git](https://github.com/theory/pod-simple.git)> and send patches!

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=head1 AUTHOR

Pod::Simple was created by Sean M. Burke <sburke@cpan.org>.
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Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

=cut

Found in path(s):

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

=head1 NAME

Pod::Simple::HTML - convert Pod to HTML

=head1 SYNOPSIS

```
perl -MPod::Simple::HTML -e Pod::Simple::HTML::go thingy.pod
```

=head1 DESCRIPTION

This class is for making an HTML rendering of a Pod document.

This is a subclass of L<Pod::Simple::PullParser> and inherits all its methods (and options).

Note that if you want to do a batch conversion of a lot of Pod documents to HTML, you should see the module L<Pod::Simple::HTMLBatch>.

=head1 CALLING FROM THE COMMAND LINE

TODO

```
perl -MPod::Simple::HTML -e Pod::Simple::HTML::go Thing.pod Thing.html
```

=head1 CALLING FROM PERL

=head2 Minimal code

```
use Pod::Simple::HTML;
my $p = Pod::Simple::HTML->new;
$p->output_string(\my $html);
$p->parse_file('path/to/Module/Name.pm');
open my $out, '>', 'out.html' or die "Cannot open 'out.html': $!\n";
print $out $html;
```

=head2 More detailed example

```
use Pod::Simple::HTML;
```

Set the content type:

```
$Pod::Simple::HTML::Content_decl
= q{<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" >};
```

```
my $p = Pod::Simple::HTML->new;
```

Include a single javascript source:

```
$p->html_javascript('http://abc.com/a.js');
```

Or insert multiple javascript source in the header
(or for that matter include anything, though this is not recommended)

```
$p->html_javascript('
```

```
<script type="text/javascript" src="http://abc.com/b.js"></script>
<script type="text/javascript" src="http://abc.com/c.js"></script>');
```

Include a single css source in the header:

```
$p->html_css('/style.css');
```

or insert multiple css sources:

```
$p->html_css('
  <link rel="stylesheet" type="text/css" title="pod_stylesheet" href="http://remote.server.com/jquery.css">
  <link rel="stylesheet" type="text/css" title="pod_stylesheet" href="/style.css">');
```

Tell the parser where should the output go. In this case it will be placed in the \$html variable:

```
my $html;
$p->output_string(\$html);
```

Parse and
process a file with pod in it:

```
$p->parse_file('path/to/Module/Name.pm');
```

=head1 METHODS

TODO
all (most?) accessorized methods

The following variables need to be set B<before> the call to the ->new constructor.

Set the string that is included before the opening <html> tag:

```
$Pod::Simple::HTML::Doctype_decl = qq{<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01
Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">\n};
```

Set the content-type in the HTML head: (defaults to ISO-8859-1)

```
$Pod::Simple::HTML::Content_decl = q{<meta http-equiv="Content-Type" content="text/html; charset=UTF-8"
>};
```

Set the value that will be ebedded in the opening tags of F, C tags and verbatim text.

F maps to , C maps to <code>, Verbatim text maps to <pre> (Computerese defaults to "")

```
$Pod::Simple::HTML::Computerese = ' class="some_class_name";
```

```
=head2 html_css
```

=head2 html_javascript

=head2 title_prefix

=head2 title_postfix

=head2 html_header_before_title

This includes everything before the <title> opening tag including the Document type and including the opening <title> tag. The following call will set it to be a simple HTML file:

```
$p->html_header_before_title('<html><head><title>');
```

=head2 html_h_level

Normally =head1 will become <h1>, =head2 will become <h2> etc. Using the html_h_level method will change these levels setting the h level of =head1 tags:

```
$p->html_h_level(3);
```

Will make sure that =head1 will become <h3> and =head2 will become <h4> etc...

=head2 index

Set it to some true value if you want to have an index (in reality a table of contents) to be added at the top of the generated HTML.

```
$p->index(1);
```

=head2 html_header_after_title

Includes the closing tag of </title> and through the rest of the head till the opening of the body

```
$p->html_header_after_title('</title>...</head><body id="my_id">');
```

=head2 html_footer

The very end of the document:

```
$p->html_footer( qq[\n<!-- end doc -->\n\n</body></html>\n] );
```

=head1 SUBCLASSING

Can

use any of the methods described above but for further customization one needs to override some of the methods:

```
package My::Pod;
use strict;
use warnings;

use base 'Pod::Simple::HTML';

# needs to return a URL string such
# http://some.other.com/page.html
# #anchor_in_the_same_file
# /internal/ref.html
sub do_pod_link {
    # My::Pod object and Pod::Simple::PullParserStartToken object
    my ($self, $link) = @_;

    say $link->tagname;      # will be L for links
    say $link->attr('to');   #
    say $link->attr('type'); # will be 'pod' always
    say $link->attr('section');

    # Links local to our web site
    if ($link->tagname eq 'L' and $link->attr('type') eq 'pod') {
        my $to = $link->attr('to');
        if ($to =~ /^Padre::/) {
            $to =~ s{::}{/}g;
            return "/docs/Padre/$to.html";
        }
    }

    # all other links are generated by the parent class
    my $ret = $self->SUPER::do_pod_link($link);
    return $ret;
}

1;
```

Meanwhile

in script.pl:

```
use My::Pod;

my $p = My::Pod->new;

my $html;
$p->output_string(\$html);
```

```
$p->parse_file('path/to/Module/Name.pm');  
open my $out, '>', 'out.html' or die;  
print $out $html;
```

TODO

maybe override do_beginning do_end

=head1 SEE ALSO

L<Pod::Simple>, L<Pod::Simple::HTMLBatch>

TODO: a corpus of sample Pod input and HTML output? Or common idioms?

=head1 SUPPORT

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=head1 ACKNOWLEDGEMENTS

Thanks to L<[Hurricane Electric|http://he.net/](http://he.net/)> for permission to use its L<[Linux man pages online|http://man.he.net/](http://man.he.net/)> site for man page links.

Thanks to L<[search.cpan.org|http://search.cpan.org/](http://search.cpan.org/)> for permission to use the site for Perl module links.

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=back

=cut

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

=head1 NAME

Pod::Simple::RTF -- format Pod as RTF

=head1 SYNOPSIS

```
perl -MPod::Simple::RTF -e \  
"exit Pod::Simple::RTF->filter(shift)->any_errata_seen" \  
thingy.pod > thingy.rtf
```

=head1 DESCRIPTION

This class is a formatter that takes Pod and renders it as RTF, good for viewing/printing in MSWord, WordPad/write.exe, TextEdit, etc.

This is a subclass of L<Pod::Simple> and inherits all its methods.

=head1 FORMAT CONTROL ATTRIBUTES

You can set these attributes on the parser object before you call C<parse_file> (or a similar method) on it:

=over

```
=item $parser->head1_halfpoint_size( I<halfpoint_integer> );
```

```
=item $parser->head2_halfpoint_size( I<halfpoint_integer> );
```

```
=item $parser->head3_halfpoint_size( I<halfpoint_integer> );
```

```
=item $parser->head4_halfpoint_size( I<halfpoint_integer> );
```

These methods set the size (in half-points, like 52 for 26-point) that these heading levels will appear as.

```
=item $parser->codeblock_halfpoint_size(
I<halfpoint_integer> );
```

This method sets the size (in half-points, like 21 for 10.5-point) that codeblocks ("verbatim sections") will appear as.

```
=item $parser->header_halfpoint_size( I<halfpoint_integer> );
```

This method sets the size (in half-points, like 15 for 7.5-point) that the header on each page will appear in. The header is usually just "I<modulename> p. I<pagenumber>".

```
=item $parser->normal_halfpoint_size( I<halfpoint_integer> );
```

This method sets the size (in half-points, like 26 for 13-point) that normal paragraphic text will appear in.

```
=item $parser->no_proofing_exemptions( I<true_or_false> );
```

Set this value to true if you don't want the formatter to try putting a hidden code on all Perl symbols (as best as it can notice them) that labels them as being not in English, and so not worth spellchecking.

```
=item $parser->doc_lang( I<microsoft_decimal_language_code> )
```

This sets the language code to tag this document as being in. By default, it is currently the value of the environment variable C<RTFDEFLANG>, or if that's not set, then the value 1033 (for US English).

Setting this appropriately is useful if you want to use the RTF to spellcheck, and/or if you want it to hyphenate right.

Here are some notable values:

1033 US English
2057 UK English
3081 Australia English
4105 Canada English
1034 Spain Spanish
2058 Mexico Spanish
1031 Germany German
1036 France French
3084 Canada French
1035 Finnish
1044 Norwegian (Bokmal)
2068 Norwegian (Nynorsk)

=back

If you are particularly interested in customizing this module's output even more, see the source and/or write to me.

=head1 SEE ALSO

L<Pod::Simple>, L<RTF::Writer>, L<RTF::Cookbook>, L<RTF::Document>, L<RTF::Generator>

=head1 SUPPORT

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

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

abstract: 'framework for parsing Pod'

author:

- 'Allison Randal <allison@perl.org>'

build_requires:

ExtUtils::MakeMaker: 0

configure_requires:

ExtUtils::MakeMaker: 0

dynamic_config: 1

generated_by: 'ExtUtils::MakeMaker version 6.6302, CPAN::Meta::Converter version 2.120921'

license: perl

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: Pod-Simple

no_index:

directory:

- t

- inc

requires:

Carp: 0

Config: 0

Cwd: 0

File::Basename: 0

File::Find: 0
File::Spec: 0
Pod::Escapes: 1.04
Symbol: 0
Test: 1.25
Test::More: 0
Text::Wrap: 98.112902
constant: 0
integer: 0
overload: 0
strict: 0
resources:
homepage: <http://search.cpan.org/dist/Pod-Simple/>
license: <http://dev.perl.org/licenses/>
repository: <git://github.com/theory/pod-simple.git>
version: 3.28

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/META.yml

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

=head1 NAME

Pod::Simple::PullParserEndToken -- end-tokens from Pod::Simple::PullParser

=head1 SYNOPSIS

(See L<Pod::Simple::PullParser>)

=head1 DESCRIPTION

When you do `$parser->get_token` on a L<Pod::Simple::PullParser>, you might get an object of this class.

This is a subclass of L<Pod::Simple::PullParserToken> and inherits all its methods, and adds these methods:

=over

=item `$token->tagname`

This returns the tagname for this end-token object.
For example, parsing a `"=head1 ..."` line will give you a start-token with the tagname of `"head1"`, token(s) for its content, and then an end-token with the tagname of `"head1"`.

=item `$token->tagname(I<somestring>)`

This changes the tagname for this end-token object.

You probably won't need to do this.

```
=item $token->tag(...)
```

A shortcut for `$token->tagname(...)`

```
=item $token->is_tag(I<somestring>) or $token->is_tagname(I<somestring>)
```

These are shortcuts for `C<< $token->tag()`

```
eq I<somestring> >>
```

```
=back
```

You're unlikely to ever need to construct an object of this class for yourself, but if you want to, call

```
C<<
```

```
Pod::Simple::PullParserEndToken->new( I<tagname> )
```

```
>>
```

```
=head1 SEE ALSO
```

[L<Pod::Simple::PullParserToken>](#), [L<Pod::Simple>](#), [L<Pod::Simple::Subclassing>](#)

```
=head1 SUPPORT
```

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

=head1 NAME

Pod::Simple::PullParserStartToken -- start-tokens from Pod::Simple::PullParser

=head1 SYNOPSIS

(See L<Pod::Simple::PullParser>)

=head1 DESCRIPTION

When you do `$parser->get_token` on a L<Pod::Simple::PullParser> object, you might get an object of this class.

This is a subclass of L<Pod::Simple::PullParserToken> and inherits all its methods, and adds these methods:

=over

=item `$token->>tagname`

This returns the tagname for this start-token object.

For example, parsing a "`=head1 ...`" line will give you a start-token with the tagname of "head1", token(s) for its content, and then an end-token with the tagname of "head1".

```
=item $token->tagname(I<somestring>)
```

This changes the tagname for this start-token object. You probably won't need to do this.

```
=item $token->tag(...)
```

A shortcut for `$token->tagname(...)`

```
=item $token->is_tag(I<somestring>) or $token->is_tagname(I<somestring>)
```

These are shortcuts for

```
C<< $token->tag() eq I<somestring> >>
```

```
=item $token->attr(I<attrname>)
```

This returns the value of the `I<attrname>` attribute for this start-token object, or `undef`.

For example, parsing a `LZ<><Foo/"Bar">` link will produce a start-token with a "to" attribute with the value "Foo", a "type" attribute with the value "pod", and a "section" attribute with the value "Bar".

```
=item $token->attr(I<attrname>, I<newvalue>)
```

This sets the `I<attrname>` attribute for this start-token object to `I<newvalue>`. You probably won't need to do this.

```
=item $token->attr_hash
```

This returns the hashref that is the attribute set for this start-token. This is useful if (for example) you want to ask what all the attributes are -- you can just do `C<< keys %{$token->attr_hash} >>`

```
=back
```

You're unlikely to ever need to construct an object of this class for yourself, but if you want to, call

```
C<<  
Pod::Simple::PullParserStartToken->new( I<tagname>, I<attrhash> )  
>>
```

=head1 SEE ALSO

L<Pod::Simple::PullParserToken>, L<Pod::Simple>,
L<Pod::Simple::Subclassing>

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=head1 SUPPORT

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

This module is managed in an open GitHub repository, L<<https://github.com/theory/pod-simple/>>. Feel free to fork and contribute, or to clone L<[git://github.com/theory/pod-simple.git](https://github.com/theory/pod-simple.git)> and send patches!

Patches against Pod::Simple are welcome. Please send bug reports to <bug-pod-simple@rt.cpan.org>.

=head1 COPYRIGHT AND DISCLAIMERS

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This library is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

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.

=head1 AUTHOR

Pod::Simple
was created by Sean M. Burke <sburke@cpan.org>.
But don't bother him, he's retired.

Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

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=back

=cut

Found in path(s):

```
* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-
WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-
3.28/lib/Pod/Simple/PullParserStartToken.pm
```

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

=head1 NAME

Pod::Simple::Subclassing -- write a formatter as a Pod::Simple subclass

=head1 SYNOPSIS

```
package Pod::SomeFormatter;
use Pod::Simple;
@ISA = qw(Pod::Simple);
$VERSION = '1.01';
use strict;

sub _handle_element_start {
my($parser, $element_name, $attr_hash_r) = @_ ;
...
}

sub _handle_element_end {
my($parser, $element_name, $attr_hash_r) = @_ ;
# NOTE: $attr_hash_r is only present when $element_name is "over" or "begin"
# The remaining code excerpts will mostly ignore this $attr_hash_r, as it is
# mostly useless. It is documented where "over-*" and "begin" events are
# documented.
...
}

sub _handle_text {
my($parser, $text) = @_ ;
...
}
1;
```

=head1 DESCRIPTION

This document is about using Pod::Simple to write a Pod processor, generally a Pod formatter. If you just want to know about using an existing Pod formatter, instead see its documentation and see also the

docs in L<Pod::Simple>.

The

zeroeth step in writing a Pod formatter is to make sure that there isn't already a decent one in CPAN. See L<<http://search.cpan.org/>>, and run a search on the name of the format you want to render to. Also consider joining the Pod People list L<<http://lists.perl.org/showlist.cgi?name=pod-people>> and asking whether anyone has a formatter for that format -- maybe someone cobbled one together but just hasn't released it.

The first step in writing a Pod processor is to read L<[perlpodspec](#)>, which contains notes information on writing a Pod parser (which has been largely taken care of by Pod::Simple), but also a lot of requirements and recommendations for writing a formatter.

The second step is to actually learn the format you're planning to format to -- or at least as much as you need to know to represent Pod, which probably isn't much.

The third step is to pick which of Pod::Simple's interfaces you want to use -- the basic interface via Pod::Simple or L<Pod::Simple::Methody> is event-based, sort of like L<HTML::Parser>'s interface, or sort of like L<XML::Parser>'s "Handlers" interface), but L<Pod::Simple::PullParser> provides a token-stream interface, sort of like L<HTML::TokeParser>'s interface; L<Pod::Simple::SimpleTree> provides a simple tree interface, rather like XML::Parser's "Tree" interface. Users familiar with XML-handling will find one of these styles relatively familiar; but if you would be even more at home with XML, there are classes that produce an XML representation of the Pod stream, notably L<Pod::Simple::XMLOutputStream>; you can feed the output of such a class to whatever XML parsing system you are most at home with.

The last step is to write your code based on how the events (or tokens, or tree-nodes, or the XML, or however you're parsing) will map to constructs in the output format. Also sure to consider how to escape text nodes containing arbitrary text, and also what to do with text nodes that represent preformatted text (from verbatim sections).

=head1 Events

TODO intro... mention that events are supplied for implicits, like for missing >'s

In the following section, we use XML to represent the event structure associated with a particular construct. That is, TODO

=over

=item C<< \$parser->_handle_element_start(I<element_name>, I<attr_hashref>) >>

=item C<< \$parser->_handle_element_end(I<element_name>) >>

=item C<< \$parser->_handle_text(I<text_string>) >>

=back

TODO describe

=over

=item events with an element_name of Document

Parsing a document produces this event structure:

```
<Document start_line="543">
...all events...
</Document>
```

The value of the I<start_line> attribute will be the line number of the first Pod directive in the document.

If there is no Pod in the given document, then the event structure will be this:

```
<Document contentless="1" start_line="543">
</Document>
```

In that case, the value of the I<start_line> attribute will not be meaningful; under current implementations, it will probably be the line number of the last line in the file.

=item events with an element_name of Para

Parsing a plain (non-verbatim, non-directive, non-data) paragraph in a Pod document produces this event structure:

```
<Para start_line="543">
...all events in this paragraph...
```

</Para>

The value of the I<start_line> attribute will be the line number of the start of the paragraph.

For example, parsing this paragraph of Pod:

The value of the I<start_line> attribute will be the line number of the start of the paragraph.

produces this event structure:

```
<Para start_line="129">
  The value of the
  <I>
  start_line
  </I>
  attribute will be the line number of the first Pod directive
  in the document.
</Para>
```

=item events with an element_name of B, C, F, or I.

Parsing a BE<lt>...E<gt> formatting code (or of course any of its semantically identical syntactic variants

S<BE<lt>E<lt> ... E<gt>E<gt>>,

or S<BE<lt>E<lt>E<lt>E<lt> ... E<gt>E<gt>E<gt>E<gt>>, etc.)

produces

this event structure:

```
<B>
...stuff...
</B>
```

Currently, there are no attributes conveyed.

Parsing C, F, or I codes produce the same structure, with only a different element name.

If your parser object has been set to accept other formatting codes, then they will be presented like these B/C/F/I codes -- i.e., without any attributes.

=item events with an element_name of S

Normally, parsing an SE<lt>...E<gt> sequence produces this event structure, just as if it were a B/C/F/I code:

```
<S>
...stuff...
</S>
```

However, Pod::Simple (and presumably all derived parsers) offers the C<nbsp_for_S> option which, if enabled, will suppress all S events, and instead change all spaces in the content to non-breaking spaces. This is intended for formatters that output to a format that has no code that means the same as SE<lt>...E<gt>, but which has a code/character that means non-breaking space.

=item events with an element_name of X

Normally, parsing an XE<lt>...E<gt> sequence produces this event structure, just as if it were a B/C/F/I code:

```
<X>
...stuff...
</X>
```

However, Pod::Simple (and presumably all derived parsers) offers the C<nix_X_codes> option which, if enabled, will suppress all X events and ignore their content. For formatters/processors that don't use X events, this is presumably quite useful.

=item events with an element_name of L

Because the LE<lt>...E<gt> is the most complex construct in the language, it should not surprise you that the events it generates are the most complex in the language. Most of complexity is hidden away in the attribute values, so for those of you writing a Pod formatter that produces a non-hypertextual format, you can just ignore the attributes and treat an L event structure like a formatting element that (presumably) doesn't actually produce a change in formatting. That is, the content of the L event structure (as opposed to its attributes) is always what text should be displayed.

There are, at first glance, three kinds of L links: URL, man, and pod.

When a LE<lt>I<some_url>E<gt> code is parsed, it produces this event structure:

```
<L content-implicit="yes" raw="that_url" to="that_url" type="url">
that_url
</L>
```

The C<type="url"> attribute is always specified for this type of L code.

For example, this Pod source:

```
L<http://www.perl.com/CPAN/authors/>
```

produces this event structure:

```
<L content-implicit="yes" raw="http://www.perl.com/CPAN/authors/" to="http://www.perl.com/CPAN/authors/" type="url">
http://www.perl.com/CPAN/authors/
</L>
```

When a LE<I<manpage(section)>E<gt> code is parsed (and these are fairly rare and not terribly useful), it produces this event structure:

```
<L content-implicit="yes" raw="manpage(section)" to="manpage(section)" type="man">
manpage(section)
</L>
```

The C<type="man"> attribute is always specified for this type of L code.

For example, this Pod source:

```
L<crontab(5)>
```

produces this event structure:

```
<L content-implicit="yes" raw="crontab(5)"
to="crontab(5)" type="man">
crontab(5)
</L>
```

In the rare cases where a man page link has a specified, that text appears in a I<section> attribute. For example, this Pod source:

```
L<crontab(5)/"ENVIRONMENT">
```

will produce this event structure:

```
<L content-implicit="yes" raw="crontab(5)/&quot;ENVIRONMENT&quot;" section="ENVIRONMENT"
to="crontab(5)" type="man">
"ENVIRONMENT" in crontab(5)
</L>
```

In the rare case where the Pod document has code like
LE<lt>I<sometext>|I<manpage(section)>E<gt>, then the I<sometext> will appear
as the content of the element, the I<manpage(section)> text will appear
only as the value of the I<to> attribute, and there will be no
C<content-implicit="yes"> attribute (whose presence means that the Pod parser
had to infer what text should appear as the link text -- as opposed to
cases where that attribute is absent, which means that the Pod parser did
I<not> have to infer the link text, because that L code explicitly specified
some link text.)

For
example, this Pod source:

```
L<hell itself!|crontab(5)>
```

will produce this event structure:

```
<L raw="hell itself!|crontab(5)" to="crontab(5)" type="man">  
hell itself!  
</L>
```

The last type of L structure is for links to/within Pod documents. It is
the most complex because it can have a I<to> attribute, I<or> a
I<section> attribute, or both. The C<type="pod"> attribute is always
specified for this type of L code.

In the most common case, the simple case of a LE<lt>podpageE<gt> code
produces this event structure:

```
<L content-implicit="yes" raw="podpage" to="podpage" type="pod">  
podpage  
</L>
```

For example, this Pod source:

```
L<Net::Ping>
```

produces this event structure:

```
<L content-implicit="yes" raw="Net::Ping" to="Net::Ping" type="pod">  
Net::Ping  
</L>
```

In cases where there is link-text explicitly specified, it
is to be found in the content of the element (and not the
attributes), just as with the LE<lt>I<sometext>|I<manpage(section)>E<gt>
case discussed above. For example,

this Pod source:

```
L<Perl Error Messages|perldiag>
```

produces this event structure:

```
<L raw="Perl Error Messages|perldiag" to="perldiag" type="pod">
Perl Error Messages
</L>
```

In cases of links to a section in the current Pod document, there is a I<section> attribute instead of a I<to> attribute.

For example, this Pod source:

```
L</"Member Data">
```

produces this event structure:

```
<L content-implicit="yes" raw="/&quot;Member Data&quot;" section="Member Data" type="pod">
"Member Data"
</L>
```

As another example, this Pod source:

```
L<the various attributes/"Member Data">
```

produces this event structure:

```
<L raw="the various attributes/"&quot;Member Data&quot;" section="Member Data" type="pod">
the various attributes
</L>
```

In cases of links to a section in a different Pod document, there are both a I<section> attribute and a L<to> attribute.

For example, this Pod source:

```
L<perlsyn/"Basic BLOCKs and Switch Statements">
```

produces this event structure:

```
<L content-implicit="yes"
raw="perlsyn/"&quot;Basic BLOCKs and Switch Statements&quot;" section="Basic BLOCKs and Switch
Statements" to="perlsyn" type="pod">
"Basic BLOCKs and Switch Statements" in perlsyn
</L>
```

As another example, this Pod source:

L<SWITCH statements|perlsyn/"Basic BLOCKs and Switch Statements">

produces this event structure:

```
<L raw="SWITCH statements|perlsyn/&quot;Basic BLOCKs and Switch Statements&quot;" section="Basic
BLOCKs and Switch Statements" to="perlsyn" type="pod">
SWITCH statements
</L>
```

Incidentally, note that we do not distinguish between these syntaxes:

```
L</"Member Data">
L<"Member Data">
L</Member Data>
L<Member Data> [deprecated syntax]
```

That is, they all produce the same event structure (for the most part), namely:

```
<L content-implicit="yes" raw="$depends_on_syntax" section="Member Data" type="pod">
&#34;Member Data&#34;
</L>
```

The I<raw> attribute depends on what the raw content of the C<LE<lt>E<gt>> is, so that is why the event structure is the same "for the most part".

If you have not guessed it yet, the I<raw> attribute contains the raw, original, unescaped content of the C<LE<lt>E<gt>> formatting code. In addition to the examples above, take notice of the following event structure produced by the following C<LE<lt>E<gt>> formatting code.

```
L<click B<here>|page/About the C<-M> switch>
```

```
<L raw="click B<here>|page/About the C<-M> switch" section="About the -M switch" to="page" type="pod">
click B<here>
</L>
```

Specifically, notice that the formatting codes are present and unescaped in I<raw>.

There is a known bug in the I<raw> attribute where any surrounding whitespace is condensed into a single ' '. For example, given LE<60> linkE<62>, I<raw> will be " link".

=item events with an element_name of E or Z

While there are Pod codes EE<lt>...E<gt> and ZE<lt>E<gt>, these I<do not> produce any E or Z events -- that is, there are no such

events as E or Z.

=item events with an element_name of Verbatim

When a Pod verbatim

paragraph (AKA "codeblock") is parsed, it produces this event structure:

```
<Verbatim start_line="543" xml:space="preserve">
...text...
</Verbatim>
```

The value of the I<start_line> attribute will be the line number of the first line of this verbatim block. The I<xml:space> attribute is always present, and always has the value "preserve".

The text content will have tabs already expanded.

=item events with an element_name of head1 .. head4

When a "=head1 ..." directive is parsed, it produces this event structure:

```
<head1>
...stuff...
</head1>
```

For example, a directive consisting of this:

=head1 Options to C<new> et al.

will produce this event structure:

```
<head1 start_line="543">
Options to
<C>
  new
</C>
et al.
</head1>
```

"=head2" thru "=head4" directives are the same, except for the element names in the event structure.

=item events with an element_name of encoding

In the default case, the events corresponding to C<=encoding> directives

are not emitted.

They are emitted if `C<keep_encoding_directive>` is true.

In that case they produce event structures like

L</"events with an element_name of head1 .. head4"> above.

=item events with an element_name of over-bullet

When an "=over ... Z<>=back" block is parsed where the items are a bulleted list, it will produce this event structure:

```
<over-bullet indent="4" start_line="543">
<item-bullet start_line="545">
...Stuff...
</item-bullet>
...more item-bullets...
</over-bullet fake-closer="1">
```

The attribute `I<fake-closer>` is only present if it is a true value; it is not present if it is a false value. It is shown in the above example to illustrate where the attribute is (in the `B<closing>` tag). It signifies that the `C<=over>` did not have a matching `C<=back>`, and thus `Pod::Simple` had to create a fake closer.

For example, this Pod source:

```
=over

=item *
```

Something

```
=back
```

Would produce an event structure that does `B<not>` have the `I<fake-closer>` attribute, whereas this Pod source:

```
=over

=item *
```

Gasp! An unclosed `=over` block!

would. The rest of the `over-*` examples will not demonstrate this attribute, but they all can have it. See `L<Pod::Checker>`'s source for an example of this attribute being used.

The value of the `I<indent>` attribute is whatever value is after the `"=over"` directive, as in `"=over 8"`. If no such value is specified

in the directive, then the `I<indent>` attribute has the value "4".

For example, this Pod source:

```
=over  
  
=item *  
  
Stuff  
  
=item *  
  
Bar I<baz>!  
  
=back
```

produces this event structure:

```
<over-bullet indent="4" start_line="10">  
<item-bullet start_line="12">  
  Stuff  
</item-bullet>  
<item-bullet start_line="14">  
  Bar <I>baz</I>!  
</item-bullet>  
</over-bullet>
```

=item events with an `element_name` of `over-number`

When an "`=over ... Z<>=back`" block is parsed where the items are a numbered list, it will produce this event structure:

```
<over-number indent="4" start_line="543">  
<item-number number="1" start_line="545">  
  
...Stuff...  
</item-number>  
...more item-number...  
</over-bullet>
```

This is like the "over-bullet" event structure; but note that the contents are "item-number" instead of "item-bullet", and note that they will have a "number" attribute, which some formatters/processors may ignore (since, for example, there's no need for it in HTML when producing an "`......`" structure), but which any processor may use.

Note that the values for the `I<number>` attributes of "item-number" elements in a given "over-number" area `I<will>` start at 1 and go up by

one each time. If the Pod source doesn't follow that order (even though it really should!), whatever numbers it has will be ignored (with the correct values being put in the I<number> attributes), and an error message might be issued to the user.

=item events with an element_name of over-text

These events are somewhat unlike the other over-* structures, as far as what their contents are. When an "=over ... Z<>=back" block is parsed where the items are a list of text "subheadings", it will produce this event structure:

```
<over-text indent="4" start_line="543">
<item-text>
  ...stuff...
</item-text>
...stuff (generally Para or Verbatim elements)...
<item-text>
...more item-text and/or stuff...
</over-text>
```

The I<indent> and I<fake-closer> attributes are as with the other over-* events.

For example, this Pod source:

```
=over

=item Foo

Stuff

=item Bar I<baz>!

Quux

=back
```

produces this event structure:

```
<over-text indent="4" start_line="20">
<item-text start_line="22">
  Foo
</item-text>
<Para start_line="24">
  Stuff
</Para>
<item-text start_line="26">
```

```

    Bar
    <I>
    baz
    </I>
    !
</item-text>
<Para start_line="28">
    Quux
</Para>
</over-text>

```

=item events with an element_name of over-block

These events are somewhat unlike the other over-* structures, as far as what their contents are. When an "=over ... Z<>=back" block is parsed where there are no items, it will produce this event structure:

```

<over-block indent="4" start_line="543">
...stuff (generally Para or Verbatim elements)...
</over-block>

```

The I<indent> and I<fake-closer> attributes are as with the other over-* events.

For example, this Pod source:

```
=over
```

For cutting off our trade with all parts of the world

For transporting us beyond seas to be tried for pretended offenses

He is at this time transporting large armies of foreign mercenaries to complete the works of death, desolation and tyranny, already begun with circumstances of cruelty and perfidy scarcely paralleled in the most barbarous ages, and totally unworthy the head of a civilized nation.

```
=back
```

will produce this event structure:

```

<over-block indent="4" start_line="2">
<Para start_line="4">
    For cutting off our trade with all parts of the world
</Para>

```

<Para start_line="6">

For transporting us beyond seas to be tried for pretended offenses

</Para>

<Para start_line="8">

He is at this time transporting large armies of [...more text...]

</Para>

</over-block>

=item events with an element_name of over-empty

B<Note: These events are only triggered if C<parse_empty_lists()> is set to a true value.>

These events are somewhat unlike the other over-* structures, as far as what their contents are. When an "=over ... Z<>=back" block is parsed where there is no content, it will produce this event structure:

<over-empty indent="4" start_line="543">

</over-empty>

The I<indent> and I<fake-closer> attributes are as with the other over-* events.

For example, this Pod source:

=over

=over

=back

=back

will produce this event structure:

<over-block indent="4" start_line="1">

<over-empty indent="4" start_line="3">

</over-empty>

</over-block>

Note that the outer C<=over> is a block because it has no C<=item>s but still has content: the inner C<=over>. The inner C<=over>, in turn, is completely empty, and is treated as such.

=item events

with an element_name of item-bullet

See L</"events with an element_name of over-bullet">, above.

=item events with an element_name of item-number

See L<"events with an element_name of over-number">, above.

=item events with an element_name of item-text

See L<"events with an element_name of over-text">, above.

=item events with an element_name of for

TODO...

=item events with an element_name of Data

TODO...

=back

=head1 More Pod::Simple Methods

Pod::Simple provides a lot of methods that aren't generally interesting to the end user of an existing Pod formatter, but some of which you might find useful in writing a Pod formatter. They are listed below. The first several methods (the accept_* methods) are for declaring the capabilities of your parser, notably what C<=for I<targetname>> sections it's interested in, what extra NE<lt>...E<gt> codes it accepts beyond the ones described in the I<perlpod>.

=over

=item C<< \$parser->accept_targets(I<SOMEVALUE>) >>

As the parser
sees sections like:

=for html

or

=begin html

=end html

...the parser will ignore these sections unless your subclass has specified that it wants to see sections targeted to "html" (or whatever the formatter name is).

If you want to process all sections, even if they're not targeted for you, call this before you start parsing:

```
$parser->accept_targets('*');
```

```
=item C<< $parser->accept_targets_as_text( I<SOMEVALUE> ) >>
```

This is like `accept_targets`, except that it specifies also that the content of sections for this target should be treated as Pod text even if the target name in `"=for I<targetname>"` doesn't start with a ":".

At time of writing, I don't think you'll need to use this.

```
=item C<< $parser->accept_codes( I<Codename>, I<Codename>... ) >>
```

This tells the parser that you accept additional formatting codes, beyond just the standard ones (I B C L F S X, plus the two weird ones you don't actually see in the parse tree, Z and E). For example, to also accept codes "N", "R", and "W":

```
$parser->accept_codes( qw( N R W ) );
```

B<TODO: document how this interacts with `=extend`, and long element names>

```
=item C<< $parser->accept_directive_as_data( I<directive_name> ) >>
```

```
=item C<< $parser->accept_directive_as_verbatim( I<directive_name> ) >>
```

```
=item C<< $parser->accept_directive_as_processed( I<directive_name> ) >>
```

In the unlikely situation that you need to tell the parser that you will accept additional directives ("`=foo`" things), you need to first set the parser to treat its content as data (i.e., not really processed at all), or as verbatim (mostly just expanding tabs), or as processed text (parsing formatting codes like `BE<lt>...E<gt>`).

For example, to accept a new directive "`=method`", you'd presumably use:

```
$parser->accept_directive_as_processed("method");
```


so that you could have Pod lines like:

```
=method I<$whatever> thing B<um>
```

Making up your own directives breaks compatibility with other Pod formatters,

in a way that using "`=for I<target> ...`" lines doesn't;

however, you may find this useful if you're making a Pod superset format where you don't need to worry about compatibility.

```
=item C<< $parser->nbsp_for_S( I<BOOLEAN> ); >>
```

Setting this attribute to a true value (and by default it is false) will turn "`SE<lt>...E<gt>`" sequences into sequences of words separated by `C<\xA0>` (non-breaking space) characters. For example, it will take this:

```
I like S<Dutch apple pie>, don't you?
```

and treat it as if it were:

```
I like DutchE<nbsp>appleE<nbsp>pie, don't you?
```

This is handy for output formats that don't have anything quite like an "`SE<lt>...E<gt>`" code, but which do have a code for non-breaking space.

There is currently no method for going the other way; but I can probably provide one upon request.

```
=item C<< $parser->version_report() >>
```

This returns a string reporting the `$VERSION` value from your module (and its classname) as well as the `$VERSION` value of `Pod::Simple`. Note that

`L<perlpodspec>` requires output formats (wherever possible) to note this detail in a comment in the output format. For example, for some kind of SGML output format:

```
print OUT "<!-- \n", $parser->version_report, "\n -->";
```

```
=item C<< $parser->pod_para_count() >>
```

This returns the count of Pod paragraphs seen so far.

```
=item C<< $parser->line_count() >>
```

This is the current line number being parsed. But you might find the "line_number" event attribute more accurate, when it is present.

```
=item C<< $parser->nix_X_codes( I<SOMEVALUE> ) >>
```

This attribute, when set to a true value (and it is false by default) ignores any "XE<lt>...E<gt>" sequences in the document being parsed. Many formats don't actually use the content of these codes, so have no reason to process them.

```
=item C<< $parser->keep_encoding_directive( I<SOMEVALUE> ) >>
```

This attribute, when set to a true value (it is false by default) will keep C<=encoding> and its content in the event structure. Most formats don't actually need to process the content of an C<=encoding> directive, even when this directive sets the encoding and the processor makes use of the encoding information. Indeed, it is possible to know the encoding without processing the directive content.

```
=item C<< $parser->merge_text( I<SOMEVALUE> ) >>
```

This attribute, when set to a true value (and it is false by default) makes sure that only one event (or token, or node) will be created for any single contiguous sequence of text. For example, consider this somewhat contrived example:

```
I just LOVE Z<>hotE<32>apple pie!
```

When that is parsed and events are about to be called on it, it may actually seem to be four different text events, one right after another: one event for "I just LOVE ", one for "hot", one for " ", and one for "apple pie!". But if you have merge_text on, then you're guaranteed that it will be fired as one text event: "I just LOVE hot apple pie!".

```
=item C<< $parser->code_handler( I<CODE_REF> ) >>
```

This specifies code that should be called when a code line is seen (i.e., a line outside of the Pod). Normally this is undef, meaning that no code should be called. If you provide a routine, it should start out like this:

```
sub get_code_line { # or whatever you'll call it
```

```

my($line, $line_number, $parser) = @_;
...
}

```

Note, however, that sometimes the Pod events aren't processed in exactly the same order as the code lines are -- i.e., if you have a file with Pod, then code, then more Pod, sometimes the code will be processed (via whatever you have `code_handler` call) before the all of the preceding Pod has been processed.

```
=item C<< $parser->cut_handler( I<CODE_REF> ) >>
```

This is just like the `code_handler` attribute, except that it's for "`=cut`" lines, not code lines. The same caveats apply. "`=cut`" lines are unlikely to be interesting, but this is included for completeness.

```
=item C<< $parser->pod_handler( I<CODE_REF> ) >>
```

This is just like the `code_handler` attribute, except that it's for "`=pod`" lines, not code lines. The same caveats apply. "`=pod`" lines are unlikely to be interesting, but this is included for completeness.

```
=item C<< $parser->whiteline_handler( I<CODE_REF> ) >>
```

This is just like the `code_handler` attribute, except that it's for lines that are seemingly blank but have whitespace (" " and/or "\t") on them, not code lines. The same caveats apply. These lines are unlikely to be interesting, but this is included for completeness.

```
=item C<< $parser->whine( I<linenumber>, I<complaint string> ) >>
```

This notes a problem in the Pod, which will be reported to in the "Pod Errors" section of the document and/or send to `STDERR`, depending on the values of the attributes `C<no_whining>`, `C<no_errata_section>`, and `C<complain_stderr>`.

```
=item C<< $parser->scream( I<linenumber>, I<complaint string> ) >>
```

This notes an error like `C<whine>` does, except that it is not suppressible with `C<no_whining>`. This should be used only for very serious errors.

=item C<< \$parser->source_dead(1)

>>

This aborts parsing of the current document, by switching on the flag that indicates that EOF has been seen. In particularly drastic cases, you might want to do this. It's rather nicer than just calling C<die>!

=item C<< \$parser->hide_line_numbers(I<SOMEVALUE>) >>

Some subclasses that indiscriminately dump event attributes (well, except for ones beginning with "~") can use this object attribute for refraining to dump the "start_line" attribute.

=item C<< \$parser->no_whining(I<SOMEVALUE>) >>

This attribute, if set to true, will suppress reports of non-fatal error messages. The default value is false, meaning that complaints I<are> reported. How they get reported depends on the values of the attributes C<no_errata_section> and C<complain_stderr>.

=item C<< \$parser->no_errata_section(I<SOMEVALUE>) >>

This attribute, if set to true, will suppress generation of an errata section. The default value is false -- i.e., an errata section will be generated.

=item

C<< \$parser->complain_stderr(I<SOMEVALUE>) >>

This attribute, if set to true will send complaints to STDERR. The default value is false -- i.e., complaints do not go to STDERR.

=item C<< \$parser->bare_output(I<SOMEVALUE>) >>

Some formatter subclasses use this as a flag for whether output should have prologue and epilogue code omitted. For example, setting this to true for an HTML formatter class should omit the "<html><head><title>...</title><body>..." prologue and the "</body></html>" epilogue.

If you want to set this to true, you should probably also set C<no_whining> or at least C<no_errata_section> to true.

=item C<< \$parser->preserve_whitespace(I<SOMEVALUE>) >>

If you set this attribute to a true value, the parser will try to preserve whitespace in the output. This means that such formatting

conventions as two spaces after periods will be preserved by the parser. This is primarily useful for output formats that treat whitespace as significant (such as text or `*roff`, but not HTML).

`=item C<< $parser->parse_empty_lists(I<SOMEVALUE>) >>`

If this attribute is set to true, the parser will not ignore empty `C<=over>/C<=back>` blocks. The type of `C<=over>` will be `I<empty>`, documented above, `L<events with an element_name of over-empty>`.

`=back`

`=head1 SEE ALSO`

`L<Pod::Simple>` -- event-based Pod-parsing framework

`L<Pod::Simple::Methody>` -- like `Pod::Simple`, but each sort of event calls its own method (like `C<start_head3>`)

`L<Pod::Simple::PullParser>` -- a Pod-parsing framework like `Pod::Simple`, but with a token-stream interface

`L<Pod::Simple::SimpleTree>` -- a Pod-parsing framework like `Pod::Simple`, but with a tree interface

`L<Pod::Simple::Checker>` -- a simple `Pod::Simple` subclass that reads documents, and then makes a plaintext report of any errors found in the document

`L<Pod::Simple::DumpAsXML>` -- for dumping Pod documents as tidily indented XML, showing each event on its own line

`L<Pod::Simple::XMLOutputStream>` -- dumps a Pod document as XML (without introducing extra whitespace as `Pod::Simple::DumpAsXML` does).

`L<Pod::Simple::DumpAsText>` -- for dumping Pod documents as tidily indented text, showing each event on its own line

`L<Pod::Simple::LinkSection>` -- class for objects representing the values of the `TODO` and `TODO` attributes of `LE<lt>...E<gt>` elements

`L<Pod::Escapes>` -- the module the `Pod::Simple` uses for evaluating `EE<lt>...E<gt>` content

`L<Pod::Simple::Text>` -- a simple plaintext formatter for Pod

L<Pod::Simple::TextContent> -- like Pod::Simple::Text, but makes no effort for indent or wrap the text being formatted

L<Pod::Simple::HTML> -- a simple HTML formatter for Pod

L<perlpod|perlpod>

L<perlpodspec|perlpodspec>

L<perldoc>

=head1 SUPPORT

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=back

=for notes

Hm, my old podchecker version (1.2) says:

*** WARNING: node 'http://search.cpan.org/' contains non-escaped | or / at line 38 in file Subclassing.pod

*** WARNING: node 'http://lists.perl.org/showlist.cgi?name=pod-people' contains non-escaped | or / at line 41 in file Subclassing.pod

Yes, L<...> is hard.

=cut

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/lib/Pod/Simple/Subclassing.pod

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=head1 NAME

Pod::Simple::DumpAsText -- dump Pod-parsing events as text

=head1 SYNOPSIS

```
perl -MPod::Simple::DumpAsText -e \  
"exit Pod::Simple::DumpAsText->filter(shift)->any_errata_seen" \  
thingy.pod
```

=head1 DESCRIPTION

This class is for dumping, as text, the events gotten from parsing a Pod document. This class is of interest to people writing Pod formatters based on Pod::Simple. It is useful for seeing exactly what events you get out of some Pod that you feed in.

This is a subclass of L<Pod::Simple> and inherits all its methods.

=head1 SEE ALSO

L<Pod::Simple::DumpAsXML>

L<Pod::Simple>

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

License: GPL+ or Artistic

Found in path(s):

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

=head1 NAME

Pod::Simple::TextContent -- get the text content of Pod

=head1 SYNOPSIS

TODO

```
perl -MPod::Simple::TextContent -e \  
"exit Pod::Simple::TextContent->filter(shift)->any_errata_seen" \  
thingy.pod
```

=head1 DESCRIPTION

This class is that parses Pod and dumps just the text content. It is mainly meant for use by the Pod::Simple test suite, but you may find some other use for it.

This is a subclass of L<Pod::Simple> and inherits all its methods.

=head1 SEE ALSO

L<Pod::Simple>, L<Pod::Simple::Text>, L<Pod::Spell>

=head1 SUPPORT

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Patches

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* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/lib/Pod/Simple/TextContent.pm

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

=head1 NAME

Pod::Simple::Checker -- check the Pod syntax of a document

=head1 SYNOPSIS

```
perl -MPod::Simple::Checker -e \  
"exit Pod::Simple::Checker->filter(shift)->any_errata_seen" \  
thingy.pod
```

=head1 DESCRIPTION

This class is for checking the syntactic validity of Pod. It works by basically acting like a simple-minded version of L<Pod::Simple::Text> that formats only the "Pod Errors" section

(if Pod::Simple even generates one for the given document).

This is a subclass of L<Pod::Simple> and inherits all its methods.

=head1 SEE ALSO

L<Pod::Simple>, L<Pod::Simple::Text>, L<Pod::Checker>

=head1 SUPPORT

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

=head1 NAME

Pod::Simple::Text -- format Pod as plaintext

=head1 SYNOPSIS

```
perl -MPod::Simple::Text -e \  
"exit Pod::Simple::Text->filter(shift)->any_errata_seen" \  
thingy.pod
```

=head1 DESCRIPTION

This class is a formatter that takes Pod and renders it as wrapped plaintext.

Its wrapping is done by L<Text::Wrap>, so you can change C<\$Text::Wrap::columns> as you like.

This is a subclass of L<Pod::Simple> and inherits all its methods.

=head1 SEE ALSO

L<Pod::Simple>, L<Pod::Simple::TextContent>, L<Pod::Text>

=head1 SUPPORT

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

=head1 NAME

Pod::Simple::DumpAsXML -- turn Pod into XML

=head1 SYNOPSIS

```
perl -MPod::Simple::DumpAsXML -e \  
"exit Pod::Simple::DumpAsXML->filter(shift)->any_errata_seen" \  
thingy.pod
```

=head1 DESCRIPTION

Pod::Simple::DumpAsXML is a subclass of L<Pod::Simple> that parses Pod and turns it into indented and wrapped XML. This class is of

interest to people writing Pod formatters based on Pod::Simple.

Pod::Simple::DumpAsXML inherits methods from L<Pod::Simple>.

=head1 SEE ALSO

L<Pod::Simple::XMLOutputStream> is rather like this class. Pod::Simple::XMLOutputStream's output is space-padded in a way that's better for sending to an XML processor (that is, it has no ignorable whitespace). But Pod::Simple::DumpAsXML's output is much more human-readable, being (more-or-less) one token per line, with line-wrapping.

L<Pod::Simple::DumpAsText> is rather like this class, except that it doesn't dump with XML syntax. Try them and see which one you like best!

L<Pod::Simple>, L<Pod::Simple::DumpAsXML>

The older libraries L<Pod::PXML>, L<Pod::XML>, L<Pod::SAX>

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

=head1 NAME

Pod::Simple::SimpleTree -- parse Pod into a simple parse tree

=head1 SYNOPSIS

% cat ptest.pod

=head1 PIE

I like B<pie>!

```
% perl -MPod::Simple::SimpleTree -MData::Dumper -e \  
  "print Dumper(Pod::Simple::SimpleTree->new->parse_file(shift)->root)" \  
  ptest.pod
```

```
$VAR1 = [  
  'Document',  
  { 'start_line' => 1 },  
  [  
    'head1',  
    { 'start_line' => 1 },
```

```

    'PIE'
  ],
  [
    'Para',
    { 'start_line' => 3 },
    'I like ',
    [
      'B',
      {},
      'pie'
    ],
    ],
    '!'
  ]
];

```

=head1 DESCRIPTION

This class is of interest to people writing a Pod processor/formatter.

This class takes Pod and parses it, returning a parse tree made just of arrayrefs, and hashrefs, and strings.

This is a subclass of L<Pod::Simple> and inherits all its methods.

This class is inspired by XML::Parser's "Tree" parsing-style, although it doesn't use exactly the same LoL format.

=head1 METHODS

At the end of the parse, call C<< \$parser->root >> to get the tree's top node.

=head1 Tree Contents

Every element node in the parse tree is represented by an arrayref of the form: C<[I<elementname>, \%attributes, I<...subnodes...>]>. See the example tree dump in the Synopsis, above.

Every text node in the tree is represented by a simple (non-ref) string scalar. So you can test C<ref(\$node)> to see whether you have an element node or just a text node.

The top node in the tree is C<['Document', \%attributes, I<...subnodes...>]>

=head1 SEE ALSO

L<Pod::Simple>

L<perllo>

L<The "Tree" subsection in XML::Parser|XML::Parser/"Tree">

=head1 SUPPORT

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=back

=cut

Found in path(s):

*

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```
sub dump { '[' . _esc( @{$_[0]} ) . ']' }
```

JUNK:

```
sub _esc {
    return " unless @_ ;
    my @out;
    foreach my $in (@_) {
        push @out, "' . $in . "' ;
        $out[-1] =~ s/([^\.:;|'>|<|"|=|?|+|\\[\\]{}\_a-zA-Z0-9_`~!#%^\&|*(\))/
            sprintf( (ord($1) < 256) ? "\\x%02X" : "\\x{%X}", ord($1))
            /eg;
    }
    return join ' , ' , @out;
}
```

__END__

=head1 NAME

Pod::Simple::PullParserToken -- tokens from Pod::Simple::PullParser

=head1 SYNOPSIS

Given a \$parser that's an object of class Pod::Simple::PullParser
(or a subclass)...

```
while(my $token = $parser->get_token) {
    $DEBUG and print "Token: ", $token->dump, "\n";
    if($token->is_start) {
        ...access $token->tagname, $token->attr, etc...
    } elsif($token->is_text) {
        ...access $token->text, $token->text_r, etc...
    } elsif($token->is_end) {
        ...access $token->tagname...
```

```
}  
}
```

(Also see `L<Pod::Simple::PullParser>`)

=head1

DESCRIPTION

When you do `$parser->get_token` on a `L<Pod::Simple::PullParser>`, you should get an object of a subclass of `Pod::Simple::PullParserToken`.

Subclasses will add methods, and will also inherit these methods:

=over

=item `$token->type`

This returns the type of the token. This will be either the string "start", the string "text", or the string "end".

Once you know what the type of an object is, you then know what subclass it belongs to, and therefore what methods it supports.

Yes, you could probably do the same thing with code like `$token->isa('Pod::Simple::PullParserEndToken')`, but that's not so pretty as using just `$token->type`, or even the following shortcuts:

=item `$token->is_start`

This is a shortcut for `C<< $token->type() eq "start" >>`

=item `$token->is_text`

This is a shortcut for `C<< $token->type() eq "text" >>`

=item `$token->is_end`

This is a shortcut for `C<< $token->type() eq "end" >>`

=item `$token->dump`

This returns a handy stringified value of this object.

This

is useful for debugging, as in:

```
while(my $token = $parser->get_token) {  
    $DEBUG and print "Token: ", $token->dump, "\n";
```

```
...  
}
```

=back

=head1 SEE ALSO

My subclasses:

L<Pod::Simple::PullParserStartToken>,
L<Pod::Simple::PullParserTextToken>, and
L<Pod::Simple::PullParserEndToken>.

L<Pod::Simple::PullParser> and L<Pod::Simple>

=head1 SUPPORT

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

This module is managed in an open GitHub repository, L<<https://github.com/theory/pod-simple/>>. Feel free to fork and contribute, or to clone L<[git://github.com/theory/pod-simple.git](https://github.com/theory/pod-simple.git)> and send patches!

Patches against Pod::Simple are welcome. Please send bug reports to <bug-pod-simple@rt.cpan.org>.

=head1 COPYRIGHT AND DISCLAIMERS

Copyright (c) 2002 Sean M. Burke.

This library is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

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.

=head1 AUTHOR

Pod::Simple was created by Sean M. Burke <sburke@cpan.org>. But don't bother him, he's retired.

Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

=cut

Found in path(s):

```
* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/lib/Pod/Simple/PullParserToken.pm
```

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

=head1 NAME

Pod::Simple::Search - find POD documents in directory trees

=head1 SYNOPSIS

```
use Pod::Simple::Search;
my $name2path = Pod::Simple::Search->new->limit_glob('LWP::*')->survey;
print "Looky see what I found: ",
    join(' ', sort keys %$name2path), "\n";

print "LWPUA docs = ",
    Pod::Simple::Search->new->find('LWP::UserAgent') || "?",
    "\n";
```

=head1 DESCRIPTION

B<Pod::Simple::Search> is a class that you use for running searches for Pod files. An object of this class has several attributes (mostly options for controlling search options), and some methods for searching based on those attributes.

The way to use this class is to make a new object of this class, set any options, and then call one of the search options (probably C<survey> or C<find>). The sections below discuss the syntaxes for doing all that.

=head1 CONSTRUCTOR

This class provides the one constructor, called C<new>.

It takes

no parameters:

```
use Pod::Simple::Search;  
my $search = Pod::Simple::Search->new;
```

=head1 ACCESSORS

This class defines several methods for setting (and, occasionally, reading) the contents of an object. With two exceptions (discussed at the end of this section), these attributes are just for controlling the way searches are carried out.

Note that each of these return C<\$self> when you call them as C<< \$self->I<whatever(value)> >>. That's so that you can chain together set-attribute calls like this:

```
my $name2path =  
  Pod::Simple::Search->new  
  -> inc(0) -> verbose(1) -> callback(\&blab)  
  -> survey(@there);
```

...which works exactly as if you'd done this:

```
my $search = Pod::Simple::Search->new;  
$search->inc(0);  
$search->verbose(1);  
$search->callback(\&blab);  
my $name2path = $search->survey(@there);
```

=over

=item \$search->inc(I<true-or-false>);

This attribute, if set to a true value, means that searches should implicitly add perl's I<@INC> paths. This automatically

considers paths specified in the C<PERL5LIB> environment as this is prepended to I<@INC> by the Perl interpreter itself. This attribute's default value is B<TRUE>. If you want to search only specific directories, set \$self->inc(0) before calling \$inc->survey or \$inc->find.

=item \$search->verbose(I<nonnegative-number>);

This attribute, if set to a nonzero positive value, will make searches output (via C<warn>) notes about what they're doing as they do it.

This option may be useful for debugging a pod-related module.

This attribute's default value is zero, meaning that no C<warn> messages are produced. (Setting verbose to 1 turns on some messages, and setting it to 2 turns on even more messages, i.e., makes the following search(es) even more verbose than 1 would make them.)

```
=item $search->limit_glob( I<some-glob-string> );
```

This option means that you want to limit the results just to items whose podnames match the given glob/wildcard expression. For example, you might limit

your search to just "LWP::*", to search only for modules starting with "LWP::*" (but not including the module "LWP" itself); or you might limit your search to "LW*" to see only modules whose (full) names begin with "LW"; or you might search for "*Find*" to search for all modules with "Find" somewhere in their full name. (You can also use "?" in a glob expression; so "DB?" will match "DBI" and "DBD".)

```
=item $search->callback( I<\&some_routine> );
```

This attribute means that every time this search sees a matching Pod file, it should call this callback routine. The routine is called with two parameters: the current file's filespec, and its pod name. (For example: C<("/etc/perljunk/File/Crunk.pm", "File::Crunk")> would be in C<@_>.)

The callback routine's return value is not used for anything.

This attribute's default value is false, meaning that no callback is called.

```
=item $search->laborious( I<true-or-false> );
```

Unless you set this attribute to a true value, Pod::Search will apply

Perl-specific heuristics to find the correct module PODs quickly. This attribute's default value is false. You won't normally need to set this to true.

Specifically: Turning on this option will disable the heuristics for seeing only files with Perl-like extensions, omitting subdirectories that are numeric but do I<not> match the current Perl interpreter's version ID, suppressing F<site_perl> as a module hierarchy name, etc.

```
=item $search->shadows( I<true-or-false> );
```

Unless you set this attribute to a true value, Pod::Simple::Search will consider only the first file of a given modulename as it looks thru the specified directories; that is, with this option off, if Pod::Simple::Search has seen a C<somepathdir/Foo/Bar.pm> already in this search, then it won't bother looking at a C<somelaterpathdir/Foo/Bar.pm> later on in that search, because that file is merely a "shadow". But if you turn on C<< \$self->shadows(1) >>, then these "shadow" files are inspected too, and are noted in the pathname2podname return hash.

This attribute's default value is false; and normally you won't need to turn it on.

```
=item $search->limit_re( I<some-regexp> );
```

Setting this attribute (to a value that's a regexp) means that you want to limit the results just to items whose podnames match the given regexp. Normally this option is not needed, and the more efficient C<limit_glob> attribute is used instead.

```
=item $search->dir_prefix( I<some-string-value> );
```

Setting this attribute to a string value means that the searches should begin in the specified subdirectory name (like "Pod" or "File::Find", also expressible as "File/Find"). For example, the search option C<< \$search->limit_glob("File::Find::R*") >> is the same as the combination of the search options C<< \$search->limit_re("^File::Find::R") -> dir_prefix("File::Find") >>.

Normally you don't need to know about the C<dir_prefix> option, but I include it in case it might prove useful for someone somewhere.

(Implementationally, searching with limit_glob ends up setting limit_re and usually dir_prefix.)

```
=item $search->progress( I<some-progress-object> );
```

If you set a value for this attribute, the value is expected to be an object (probably of a class that you define) that has a C<reach> method and a C<done> method. This is meant for reporting progress during the search, if you don't want to use a simple callback.

Normally you don't need to know about the C<progress> option, but I

include it in case it might prove useful for someone somewhere.

While a search is in progress, the progress object's C<reach> and C<done> methods are called like this:

```
# Every time a file is being scanned for pod:  
$progress->reach($count, "Scanning $file"); ++$count;
```

```
# And then at the end of the search:  
$progress->done("Noted $count Pod files total");
```

Internally, we often set this to an object of class Pod::Simple::Progress. That class is probably undocumented, but you may wish to look at its source.

```
=item $name2path  
= $self->name2path;
```

This attribute is not a search parameter, but is used to report the result of C<survey> method, as discussed in the next section.

```
=item $path2name = $self->path2name;
```

This attribute is not a search parameter, but is used to report the result of C<survey> method, as discussed in the next section.

```
=back
```

```
=head1 MAIN SEARCH METHODS
```

Once you've actually set any options you want (if any), you can go ahead and use the following methods to search for Pod files in particular ways.

```
=head2 C<< $search->survey( @directories ) >>
```

The method C<survey> searches for POD documents in a given set of files and/or directories. This runs the search according to the various options set by the accessors above. (For example, if the C<inc> attribute is on, as it is by default, then the perl @INC directories are implicitly added to the list of directories (if any) that you specify.)

The return value of C<survey> is two hashes:

```
=over
```

=item C<name2path>

A hash that maps from each pod-name to the filespec (like "Stuff::Thing" => "/whatever/plib/Stuff/Thing.pm")

=item C<path2name>

A hash that maps from each Pod filespec to its pod-name (like "/whatever/plib/Stuff/Thing.pm" => "Stuff::Thing")

=back

Besides saving these hashes as the hashref attributes C<name2path> and C<path2name>, calling this function also returns these hashrefs. In list context, the return value of C<< \$search->survey >> is the list C<(\%name2path, \%path2name)>. In scalar context, the return value is C<\%name2path>. Or you can just call this in void context.

Regardless of calling context, calling C<survey> saves its results in its C<name2path> and C<path2name> attributes.

E.g., when searching in F<\$HOME/perl5lib>, the file F<\$HOME/perl5lib/MyModule.pm> would get the POD name I<MyModule>, whereas F<\$HOME/perl5lib/Myclass/Subclass.pm> would be I<Myclass::Subclass>. The name information can be used for POD translators.

Only text files containing at least one valid POD command are found.

In

verbose mode, a warning is printed if shadows are found (i.e., more than one POD file with the same POD name is found, e.g. F<CPAN.pm> in different directories). This usually indicates duplicate occurrences of modules in the I<@INC> search path, which is occasionally inadvertent (but is often simply a case of a user's path dir having a more recent version than the system's general path dirs in general.)

The options to this argument is a list of either directories that are searched recursively, or files. (Usually you wouldn't specify files, but just dirs.) Or you can just specify an empty-list, as in \$name2path; with the C<inc> option on, as it is by default, teh

The POD names of files are the plain basenames with any Perl-like extension (.pm, .pl, .pod) stripped, and path separators replaced by C<::>'s.

Calling `Pod::Simple::Search->search(...)` is short for `Pod::Simple::Search->new->search(...)`. That is, a throwaway object with default attribute values is used.

```
=head2 C<<
$search->simplify_name( $str ) >>
```

The method `B<simplify_name>` is equivalent to `B<basename>`, but also strips Perl-like extensions (`.pm`, `.pl`, `.pod`) and extensions like `F<.bat>`, `F<.cmd>` on Win32 and OS/2, or `F<.com>` on VMS, respectively.

```
=head2 C<< $search->find( $pod ) >>
```

```
=head2 C<< $search->find( $pod, @search_dirs ) >>
```

Returns the location of a Pod file, given a Pod/module/script name (like `"Foo::Bar"` or `"perlvar"` or `"perldoc"`), and an idea of what files/directories to look in.

It searches according to the various options set by the accessors above. (For example, if the `C<inc>` attribute is on, as it is by default, then the perl `@INC` directories are implicitly added to the list of directories (if any) that you specify.)

This returns the full path of the first occurrence to the file. Package names (eg `'A::B'`) are automatically converted to directory names in the selected directory. Additionally, `'pm'`, `'pl'` and `'pod'` are automatically appended to the search as required.

(So, for example, under Unix, `"A::B"` is converted to `"somedir/A/B.pm"`, `"somedir/A/B.pod"`, or `"somedir/A/B.pl"`, as appropriate.)

If no such Pod file is found, this method returns `undef`.

If any of the given search directories contains a `F<pod/>` subdirectory, then it is searched. (That's how we manage to find `F<perlfunc>`, for example, which is usually in `F<pod/perlfunc>` in most Perl dists.)

The `C<verbose>` and `C<inc>` attributes influence the behavior of this search; notably, `C<inc>`, if true, adds `@INC` and also `$Config::Config{'scriptdir'}` to the list of directories to search.

It is common to simply say `C<< $filename = Pod::Simple::Search-> new->find("perlvar") >>` so that just the `@INC` (well, and `scriptdir`) directories are searched. (This happens because the `C<inc>` attribute is true by default.)

Calling `Pod::Simple::Search->find(...)` is short for `Pod::Simple::Search->new->find(...)`. That is, a throwaway object with default attribute values is used.

```
=head2 C<< $self->contains_pod( $file
) >>
```

Returns true if the supplied filename (not POD module) contains some Pod documentation.

```
=head1 SUPPORT
```

Questions or discussion about POD and `Pod::Simple` should be sent to the `pod-people@perl.org` mail list. Send an empty email to `pod-people-subscribe@perl.org` to subscribe.

This module is managed in an open GitHub repository, [L<https://github.com/theory/pod-simple/>](https://github.com/theory/pod-simple/). Feel free to fork and contribute, or to clone [L<git://github.com/theory/pod-simple.git>](https://github.com/theory/pod-simple.git) and send patches!

Patches against `Pod::Simple` are welcome. Please send bug reports to [<bug-pod-simple@rt.cpan.org>](mailto:bug-pod-simple@rt.cpan.org).

```
=head1 COPYRIGHT AND DISCLAIMERS
```

Copyright (c) 2002 Sean M. Burke.

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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.

```
=head1 AUTHOR
```

`Pod::Simple` was created by Sean M. Burke [<sburke@cpan.org>](mailto:sburke@cpan.org) with code borrowed from Marek Rouchal's [L<Pod::Find>](#), which in turn heavily borrowed code from Nick Ing-Simmons' [C<PodToHtml>](#).

But don't bother him, he's retired.

`Pod::Simple` is maintained by:

```
=over
```

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

=cut

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eJHyDE/Pod-Simple-3.28/lib/Pod/Simple/Search.pm
No license file was found, but licenses were detected in source scan.

=head1 NAME

Pod::Simple - framework for parsing Pod

=head1 SYNOPSIS

TODO

=head1 DESCRIPTION

Pod::Simple is a Perl library for parsing text in the Pod ("plain old documentation") markup language that is typically used for writing documentation for Perl and for Perl modules. The Pod format is explained L<perlpod>; the most common formatter is called C<perldoc>.

Be sure to read L<ENCODING> if your Pod contains non-ASCII characters.

Pod formatters can use Pod::Simple to parse Pod documents and render them into plain text, HTML, or any number of other formats. Typically, such formatters will be subclasses of Pod::Simple, and so they will inherit its methods, like C<parse_file>.

If you're reading this document just because you have a Pod-processing subclass that you want to use, this document (plus the documentation for the subclass) is probably all you need to read.

If you're reading this document because you want to write a formatter subclass, continue reading it and then read L<Pod::Simple::Subclassing>, and then possibly even read L<perlpodspec> (some of which is for parser-writers, but much of which is notes to formatter-writers).

=head1 MAIN METHODS

=over

```
=item C<< $parser = I<SomeClass>->new(); >>
```

This returns a new parser object, where I<C<SomeClass>> is a subclass of Pod::Simple.

```
=item C<< $parser->output_fh( *OUT ); >>
```

This sets the filehandle that C<\$parser>'s output will be written to. You can pass C<*STDOUT>, otherwise you should probably do something like this:

```
my $outfile = "output.txt";  
open TXTOUT, ">$outfile" or die "Can't write to $outfile: $!";  
$parser->output_fh(*TXTOUT);
```

...before you call one of the C<< \$parser->parse_I<whatever> >> methods.

```
=item C<< $parser->output_string( \somestring ); >>
```

This sets the string that C<\$parser>'s output will be sent to, instead of any filehandle.

```
=item C<< $parser->parse_file( I<$some_filename> ); >>
```

```
=item C<<  
$parser->parse_file( *INPUT_FH ); >>
```

This reads the Pod content of the file (or filehandle) that you specify, and processes it with that C<\$parser> object, according to however C<\$parser>'s class works, and according to whatever parser options you have set up for this C<\$parser> object.

```
=item C<< $parser->parse_string_document( I<$all_content> ); >>
```

This works just like C<parse_file> except that it reads the Pod content not from a file, but from a string that you have already in memory.

```
=item C<< $parser->parse_lines( I<...@lines...>, undef ); >>
```

This processes the lines in C<@lines> (where each list item must be a defined value, and must contain exactly one line of content -- so no items like C<"foo\nbar"> are allowed). The final C<undef> is used to indicate the end of document being parsed.

The other C<parser_I<whatever>> methods are meant to be called only once per C<\$parser> object; but C<parse_lines> can be called as many times per C<\$parser> object as you want, as long as the last call (and only the last call) ends with an C<undef> value.

```
=item C<< $parser->content_seen >>
```

This returns true only if there has been any real content seen for this document. Returns false in cases where the document contains content, but does not make use of any Pod markup.

```
=item C<< I<SomeClass>->filter( I<$filename> ); >>
```

```
=item C<< I<SomeClass>->filter( I<*INPUT_FH> ); >>
```

```
=item C<< I<SomeClass>->filter( I<\$document_content> ); >>
```

This is a shortcut method for creating a new parser object, setting the output handle to STDOUT, and then processing the specified file (or filehandle, or in-memory document). This is handy for one-liners like this:

```
perl -MPod::Simple::Text -e "Pod::Simple::Text->filter('thingy.pod')"
```

```
=back
```

```
=head1 SECONDARY METHODS
```

Some of these methods might be of interest to general users, as well as of interest to formatter-writers.

Note that the general pattern here is that the accessor-methods read the attribute's value with C<< \$value = \$parser->I<attribute> >>

and set the attribute's value with

C<< \$parser->I<attribute>(I<newvalue>) >>. For each accessor, I typically only mention one syntax or another, based on which I think you are actually most likely to use.

```
=over
```

```
=item C<< $parser->parse_characters( I<SOMEVALUE> ) >>
```

The Pod parser normally expects to read octets and to convert those octets to characters based on the C<=encoding> declaration in the Pod source. Set this option to a true value to indicate that the Pod source is already a Perl character stream. This tells the parser to ignore any C<=encoding> command and to skip all the code paths involving decoding octets.

```
=item C<< $parser->no_whining( I<SOMEVALUE> ) >>
```

If you set this attribute to a true value, you will suppress the parser's complaints about irregularities in the Pod coding. By default, this attribute's value is false, meaning that irregularities will be reported.

Note that turning this attribute to true won't suppress one or two kinds of complaints about rarely occurring unrecoverable errors.

```
=item C<< $parser->no_errata_section( I<SOMEVALUE> ) >>
```

If you set this attribute to a true value, you will stop the parser from generating a "POD ERRORS" section at the end of the document. By default, this attribute's value is false, meaning that an errata section will be generated, as necessary.

```
=item C<< $parser->complain_stderr( I<SOMEVALUE> ) >>
```

If you set this attribute to a true value, it will send reports of parsing errors to `STDERR`. By default, this attribute's value is false, meaning that no output is sent to `STDERR`.

Setting C<complain_stderr> also sets C<no_errata_section>.

```
=item C<< $parser->source_filename >>
```

This returns the filename that this parser object was set to read from.

```
=item C<< $parser->doc_has_started >>
```

This returns true if C<\$parser> has read from a source, and has seen Pod content in it.

```
=item C<< $parser->source_dead >>
```


This returns true if C<\$parser> has read from a source, and come to the end of that source.

```
=item C<< $parser->strip_verbatim_indent( I<SOMEVALUE> ) >>
```

The perlpod spec for a Verbatim paragraph is "It should be reproduced exactly...", which means that the whitespace you've used to indent your verbatim blocks will be preserved in the output. This can be annoying for outputs such as HTML, where that whitespace will remain in front of every line. It's an unfortunate case where syntax is turned into semantics.

If the POD your parsing adheres to a consistent indentation policy, you can have such indentation stripped from the beginning of every line of your verbatim blocks. This method tells Pod::Simple what to strip. For two-space indents, you'd use:

```
$parser->strip_verbatim_indent(' ');
```

For tab indents, you'd use a tab character:

```
$parser->strip_verbatim_indent("\t");
```

If the POD is inconsistent about the indentation of verbatim blocks, but you have figured out a heuristic to determine how much a particular verbatim block is indented, you can pass

a code reference instead. The code reference will be executed with one argument, an array reference of all the lines in the verbatim block, and should return the value to be stripped from each line. For example, if you decide that you're fine to use the first line of the verbatim block to set the standard for indentation of the rest of the block, you can look at the first line and return the appropriate value, like so:

```
$new->strip_verbatim_indent(sub {  
    my $lines = shift;  
    (my $indent = $lines->[0]) =~ s/^S.*//;  
    return $indent;  
});
```

If you'd rather treat each line individually, you can do that, too, by just transforming them in-place in the code reference and returning C<undef>. Say that you don't want I<any> lines indented. You can do something like this:

```
$new->strip_verbatim_indent(sub {  
    my $lines = shift;  
    sub { s/^\s+// for @{$lines },  
    return undef;
```

});

=back

=head1 TERTIARY METHODS

=over

=item C<< \$parser->abandon_output_fh() >>X<abandon_output_fh>

Cancel

output to the file handle. Any POD read by the C<\$parser> is not effected.

=item C<< \$parser->abandon_output_string() >>X<abandon_output_string>

Cancel output to the output string. Any POD read by the C<\$parser> is not effected.

=item C<< \$parser->accept_code(@codes) >>X<accept_code>

Alias for L<< accept_codes >>.

=item C<< \$parser->accept_codes(@codes) >>X<accept_codes>

Allows C<\$parser> to accept a list of L<perlpod/Formatting Codes>. This can be used to implement user-defined codes.

=item C<< \$parser->accept_directive_as_data(@directives) >>X<accept_directive_as_data>

Allows C<\$parser> to accept a list of directives for data paragraphs. A directive is the label of a L<perlpod/Command Paragraph>. A data paragraph is one delimited by C<< =begin/=for/=end >> directives. This can be used to implement user-defined directives.

=item C<< \$parser->accept_directive_as_processed(@directives) >>X<accept_directive_as_processed>

Allows C<\$parser> to accept a list of directives for processed paragraphs. A directive is the label of a L<perlpod/Command Paragraph>. A processed paragraph is also known as L<perlpod/Ordinary Paragraph>. This can be used to implement user-defined directives.

=item C<< \$parser->accept_directive_as_verbatim(@directives) >>X<accept_directive_as_verbatim>

Allows C<\$parser> to accept a list of directives for L<perlpod/Verbatim Paragraph>. A directive is the label of a L<perlpod/Command Paragraph>. This can be used to implement user-defined directives.

=item C<< \$parser->accept_target(@targets) >>X<accept_target>

Alias for L<< accept_targets >>.

=item C<< \$parser->accept_target_as_text(@targets) >>X<accept_target_as_text>

Alias for L<< accept_targets_as_text >>.

=item C<< \$parser->accept_targets(@targets) >>X<accept_targets>

Accepts targets for C<< =begin/=for/=end >> sections of the POD.

=item C<< \$parser->accept_targets_as_text(@targets) >>X<accept_targets_as_text>

Accepts targets for C<<

=begin/=for/=end >> sections that should be parsed as

POD. For details, see L<< perlpodspec/About Data Paragraphs >>.

=item C<< \$parser->any_errata_seen() >>X<any_errata_seen>

Used to check if any errata was seen.

I<Example:>

```
die "too many errors\n" if $parser->any_errata_seen();
```

=item C<< \$parser->detected_encoding() >>X<detected_encoding>

Return the encoding corresponding to C<< =encoding >>, but only if the encoding was recognized and handled.

=item C<< \$parser->encoding() >>X<encoding>

Return encoding of the document, even if the encoding is not correctly handled.

=item C<< \$parser->parse_from_file(\$source, \$to) >>X<parse_from_file>

Parses from C<\$source> file to C<\$to> file. Similar to L<<

Pod::Parser/parse_from_file >>.

=item C<< \$parser->scream(@error_messages) >>X<scream>

Log an error that can't be ignored.

=item C<< \$parser->unaccept_code(@codes) >>X<unaccept_code>

Alias for L<< unaccept_codes >>.

```
=item C<< $parser->unaccept_codes( @codes ) >>X<unaccept_codes>
```

Removes

C<< @codes >> as valid codes for the parse.

```
=item C<< $parser->unaccept_directive( @directives ) >>X<unaccept_directive>
```

Alias for L<< unaccept_directives >>.

```
=item C<< $parser->unaccept_directives( @directives ) >>X<unaccept_directives>
```

Removes C<< @directives >> as valid directives for the parse.

```
=item C<< $parser->unaccept_target( @targets ) >>X<unaccept_target>
```

Alias for L<< unaccept_targets >>.

```
=item C<< $parser->unaccept_targets( @targets ) >>X<unaccept_targets>
```

Removes C<< @targets >> as valid targets for the parse.

```
=item C<< $parser->version_report() >>X<version_report>
```

Returns a string describing the version.

```
=item C<< $parser->whine( @error_messages ) >>X<whine>
```

Log an error unless C<< \$parser->no_whining(TRUE); >>.

```
=back
```

```
=head1 ENCODING
```

The Pod::Simple parser expects to read B<octets>. The parser will decode the octets into Perl's internal character string representation using the value of the C<=encoding> declaration in the POD source.

If

the POD source does not include an C<=encoding> declaration, the parser will attempt to guess the encoding (selecting one of UTF-8 or Latin-1) by examining the first non-ASCII bytes and applying the heuristic described in L<perlpodspec>.

If you set the C<parse_characters> option to a true value the parser will expect characters rather than octets; will ignore any C<=encoding>; and will make no attempt to decode the input.

=head1 CAVEATS

This is just a beta release -- there are a good number of things still left to do. Notably, support for EBCDIC platforms is still half-done, an untested.

=head1 SEE ALSO

L<Pod::Simple::Subclassing>

L<perlpod|perlpod>

L<perlpodspec|perlpodspec>

L<Pod::Escapes|Pod::Escapes>

L<perldoc>

=head1 SUPPORT

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

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=head1 COPYRIGHT AND DISCLAIMERS

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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.

=head1 AUTHOR

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But don't bother him, he's retired.

Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

Documentation has been contributed by:

=over

=item * Gabor Szabo C<szabgab@gmail.com>

=item * Shawn H Corey C<SHCOREY
at cpan.org>

=back

=cut

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/lib/Pod/Simple.pod
No license file was found, but licenses were detected in source scan.

TODO: let it be an option whether a given subclass even wants little treelets?

__END__

=head1 NAME

Pod::Simple::LinkSection -- represent "section" attributes of L codes

=head1 SYNOPSIS

a long story

=head1 DESCRIPTION

This class is not of interest to general users.

Pod::Simple uses this class for representing the value of the "section" attribute of "L" start-element events. Most applications can just use the normal stringification of objects of this class; they stringify to just the text content of the section, such as "foo" for C<< LZ<><Stuff/foo> >>, and "bar" for C<< LZ<><Stuff/bIZ<><ar>> >>.

However, anyone particularly interested in getting the full value of the treelet, can just traverse the content of the treelet @\$treelet_object. To wit:

```
% perl -MData::Dumper -e
"use base qw(Pod::Simple::Methody);
sub start_L { print Dumper($_[1]{'section'}) }
__PACKAGE__->new->parse_string_document('=head1
L<Foo/bI<ar>baz>>')
"
```

Output:

```
$VAR1 = bless( [
    ",
    {},
    'b',
    bless( [
        'T',
        {},
        'ar'
    ], 'Pod::Simple::LinkSection' ),
    'baz'
], 'Pod::Simple::LinkSection' );
```

But stringify it and you get just the text content:

```
% perl -MData::Dumper -e
"use base qw(Pod::Simple::Methody);
sub start_L { print Dumper(" . $_[1]{'section'}) }
__PACKAGE__->new->parse_string_document('=head1 L<Foo/bI<ar>baz>>')
"
```

Output:

```
$VAR1 = 'barbaz';
```

=head1 SEE ALSO

L<Pod::Simple>

=head1 SUPPORT

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=item * David E. Wheeler C<dwheeler@cpan.org>

=back

=cut

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/lib/Pod/Simple/LinkSection.pm

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

=head1 NAME

Pod::Simple::PullParser -- a pull-parser interface to parsing Pod

=head1 SYNOPSIS

```
my $parser = SomePodProcessor->new;
$parser->set_source( "whatever.pod" );
$parser->run;
```

Or:

```
my $parser = SomePodProcessor->new;
$parser->set_source( $some_filehandle_object );
$parser->run;
```

Or:

```
my $parser = SomePodProcessor->new;
$parser->set_source( \ $document_source );
$parser->run;
```

Or:

```
my $parser = SomePodProcessor->new;
$parser->set_source( \@document_lines );
$parser->run;
```

And elsewhere:

```
require 5;
package SomePodProcessor;
use strict;
use base qw(Pod::Simple::PullParser);
```

```
sub run {
    my $self = shift;
    Token:
    while(my $token = $self->get_token) {
        ...process each token...
    }
}
```

=head1 DESCRIPTION

This class is for using Pod::Simple to build a Pod processor -- but

one that uses an interface based on a stream of token objects,
instead of based on events.

This is a subclass of L<Pod::Simple>
and inherits all its methods.

A subclass of Pod::Simple::PullParser should define a C<run> method
that calls C<< \$token = \$parser->get_token >> to pull tokens.

See the source for Pod::Simple::RTF for an example of a formatter
that uses Pod::Simple::PullParser.

=head1 METHODS

=over

=item my \$token = \$parser->get_token

This returns the next token object (which will be of a subclass of
L<Pod::Simple::PullParserToken>), or undef if the parser-stream has hit
the end of the document.

=item \$parser->unget_token(\$token)

=item \$parser->unget_token(\$token1, \$token2, ...)

This restores the token object(s) to the front of the parser stream.

=back

The source has to be set before you can parse anything. The lowest-level
way is to call C<set_source>:

=over

=item \$parser->set_source(\$filename)

=item \$parser->set_source(\$filehandle_object)

=item \$parser->set_source(\ \$document_source)

=item \$parser->set_source(\@document_lines)

=back

Or you can call these methods,
which Pod::Simple::PullParser has defined
to work just like Pod::Simple's same-named methods:

=over

=item \$parser->parse_file(...)

=item \$parser->parse_string_document(...)

=item \$parser->filter(...)

=item \$parser->parse_from_file(...)

=back

For those to work, the Pod-processing subclass of Pod::Simple::PullParser has to have defined a \$parser->run method -- so it is advised that all Pod::Simple::PullParser subclasses do so. See the Synopsis above, or the source for Pod::Simple::RTF.

Authors of formatter subclasses might find these methods useful to call on a parser object that you haven't started pulling tokens from yet:

=over

=item my \$title_string = \$parser->get_title

This tries to get the title string out of \$parser, by getting some tokens, and scanning them for the title, and then ungetting them so that you can process the token-stream from the beginning.

For example, suppose you have a document that starts out:

```
=head1 NAME
```

```
Hoo::Boy::Wowza -- Stuff B<wow> yeah!
```

\$parser->get_title
on that document will return "Hoo::Boy::Wowza --
Stuff wow yeah!". If the document starts with:

```
=head1 Name
```

```
Hoo::Boy::W00t -- Stuff B<w00t> yeah!
```

Then you'll need to pass the C<nocase> option in order to recognize "Name":

```
$parser->get_title(nocase => 1);
```

In cases where `get_title` can't find the title, it will return empty-string (`""`).

```
=item my $title_string = $parser->get_short_title
```

This is just like `get_title`, except that it returns just the modulename, if the title seems to be of the form "SomeModuleName -- description".

For example, suppose you have a document that starts out:

```
=head1 NAME
```

```
Hoo::Boy::Wowza -- Stuff B<wow> yeah!
```

then `$parser->get_short_title` on that document will return "Hoo::Boy::Wowza".

But if the document starts out:

```
=head1 NAME
```

```
Hooboy, stuff B<wow> yeah!
```

then `$parser->get_short_title` on that document will return "Hooboy, stuff wow yeah!". If the document starts with:

```
=head1 Name
```

```
Hoo::Boy::W00t -- Stuff B<w00t>  
yeah!
```

Then you'll need to pass the `C<nocase>` option in order to recognize "Name":

```
$parser->get_short_title(nocase => 1);
```

If the title can't be found, then `get_short_title` returns empty-string (`""`).

```
=item $author_name = $parser->get_author
```

This works like `get_title` except that it returns the contents of the "`=head1 AUTHOR\n\nParagraph...\n`" section, assuming that that section isn't terribly long. To recognize a "`=head1 Author\n\nParagraph\n`" section, pass the `C<nocase>` option:

```
$parser->get_author(nocase => 1);
```

(This method tolerates "AUTHORS" instead of "AUTHOR" too.)

```
=item $description_name = $parser->get_description
```

This works like `get_title` except that it returns the contents of the "`=head1 DESCRIPTION\n\nParagraph...\n`" section, assuming that that section isn't terribly long. To recognize a "`=head1 Description\n\nParagraph\n`" section, pass the `C<nocase>` option:

```
$parser->get_description(nocase => 1);
```

```
=item $version_block = $parser->get_version
```

This works like `get_title` except that it returns the contents of the "`=head1 VERSION\n\n[BIG BLOCK]\n`" block. Note that this does NOT return the module's `C<$VERSION>!!` To recognize a "`=head1 Version\n\n[BIG BLOCK]\n`" section, pass the `C<nocase>` option:

```
$parser->get_version(nocase => 1);
```

```
=back
```

```
=head1 NOTE
```

You don't actually *have* to define a `C<run>` method. If you're writing a Pod-formatter class, you should define a `C<run>` just so that users can call `C<parse_file>` etc, but you don't *have* to.

And if you're not writing a formatter class, but are instead just writing a program that does something simple with a `Pod::PullParser` object (and not an object of a subclass), then there's no reason to bother subclassing to add a `C<run>` method.

```
=head1 SEE ALSO
```

```
L<Pod::Simple>
```

```
L<Pod::Simple::PullParserToken> -- and its subclasses
```

```
L<Pod::Simple::PullParserStartToken>,
```

```
L<Pod::Simple::PullParserTextToken>, and
```

```
L<Pod::Simple::PullParserEndToken>.
```

```
L<HTML::TokeParser>, which inspired this.
```

```
=head1 SUPPORT
```

```
Questions
```

or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

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Randal C<allison@perl.org>

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=back

=cut

JUNK:

```
sub _old_get_title { # some witchery in here
    my $self = $_[0];
    my $title;
    my @to_unget;
```

```

while(1) {
  push @to_unget, $self->get_token;
  unless(defined $to_unget[-1]) { # whoops, short doc!
    pop @to_unget;
    last;
  }

  DEBUG and print "-Got token ", $to_unget[-1]->dump, "\n";

  (DEBUG and print "Too much in the buffer.\n"),
  last if @to_unget > 25; # sanity

  my $pattern = "";
  if( # $to_unget[-1]->type eq 'end'
    #and $to_unget[-1]->tagname eq 'Para'
    #and
    ($pattern = join(
      map {
        ($->type eq 'start') ? ("<" . $->tagname . ">")
        : ($->type eq 'end' ) ? ("</" . $->tagname . ">")
        : ($->type eq 'text' ) ? ($->text =~ m<^[A-Z]+>$>s ? $1 : 'X')
        : "BLORP"
      } @to_unget
    )) =~ m{<head1>NAME</head1><Para>(X|</?[BCIFLS]>)+</Para>}s
  ) {
    # Whee, it fits the pattern
    DEBUG and print "Seems to match =head1 NAME pattern.\n";
    $title = "";
    foreach my $t (reverse @to_unget) {
      last if $t->type eq 'start' and $t->tagname eq 'Para';
      $title = $t->text . $title if $t->type eq 'text';
    }
    undef $title if $title =~ m<^\s*$>; # make sure it's contentful!
    last;

  } elsif ($pattern =~ m{<head(\d)>(.)</head\d>}
    and !( $1 eq '1' and $2 eq 'NAME' )
  ) {
    # Well, it fits a fallback pattern
    DEBUG and print "Seems to match NAMEless pattern.\n";
    $title = "";
    foreach my $t (reverse @to_unget) {
      last if $t->type eq 'start' and $t->tagname =~ m/^head\d$/s;
      $title = $t->text . $title if $t->type eq 'text';
    }
    undef $title if $title =~ m<^\s*$>; # make sure it's contentful!
    last;
  }
}

```

```
} else {
  DEBUG and $pattern and print "Leading pattern: $pattern\n";
}
}
```

Put it all back:

```
$self->unget_token(@to_unget);
```

```
if(DEBUG) {
  if(defined $title) { print " Returning title <$title>\n" }
  else { print "Returning title <>\n" }
}
```

```
return " unless defined $title;
```

```
return $title;
```

```
}
```

Found in path(s):

```
* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-
WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-
3.28/lib/Pod/Simple/PullParser.pm
```

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

ChangeLog for Pod::Simple dist

#-----

2013-05-04 David E. Wheeler <david@justatheory.org>

* Release 3.28

Removed use of 'done_testing' in t/white.t, which was added in v3.27. Thanks to Paul Howarth for the catch.

Fixed improperly calculated number of skipped tests in t/html01.t when HTML::Entities is not intalled.

2013-05-03 David E. Wheeler <david@justatheory.org>

* Release 3.27

Added new warnings as defined by Pod::Checker, thanks to RJBS:

+ "=over" without "=back"

+ "L<>" starts or ends with whitespace

+ raw "|" or "/" in "L<text|link>" text

Added ->keep_encoding_directive, which is false by default, to prevent formatters from emitting a document's '=encoding' directive in most cases. That they emitted the encoding was a bug introduced in v3.26 (RT #84093). Now, only the DumpAsText and

DumpAsXML formats set it to true.

Patch from Patrice Dumas.

2013-02-27 David E. Wheeler <david@justatheory.org>

* Release 3.26

Fixed another test script to skip all tests when Encode is not installed.

Added 'encoding()' and 'detected_encoding()' to return the current encoding and the encoding actually to decode the input file. The value from "encoding" is also now kept in the output tree. Patch from Patrice Dumas (RT #74390).

2013-02-16 David E. Wheeler <david@justatheory.org>

* Release 3.25

Improved the warning when "item" types mismatch within one "over"/"back" block.

2013-02-14 David E. Wheeler <david@justatheory.org>

* Release 3.24

Fixed corner case bug for unlikely scenario in which non-UTF-8 text could be parsed as UTF-8. Grant McLean.

XHTML IDs can no longer end with punctuation. Thanks to Smylers for the patch.

Fixed test failure on Perl 5.6.2.

Changed the default installation location from "perl" to "site" on 5.12 and higher, since as of that version of Perl, dual-life modules no longer need to be installed in "perl" to replace in-core versions. Patch from tzccinct.

Fixed hash order dependency test failures on Perl 5.17. Thanks to Yves Orton for the patch.

Inlined the code that tries to guess a Pod file's encoding. This reduces the time Pod::Simple takes to build the core Perl documentation by 15-20%. Thanks to Dagfinn Ilmari Mannsker for the patch!

Added a warning when "item" types mismatch within one "over"/"back" block. Marc Green/Google Summer of Code, with assist from RJBS.

Fixed regression introduced in 3.22 in which "C<>" tags were incorrectly treated as verbatim text in table of contents items emitted by Pod::Simple::XHTML. Thanks to Randy Stauner for the report and to Thomas Sibley for the fix!

Loosened up the matching of "L<>" tags for man pages so that they allow names with dots, underscores, and any other characters other than "/", just so long as they end in '([[-a-zA-Z0-9]+)]'. Thanks to Dave Rolsky and Kevin Ryde for the reports (RT #82975 & RT #82972).

Fixed inverted mapping of "keyboard" to "kbd" in Pod::Simple::HTML. Thanks to Robert Boisvert for the bug report (RT #79201).

Added two new Tagmap entries to Pod::Simple::HTML: "preformat" maps to "pre", and "teletype" maps to "tt". Suggested by Robert Boisvert (RT #79201).

"X<>" tags are now ignored by the pull parser when it searches for titles, as is any trailing whitespace. Thanks to Patrice Dumas for the report (RT #74389).

2012-08-14 David E. Wheeler <david@justatheory.org>
* Release 3.23

Eliminated nested elements in table of contents (index) items output of Pod::Simple::XHTML. This was especially problematic for headers that included links, as the TOC then got nested anchor elements, which simply would not work. Thanks to Ben Bullock for the report and test case (RT #77686).

Fixed semantically invalid nested XHTML generated by Pod::Simple::XHTML since v3.21. Gisle Aas.

Improved support for nested "C<>" tags in Pod::Simple::XHTML.
Gisle Aas.

No longer tries to decode a string with the "utf8" flag set, as the double-decoding only triggered an error. Grant McLean.

Added documentation note that the API expects encoded text (octets). Grant McLean.

Added "parse_characters()" option to specify that strings to are

already decoded from octets into characters. Grant McLean.

2012-05-27 David E. Wheeler <david@justatheory.org>

* Release 3.22

Fix but where Pod::Simple would whine about non-ASCII bytes in code or comments. Now only does so for Pod (in the absence of an "=encoding" tag. Broken in 3.21. Grant McLean.

2012-05-23 David E. Wheeler <david@justatheory.org>

* Release 3.21

NOTE: COMPATABILITY CHANGE: The 'codes_in_verbatim' option in Pod::Simple::XHTML is no longer enabled by default. This brings it agreement with the other formatting classes, and eliminates unexpected behavior in XHTML-formatted Pod. Users who depended on this functionality can still get it by enabling 'codes_in_verbatim' in their code.

Fixed some typos in the documentation. Thanks to Jonathan Yu via the Debian packagers via Florian Ragwitz (RT #75532).

Now emit a warning the first time a non-ASCII byte is encountered when no "=encoding" has been seen. Grant McLean.

When a non-ASCII byte is encountered before an "=encoding" line has been seen, a heuristic (as described in perlpodspec) is applied to select UTF-8 encoding if the non-ASCII bytes form a valid UTF-8 byte sequence, or Latin-1 otherwise. Grant McLean.

Added 'handle_code' method to Pod::Simple::XHTML. This allows subclasses to override the handling of verbatim blocks, and makes for a more cohesive interface, to boot. Gisle Aas.

Subsequent text segments are now joined together and passed as a single unit to text handling code. This makes it easier for custom handlers to process complete blocks of text in a single call to 'handle_text', rather than in dribs and drabs. Gisle Aas.

Replaced naive text wrapping code in Pod::Simple::DumpAsXML with Text::Wrap, which was already used for similar purposes elsewhere in Pod::Simple. Gisle Aas.

2012-03-01 David E. Wheeler <david@justatheory.org>

* Release 3.20

Removed use of 'done_testing' in t/xhtml15.t, which was added in v3.19. Thanks to Paul Howarth for the catch.

Fixed quoting of links in a regular expression Pod::Simple::Text. Reported by Father Chrysostomos.

Fix test failure on case-insensitive, non-case-preserving file systems (VMS I'm looking at *you*). Patch from Craig A. Berry.

Pod::Simple::HTML no longer emits "href=#__top" if a TOC (index) is not output. Patch from Rick Myers.

Fixed links in the TOC of XHTML output to use IDs derived from encoded text, rather than raw Pod, so that it will link to the ID actually generated for the section. Thanks to Randy Stauner for the report (with test case!) (RT #72544).

PullParser now throws an exception on an attempt to set a source more than once. Necessary because data from the previous source will be cached, so the new source would be ignored anyway. Create a new PullParser, instead. Thanks to Paul Boldra for the report (RT #74265).

2011-08-23 David E. Wheeler <david@justatheory.org>
* Release 3.19

Fixed occasional test failure when tests are run in parallel (HARNESS_OPTIONS=j6:c). Thanks to Alexei Znamensky for the report and Marc Green for the fix.

Added "pod_handler" option. This is a callback that can be used to inspect the content on a "=pod" line. Marc Green/Google Summer of Code.

Added tests for proper line-ending parsing from the previous release. The tests were in the repository, but didn't make it into the MANIFEST or, therefore, the release. Reported by Marc Green.

Added the "parse_empty_lists" option. When enabled, Pod::Simple will recognize empty lists (that is, a blocks with '=over' and '=back' but nothing in between). Disabled by default. Marc Green/Google Summer of Code.

Added the "whiteline_handler" attribute. It's much like "code_handler", "cut_handler", and "pod_handler", except it's triggered on lines that contain only whitespace characters. Marc

Green/Google Summer of Code.

Added "raw" attribute to L<> treelet that contains the L<>'s raw contents. Marc Green/Google Summer of Code.

Pod directives autoclosed by Pod::Simple are now denoted as such by the new "fake_closer" attribue. Marc Green/Google Summer of Code.

Fixed incompatibility with Pod::Simple::HTMLBatch in Pod::Simple::XHTML. Patch by Eric Johnson.

2011-07-16 David E. Wheeler <david@justatheory.org>
* Release 3.18

Pod::Simple now properly parses Pod files using Mac OS Classic line-endings (r). Marc Green/Google Summer of Code.

Fixed test failure in 't/search50.t when the test finds a .pod but the module is in a .pm. Thanks to the cpan-testers who reported this when the test searched for Capture::Tiny.

2011-07-09 David E. Wheeler <david@justatheory.org>
* Release 3.17

Documented
tertiary methods. Patch from Shawn H Corey.

Added "backlink" option to Pod::Simple::XHTML. Thanks to Marc Green/Google Summer of Code for the pull request.

Typos fixed in Pod::Simple::HTMLBatch. Reported by Shawn H Corey.

Fixed quoting of value returned by a "strip_verbatim_indent()" code reference so that regex meta characters are properly escaped.

Added "anchor_items" option to Pod::Simple::XHMTL. This allows text items (which are output as <dt> elements) to have IDs that can be referenced in the "#" part of a URL. Marc Green/Google Summer of Code.

Added "recurse" option to Pod::Simple::Search. It's enabled by default; disable it to turn off recursion into subdirectories. Marc Green/Google Summer of Code.

Added documentation to clarify the behavior of the "content_seen" method. Thanks to Olaf Alders for the pull request.

2011-03-14 David E. Wheeler <david@justatheory.org>

* Release 3.16

Fixed invalid HTML generated for nested lists by Pod::Simple::XHTML (Fitz Elliott).

Replaced the invalid "<nobr>" tag -- created for "S<>" -- with '' (Fitz Elliott).

Fixed some nerbles in our own Pod (Michael Stevens)

Improved the "Minimal code" example in Pod::Simple::HTML. The key is to use `pase_file()`, not `parse_from_file()` (which should otherwise be undocumented, and is just there for Pod::Parser compatibility. Thanks to prodding from var Arnfjr Bjarmason (RT #65428).

Added the `html_charset()` and `html_encode_chars()` attributes to Pod::Simple::XHTML. Inspired by a bug report from Agent Zhang () (RT #29587).

Added "Minimal code" example to the Pod::Simple::XHTML documentation.

Fixed misspelling of the "`=encoding`" markup in the parser (it was spelled "`=encode`"). Thanks to "TTY" for the patch. (RT #24820).

2010-11-11 David E. Wheeler <david@justatheory.org>

* Release 3.15

Removed "perlpod.pod" and "perlpodspec.pod". These now just live in the Perl core.

Fixed stylesheet names output by HTMLBatch to match the names of the actual stylesheet files (broken in 3.09). Thanks to Kevin Ryde for the report (RT #56725).

Added missing closing slash to the CSS links in the XHTML output. Thanks to HarleyPig for the patch!

Added parens around bar "qw(...)" in t/xhtml05.t. Thanks to Jerry D. Hedden for the patch.

Improved the Pod::Simple::HTML docs. Thanks to Gabor Szabo for the patch.

Pod::Simple::XHTML now properly encodes entities in URLs in the

anchor tag. Thanks to John McNamara for the report (RT-60249).

Pod::Simple::HTML and XHTML now strip whitespace from the end of section names that appear as anchor names for headers (in HTML) and IDs (in XHTML). Such whitespace appeared when "X<>" entities were stripped out but not the space between them (RT-56572).

Make test "t/search50.t" always pass on case-insensitive file systems rather than just skip VMS.

2009-04-27

* Release 3.14

Removed explicit loading of UNIVERSAL. RJBS.

Reversed the change applied in release 3.09 to fix RT #12239. POD tag found inside a complex POD tag (e.g., "C<<< I<foo> >>>") is again parsed as a tag embedded in a tag instead of text and entities. The previous interpretation of `perldoc perlpod` was mistaken. (RT #55602 from Christopher J. Madsen).

2009-12-17 David E. Wheeler <david@justatheory.org>

* Release 3.13

Removed deleted test file from MANIFEST.

2009-12-17 David E. Wheeler <david@justatheory.org>

* Release 3.12

Removed "All rights reserved" from all files.

Added acknowledgements to man.he.net and search.cpan.org for permission to link man pages and Perl module links to their sites in the output of Pod::Simple::HTML and Pod::Simple::XHTML.

Add "html_h_level" option to Pod::Simple::XHTML and ::HTML to allow a =head1 to become an <h2> and so on. RJBS.

Add batch_mode_page_object_init() method to Pod::Simple::XHTML. This allows it to be used by Pod::Simple::HTMLBatch.

Fixed a regression in Pod::Simple::XHTML where '=begin html' blocks were incorrectly escaped rather than simply passed through unmolested. RJBS.

Removed the undocumented "fullstop_space_harden" attribute, which

apparently was only used by Pod::Text a very long time ago.

2009-12-09 David E. Wheeler <david@justatheory.org>

* Release 3.11

Restored code to HTMLBatch that allows the TOC (index) to be created in batch jobs (RT #52324 from Martin J. Evans).

Added resources to META.yml, including bug tracker, license, and repository.

Turned man page links into links to man.he.net in Pod::Simple::HTML and Pod::Simple::XHTML output. Subclass and override resolve_man_page_link() to use a different URL.

Added the resolve_pod_page_link() and resolve_man_page_link() methods to Pod::Simple::XHTML to make it easier for subclasses to change the URLs created for POD and man page links.

Fixed the output of entities in L<> tags by Pod::Simple::XHTML.

Fixed the output of POD links from Pod::Simple::XHTML so that the section part

(/foo) is turned into a proper fragment identifier (#foo)

in the resulting search.cpan.org link.

Pod::Simple::Text now outputs URLs for links created in the L<text|URL> format. For example, L<Perl|http://perl.org> is now output as "Perl <http://perl.org>" rather than just as "Perl".

Updated perlpod.pod and perlpodspec.pod to sync up with Perl core (and to be released in Perl 5.12). Changes include:

- * Removing the prohibition against L<text|href>
- * Deprecation of L<section> and L<"section">
- * Legalization of "=begin formatname parameter"

A couple of bug fixes in Pod::Simple::HTML from Graham Barr.

Added the do_section() method to Pod::Simple::HTML. Graham Barr.

Word-smithed the "DESCRIPTION" a bit and wrote the README.

Synced up all module version numbers to 3.11 except for Pod::Simple::HTMLLegacy, which is at 5.01 and should not have its version number lowered.

2009-11-12 David E. Wheeler <david@justatheory.org>

* Release 3.10

Converted test files that had
DOS endings to have Unix endings
(RT #50922 from Steve Hay).

Skip tests on VMS where the lack of filename case preservation can
wreak havoc (RT #51184 from Craig A. Berry).

Fix nested definition list format in the XHTML output
(RT #51187 from Lars D).

Added some files missing from the MANIFEST (and therefore the
distribution) in the last two releases.

2009-10-27 Allison Randal <allison@perl.org>

* Release 3.09

Add support for an index (TOC) in the XHTML output from David E.
Wheeler.

Add strip_verbatim_indent() from David E. Wheeler.

Added the "nocase" option to PullParser's get_title(),
get_version(), get_description(), and get_author() methods. This
allows one to fetch the contents of those sections regardless of
the case of the labels (e.g., "NAME" and "Name" and "name" are all
valid). Graham Barr.

Added the search_class() accessor to Pod::Simple::HTMLBatch.
David E. Wheeler.

XHTML output now properly encodes entities in all places, not
just
in verbatim blocks and code spans. David E. Wheeler.

Fixed XHTML to output definition lists when it should, rather than
(broken) unordered lists. David E. Wheeler.

Fixed XHTML so that multiparagraph list items work correctly.
David E. Wheeler.

Fixed XHTML ordered list output so that it does not include the
number specified in the POD in the output. This is on a par with
out the HTML output works. David E. Wheeler.

Applied URL patch from Leon Brocard for The Perl Journal archives.

Fixed test failures with older versions of HTML::Entities (RT #43903

from Salvador Tercia).

Changed CSS files generated by HTMLBatch to be no more than 8.3 characters long. (RT #40450 from Renee Baecker)

Added entity handling for E<sol> and E<verbar> to Pod::Simple::XHTML. (RT #49615 from Chas Owens.)

Fixed a bug in Pod::Simple::HTML where a definition term item with no corresponding definition item would be output with no closing </dt>. (RT # 37107 from Kevin Ryde).

Added entity handling for numeric entities to Pod::Simple::XHTML, following perlpod specification.

A POD tag found inside a complex POD tag (e.g., "C<<< C<foo> >>>") is now properly parsed as text and entities instead of a tag embedded in a tag. This is in compliance with `perldoc perlpod` (RT #12239 from Michael Schwern).

Thanks to David E. Wheeler for applying patches, resolving bugs, and generally getting ready for the release.

2009-07-16 Allison Randal <allison@perl.org>
* Release 3.08

Fix installdirs for Perl versions where Pod::Simple was core; RT#36446 & RT#39709, thanks to Jerry Hedden.

Fix encoding handling for code in paragraphs; RT#45829, thanks to David Wheeler.

2008-06-04 Allison Randal <allison@perl.org>
* Release 3.07

Fix module dependencies, make HTML::Entities optional and require Test::More.

2008-06-03 Allison Randal <allison@perl.org>
* Release 3.06

Fix bugs related to passing \$! to File::Spec, reported by Andrew Hamlin and John McNamara.

Applied a suggested fix from Kevin Ryde to return a successful exit code when Pod::Simple::HTML is run from the command line.

Fix handling of complex L<URL> entries, thanks to tests supplied in RT#4896.

Fix incorrect handling of S<> entries made up of entirely whitespace, thanks to test case from Andreas Koenig.

Launch Pod::Simple::XHTML, an XHTML compliant, more easily extensible HTML formatter.

Add feature to parse additional text after =begin target as a block title, requested by Adam Kennedy.

Thanks to Hans Dieter Pearcey for applying patches, resolving bugs, and generally getting ready for the release.

2007-03-03 Allison Randal <allison@perl.org>

* Release 3.05

Standardized all test files on 8.3 naming scheme for Perl core.

Applied test patches from Jerry Hedden for Perl core when Encode not installed.

Applied test patch from Ken Williams for 5.005_04 compatibility.

Applied a patch from Christopher Madsen to fix architecture directory searches on Gentoo.

Fixed

a failing search test on Debian-based distributions caused by Debian stripping Pod documentation out of core modules. (Three cheers to the CPAN testers and James Ponza for sending enough reports that I could work out the pattern.)

2006-01-18 Allison Randal <allison@perl.org>

* Release 3.04

Applied test patches for Perl core integration from Steve Peters.

Added a 'reinit' method to Pod::Simple::BlackBox for Russ Allbery so Pod::Man can provide backward compatibility to existing users (such as Module::Build and ExtUtils::MakeMaker).

Applied patch for extracting case-preserved package names on VMS from Craig Berry.

2005-11-21 Allison Randal <allison@perl.org>

* Release 3.03

Applied whitespace patches for Pod::Man and Pod::Text from Russ Allbery.

Applied validation patches to Pod::Simple::HTML from Graham Barr.

2004-05-24 Sean M. Burke <sburke@cpan.org>
* Release 3.02

Just fixing some typos in the CSS generated by Pod::Simple::HTMLBatch.

2004-05-24
Sean M. Burke <sburke@cpan.org>
* Release 3.01

No big changes to the main modules, but there's many changes to the important Pod::Simple::HTML module.

Also, new modules:
Pod::Simple::HTMLBatch
Pod::Simple::HTMLLegacy
Pod::Simple::Progress
Pod::Simple::Search
and tests for these (well, most).

Some prettying up of the Makefile.PL.

The test 00about.t is a bit more careful and verbose now.

The docs are still incomplete, esp. for Pod::Simple::HTML and Pod::Simple::HTMLBatch, which I hope to improve quite soon.

2004-05-07 Sean M. Burke <sburke@cpan.org>
* Release 2.06

Allison Randal brilliantly refactors a huge monolithic sub in Blackbox.pm. Code is now actually sanely readable!

I add the new option-attributes fullstop_space_harden and codes_in_verbatim, and the two methods abandon_output_string and abandon_output_fh. Not yet documented.

New test fullstop_spaces.t and new corpus document greek_iso_8859_7.pod.

Another version should

be forthcoming in a few days that has the
new Pod::Simple::HTML stuff in it.

Note to self: document =extend and =encoding in perlpodspec ASAP!

2003-11-04 Sean M. Burke <sburke@cpan.org>

* Release 2.05 -- bugfix version

In an attempt to stop Perl 5.6 versions from going completely
crazy, I've tried to basically turn off all Unicode/utf8 support
under 5.6. Under 5.8 and above, Unicode should work fine, and
under 5.6, all Unicode characters should be replaced with a little
"can't render" symbol, either a "" or a "?".

Many many thanks to Jarkko Hietaniemi for helping out.

(Works under 5.005 now too?)

2003-10-10 Sean M. Burke <sburke@cpan.org>

* Release 2.04 -- minor bugfix version

* Added some code to insulate Pod::Simple to runtime changes in
the value of \$/. Thanks to Iain Truskett for catching this.

* Added FILENO method to TiedOutFH.pm, to work quietly under some
perls. Thanks to Jochen Stenzel for catching this.

* Fixed some tests that erroneously failed
under some 5.6's

because of chdir()s in *.t files messing up @INC Thanks to many
who caught this, including Rocco Caputo.

2003-09-07 Sean M. Burke <sburke@cpan.org>

* Release 2.03 -- minor upgrade

* A =head[1234] command now closes any currently open =over, and
warns.

* Fixing a few obscure bugs, including one to do with the
Makefile.

* Added some tests for those bugs.

2003-09-02 Sean M. Burke <sburke@cpan.org>

* Release 2.02 -- fixing a testing bug

* Autrijus Tang found a silly bug of mine in corpustest.t's
testing of corpus/t/nonesuch.txt. Fixed,

* I add encoding_nonesuch.t to test corpus/t/nonesuch.txt better.

2003-09-01 Sean M. Burke <sburke@cpan.org>

* Release 2.01

* Moved all version numbers up to 2.01 for reasons of Tibetan

numerology.

* Implemented =encoding. Thanks a million to Jarkko, Autrijus, Dan Kogai, and many others for their help, patience, and encouragement.

It's not yet documented, but see `./t/corpus/*.txt` for examples at least.

*

Added 'use utf8' to all the modules. Byebye perl-5.005 compatibility, hello decent perl-5.6 compatibility.

2003-09-01 Sean M. Burke <sburke@cpan.org>

* Release 0.98

* At Michael Schwern's suggestion, a list that begins with a "=item [number]" line where number isn't a 1, is no longer treated as an error, but instead is silently coerced into being a text-item list, just as if it were "=item wubble" or whatever.

2003-08-12 Sean M. Burke <sburke@cpan.org>

* Release 0.97

* Looking goooooood. Not smelling so much like beta anymore!

* I think this might be the last version before I go putting "use utf8" all over the place.

* Added placeholders for "=encoding" support. If you use "=encoding", you'll get an error about "not yet implemented" instead of "unknown directive".

* Rewrote Pod::Simple::PullParser's `get_title`, and added `get_version`, `get_author`, and `get_description`. Documented them. Thanks to Graham Barr for contributing an initial `get_title` and then being patient while I seemed to do nothing with it for months on end!

* More tests.

Otherwise just minor changes since last version:

* Fixed error in Pod::Simple::RTF.

* Added new but undocumented methods to Pod::Simple:

`unaccept_directive(s)` `unaccept_target(s)` `unaccept_code(s)`

* Corrected '=back without =open' error to '=back without =over'

* A little tweaking to the `_verbatim_format` code.

* Dump routines may use `\x{NN}` instead of `\xNN` format.

- * Pod::Simple::HTML now uses VerbatimFormatted
- * A few changes of DEBUG messages -- nothing you'd normally see.

2002-11-19 Sean M. Burke <sburke@cpan.org>

- * Release 0.96
- * Still kinda sorta beta.

* Much much more docs in this version. Only a few feature changes:

- * Added any_errata_seen to Pod::Simple. Should've been in there ages ago. Oops!
- * Fixed some errors in the experimental VerbatimFormatted code.
- * Added is_tagname / is_tag to Pod::Simple::PullParserStartToken and Pod::Simple::PullParserEndToken
- * Added RTFDEFLANG stuff to Pod::Simple::RTF.

2002-11-10 Sean M. Burke <sburke@cpan.org>

- * Release 0.95
- * Beta release. Much documentation still to write, many features still to add. The APIs might change in future versions.
- * Now including perlpod and perlpodspec in the dist.

- * Pod::Simple -- added parse_from_file
- * Pod::Simple::RTF -- minor style changes, and minor change to the RTF-wrapping logic.
- * Pod::Simple::BlackBox -- a =cut opening a block is no longer a fatal(ish) error.
- * Pod::Simple::BlackBox -- added experimental new VerbatimFormatted stuff.

2002-10-16 Sean M. Burke <sburke@cpan.org>

- * Release 0.94
- * Beta release. Much documentation still to write, many features still to add. The APIs might change in future versions.
- * Pod::Simple::RTF -- minor style tweaks
- * Pod::Simple::PullParserEndToken and ::PullParserStartToken -- added ->tag as an alias for ->tagname.
- *
- Pod::Simple and Pod::Simple::BlackBox -- added tolerance for "=item * Foo" as a variant syntax for "=item *\n\nFoo". Tests added/changed accordingly.
- * Pod::Simple::HTML -- added stuff, and a hack at doing something with X<...>'s.

2002-09-29 Sean M. Burke <sburke@cpan.org>

* Release 0.93

* Beta release. Much documentation still to write, many features still to add. The APIs might change in future versions.

* Pod::Simple -- added errors_seen attribute

* Pod::Simple::HTML -- added support for =for HTML ... directives, and =extend directives.

* Oh, and I added Pod::Simple::RTF in 0.92 but forgot to note it until now.

2002-09-29 Sean M. Burke <sburke@cpan.org>

* Release 0.92

* Beta release. Much documentation still to write, many features still to add. The APIs might change in future versions.

* Fixing bungled distribution.

2002-09-29 Sean M. Burke <sburke@cpan.org>

* Release 0.91

* Beta release. Much documentation still to write, many features still to add. The APIs might change in future versions.

* Pod::Simple::PullParserTextToken -- added 'text_r'

* Pod::Simple::PullParser -- added 'get_title' and 'get_title_short' to

* Pod::Simple -- corrected wording of "Format for second =extend parameter" error message.

* Pod::PullParser -- made its filter() run as intended, like Pod::Simple's filter.

* Pod::Subclassing -- more docs

2002-09-11 Sean M. Burke <sburke@cpan.org>

* Release 0.90

* Beta release. Much documentation still to write, many features still to add. The APIs might change in future versions.

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/ChangeLog

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

=head1 NAME

Pod::Simple::XMLOutputStream -- turn Pod into XML

=head1 SYNOPSIS

```
perl -MPod::Simple::XMLOutputStream -e \  
"exit Pod::Simple::XMLOutputStream->filter(shift)->any_errata_seen" \  
thingy.pod
```

=head1 DESCRIPTION

Pod::Simple::XMLOutputStream is a subclass of L<Pod::Simple> that parses Pod and turns it into XML.

Pod::Simple::XMLOutputStream inherits methods from L<Pod::Simple>.

=head1 SEE ALSO

L<Pod::Simple::DumpAsXML> is rather like this class; see its documentation for a discussion of the differences.

L<Pod::Simple>, L<Pod::Simple::DumpAsXML>, L<Pod::SAX>

L<Pod::Simple::Subclassing>

The older (and possibly obsolete) libraries L<Pod::PXML>, L<Pod::XML>

=head1 ABOUT EXTENDING POD

TODO: An example or two of =extend, then point to Pod::Simple::Subclassing

=head1 ASK ME!

If you actually want to use Pod as a format that you want to render to XML (particularly if to an XML instance with more elements than normal Pod has), please email me (C<sburke@cpan.org>) and I'll probably have some recommendations.

For reasons of concision and energetic laziness, some methods and options in this module (and the dozen modules it depends on) are

undocumented; but one of those undocumented bits might be just what you're looking for.

=head1 SEE ALSO

L<Pod::Simple>, L<Pod::Simple::Text>, L<Pod::Spell>

=head1 SUPPORT

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

This module is managed in an open GitHub repository, L<<https://github.com/theory/pod-simple/>>. Feel free to fork and contribute, or to clone L<[git://github.com/theory/pod-simple.git](https://github.com/theory/pod-simple.git)> and send patches!

Patches against Pod::Simple are welcome. Please send bug reports to <bug-pod-simple@rt.cpan.org>.

=head1 COPYRIGHT AND DISCLAIMERS

Copyright (c) 2002-2004 Sean M. Burke.

This library is free software; you can redistribute it and/or modify it under the same terms as Perl itself.

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.

=head1 AUTHOR

Pod::Simple was created by Sean M. Burke <sburke@cpan.org>. But don't bother him, he's retired.

Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

=cut

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/lib/Pod/Simple/XMLOutputStream.pm

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=head1 NAME

Pod::Simple::PullParserTextToken -- text-tokens from Pod::Simple::PullParser

=head1 SYNOPSIS

(See L<Pod::Simple::PullParser>)

=head1 DESCRIPTION

When you do `$parser->get_token` on a L<Pod::Simple::PullParser>, you might get an object of this class.

This is a subclass of L<Pod::Simple::PullParserToken> and inherits all its methods, and adds these methods:

=over

=item `$token->text`

This returns the text that this token holds. For example, parsing `CZ<><foo>` will return a C start-token, a text-token, and a C end-token. And if you want to get the "foo" out of the text-token, call `C<< $token->text >>`

=item `$token->text(I<somestring>)`

This changes the string that this token holds. You probably won't need to do this.

=item `$token->text_r()`

This returns a scalar reference to the string that this token holds. This can be useful if you don't want to memory-copy the potentially large text value (well, as large as a paragraph or a verbatim block) as calling `$token->text` would do.

Or, if you want to alter the value, you can even do things like this:

```
for ( ${ $token->text_r } ) { # Aliases it with $_ !!
```

```
s/ The / the /g; # just for example
```

```
if( 'A' eq chr(65) ) { # (if in an ASCII world)
    tr/\xA0/ /;
    tr/\xAD//d;
}
```

```
...or however you want to alter the value...
```

```
}
```

```
=back
```

You're unlikely to ever need to construct an object of this class for yourself, but if you want to, call

```
C<<
```

```
Pod::Simple::PullParserTextToken->new( I<text> )
```

```
>>
```

```
=head1 SEE ALSO
```

L<Pod::Simple::PullParserToken>, L<Pod::Simple>, L<Pod::Simple::Subclassing>

```
=head1 SUPPORT
```

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

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Patches against Pod::Simple are welcome. Please send bug reports to <bug-pod-simple@rt.cpan.org>.

```
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```

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=back

=cut

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

=head1 SEE ALSO

L<Pod::Simple>, L<Pod::Simple::Text>, L<Pod::Spell>

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=head1

ACKNOWLEDGEMENTS

Thanks to L<Hurricane Electric|<http://he.net/>> for permission to use its L<Linux man pages online|<http://man.he.net/>> site for man page links.

Thanks to L<search.cpan.org|<http://search.cpan.org/>> for permission to use the site for Perl module links.

=head1 AUTHOR

Pod::Simple::XHTML was created by Allison Randal <allison@perl.org>.

Pod::Simple was created by Sean M. Burke <sburke@cpan.org>.

But don't bother him, he's retired.

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NAME

perlfqa3 - Programming Tools (\$Revision: 1.38 \$, \$Date: 1999/05/23 16:08:30 \$)

DESCRIPTION

This section of the FAQ answers questions related to programmer tools and programming support.

How do I do (anything)?

Have you looked at CPAN (see perlfqa2)? The chances are that someone has already written a module that can solve your problem. Have you read the appropriate man pages? Here's a brief index:

Basics perldata, perlvar, perlsyn, perlop, perlsub
 Execution perlrun, perldebug
 Functions perlfunc
 Objects perlref, perlmod, perlobj, perltie
 Data Structures perlref, perllo, perldsc
 Modules perlmod, perlmodlib, perlsub
 Regexes perlre, perlfunc, perlop, perllocale
 Moving to perl5 perltrap, perl
 Linking w/C perlxs, perlcalls, perlguts, perlembed
 Various <http://www.perl.com/CPAN/doc/FMTEYEWTK/index.html>
 (not a man-page but still useful)

A crude table of contents for the Perl man page set is found in perltoc.

How can I use Perl interactively?

The typical approach uses the Perl debugger, described in the perldebug(1) man page, on an ``empty" program, like this:

```
perl -de 42
```

Now just type in any legal Perl code, and it will be immediately evaluated. You can also examine the symbol table, get stack backtraces, check variable values, set breakpoints, and other operations typically found in symbolic debuggers.

Is there a Perl shell?

In general, no. The Shell.pm module (distributed with Perl) makes Perl try commands which aren't part of the Perl language as shell commands. perlsh from the source distribution is simplistic and uninteresting, but may still be what you want.

How do I debug my Perl programs?

Have you tried use warnings or used -w? They enable warnings to detect dubious practices.

Have you tried use strict? It prevents you from

using symbolic references, makes you predeclare any subroutines that you call as bare words, and (probably most importantly) forces you to predeclare your variables with my, our, or use vars.

Did you check the return values of each and every system call? The operating system (and thus Perl) tells you whether they worked, and if not why.

```
open(FH, "> /etc/cantwrite")  
  or die "Couldn't write to /etc/cantwrite: $!\n";
```

Did you read perltrap? It's full of gotchas for old and new Perl programmers and even has sections for those of you who are upgrading from languages like awk and C.

Have you tried the Perl debugger, described in perldebug? You can step through your program and see what it's doing and thus work out why what it's doing isn't what it should be doing.

How do I profile my Perl programs?

You should get the Devel::DProf module from the standard distribution (or separately on CPAN) and also use Benchmark.pm from the standard distribution. The Benchmark module lets you time specific portions of your code, while Devel::DProf gives detailed breakdowns of where your code spends its time.

Here's a sample use of Benchmark:

```
use Benchmark;  
@junk = `cat /etc/motd`;  
$count = 10_000;  
timethese($count, {  
  'map' => sub { my @a = @junk;  
              map { s/a/b/ } @a;  
              return @a
```

```

    },
    'for' => sub { my @a = @junk;
                  local $_;
                  for (@a) { s/a/b/ };
                  return @a },
    });

```

This is what it prints (on one machine--your results will be dependent on your hardware, operating system, and the load on your machine):

```

Benchmark: timing 10000 iterations of for, map...
  for: 4 secs ( 3.97 usr 0.01 sys = 3.98 cpu)
  map: 6 secs ( 4.97 usr 0.00 sys = 4.97 cpu)

```

Be aware that a good benchmark is very hard to write. It only tests the data you give it and proves little about the differing complexities of contrasting algorithms.

How do I cross-reference my Perl programs?

The B::Xref module, shipped with the new, alpha-release Perl compiler (not the general distribution prior to the 5.005 release), can be used to generate cross-reference reports for Perl programs.

```
perl -MO=Xref[,OPTIONS] scriptname.plx
```

Is there a pretty-printer (formatter) for Perl?

There is no program that will reformat Perl as much as indent(1) does for C. The complex feedback between the scanner and the parser (this feedback is what confuses the vgrind and emacs programs) makes it challenging at best to write a stand-alone Perl parser.

Of course, if you simply follow the guidelines in perlstyle, you shouldn't need to reformat. The habit of formatting your code as you write it will help prevent bugs. Your editor can and should help you with this. The perl-mode or newer cperl-mode for emacs can provide remarkable amounts of help with most (but not all) code, and even less programmable editors can provide

significant assistance. Tom swears by the following settings in vi and its clones:

```

set ai sw=4
map! ^O {^M}^[O^T

```

Now put that in your .exrc file (replacing the caret characters with control characters) and away you go. In insert mode, ^T is for indenting, ^D is for unindenting, and ^O is for blockdenting-- as it were. If you haven't used the last one, you're missing a lot. A more complete example, with comments, can be found at <http://www.perl.com/CPAN-local/authors/id/TOMC/scripts/toms.exrc.gz>

If you are used to using the vgrind program for printing out nice code to a laser printer, you can take a stab at this using <http://www.perl.com/CPAN/doc/misc/tips/working.vgrind.entry>, but the results are not particularly satisfying for sophisticated code.

The a2ps at <http://www.infres.enst.fr/%7Edemaille/a2ps/> does lots of things related to generating nicely printed output of documents.

Is there a ctags for Perl?

There's a simple one at <http://www.perl.com/CPAN/authors/id/TOMC/scripts/ptags.gz> which may do the trick. And if not, it's easy to hack into what you want.

Is there an IDE or Windows Perl Editor?

Perl programs are just plain text, so any editor will do.

If you're on Unix, you already have an IDE--Unix itself. The UNIX philosophy is the philosophy of several small tools that each do one thing and do it well. It's like a carpenter's toolbox.

If you want a Windows IDE, check the following:

CodeMagicCD

<http://www.codemagiccd.com/>

Komodo

ActiveState's cross-platform, multi-language IDE has Perl support, including a regular expression debugger and remote debugging (<http://www.ActiveState.com/Products/Komodo/index.html>). (Visual Perl, a Visual Studio.NET plug-in is currently (early 2001) in beta (<http://www.ActiveState.com/Products/VisualPerl/index.html>)).

The Object System

(http://www.castlelink.co.uk/object_system/) is a Perl web applications development IDE.

PerlBuilder

(<http://www.solutionsoft.com/perl.htm>) is an integrated development environment for Windows that supports Perl development.

Perl code magic

(<http://www.petes-place.com/codemagic.html>).

visiPerl+

<http://helpconsulting.net/visiperl/>, from Help Consulting.

For editors: if you're on Unix you probably have vi or a vi clone already, and possibly an emacs too, so you may not need to download anything. In any emacs the cperl-mode (M-x cperl-mode) gives you perhaps the best available Perl editing mode in any editor.

For Windows editors: you can download an Emacs

GNU Emacs

<http://www.gnu.org/software/emacs/windows/ntemacs.html>

MicroEMACS

<http://members.nbc.com/uemacs/>

XEmacs

<http://www.xemacs.org/Download/index.html>

or a vi clone such as

Elvis

<ftp://ftp.cs.pdx.edu/pub/elvis/> <http://www.fh-wedel.de/elvis/>

Vile

<http://vile.cx/>

Vim

<http://www.vim.org/>

win32: <http://www.cs.vu.nl/%7Etmgil/vi.html>

For vi lovers in general, Windows or elsewhere: <http://www.thomer.com/thomer/vi/vi.html>.

nvi (<http://www.bostic.com/vi/>, available from CPAN in src/misc/) is yet another vi clone, unfortunately not available for Windows, but in UNIX platforms you might be interested in trying it out, firstly because strictly speaking it is not a vi clone, it is the real vi, or the new incarnation of it, and secondly because you can embed Perl inside it to use Perl as the scripting language. nvi is not alone in this, though: at least also vim and vile offer an embedded Perl.

The following are Win32 multilanguage editor/IDESs that support Perl:

Codewright

<http://www.starbase.com/>

MultiEdit

<http://www.MultiEdit.com/>

SlickEdit

<http://www.slickedit.com/>

There is also a toyedit Text widget based editor written in Perl that is distributed with the Tk module on CPAN. The ptkdb (<http://world.std.com/~aep/ptkdb/>) is a Perl/tk based debugger that acts as a development environment of sorts. Perl Composer (<http://perlcomposer.sourceforge.net/vperl.html>) is an IDE for Perl/Tk GUI creation.

In addition to an editor/IDE you might be interested in a more powerful shell environment for Win32. Your options

include

Bash

from

the Cygwin package (<http://sources.redhat.com/cygwin/>)

Ksh

from the MKS Toolkit (<http://www.mks.com/>), or the Bourne shell of the U/WIN environment

(<http://www.research.att.com/sw/tools/uwin/>)

Tcsh

<ftp://ftp.astron.com/pub/tcsh/>, see also <http://www.primite.wisc.edu/software/csh-tcsh-book/>

Zsh

<ftp://ftp.blarg.net/users/amol/zsh/>, see also <http://www.zsh.org/>

MKS and U/WIN are commercial (U/WIN is free for educational and research purposes), Cygwin is covered by the GNU Public License (but that shouldn't matter for Perl use). The Cygwin, MKS, and U/WIN all contain (in addition to the shells) a comprehensive set of standard UNIX toolkit utilities.

If you're transferring text files between Unix and Windows using FTP be sure to transfer them in ASCII mode so the ends of lines are appropriately converted.

On Mac OS the MacPerl Application comes with a simple 32k text editor that behaves like a rudimentary IDE. In contrast to the MacPerl Application the MPW Perl tool can make use of the MPW Shell itself as an editor (with no 32k limit).

BBEdit and BBEdit Lite

are text editors for Mac OS that have a Perl sensitivity mode (<http://web.barebones.com/>).

Alpha

is an editor, written and extensible in Tcl, that nonetheless has built in support for several popular markup and programming languages including Perl and HTML (<http://alpha.olm.net/>).

Pepper and Pe are programming language sensitive text editors for Mac OS X and BeOS respectively (<http://www.hekkelman.com/>).

Where can I get Perl macros for vi?

For a complete version of Tom Christiansen's vi configuration file, see

http://www.perl.com/CPAN/authors/Tom_Christiansen/scripts/toms.exrc.gz, the standard benchmark file for vi emulators. The file runs best with nvi, the current version of vi out of Berkeley, which incidentally can be built with an embedded Perl interpreter--see <http://www.perl.com/CPAN/src/misc>.

Where can I get perl-mode for emacs?

Since Emacs version 19 patchlevel 22 or so, there have been both a perl-mode.el

and support for the Perl debugger built in. These should come with the standard Emacs 19 distribution.

In the Perl source directory, you'll find a directory called "emacs", which contains a cperl-mode that color-codes keywords, provides context-sensitive help, and other nifty things.

Note that the perl-mode of emacs will have fits with "main'foo" (single quote), and mess up the indentation and highlighting. You are probably using "main::foo" in new Perl code anyway, so this shouldn't be an issue.

How can I use curses with Perl?

The Curses module from CPAN provides a dynamically loadable object module interface to a curses library. A small demo can be found at the directory http://www.perl.com/CPAN/authors/Tom_Christiansen/scripts/rep; this program repeats a command and updates the screen as needed, rendering rep ps axu similar to top.

How can I use X or Tk with Perl?

Tk is a completely Perl-based, object-oriented interface to the Tk toolkit that doesn't force you to use Tcl just to get at Tk. Sx is an interface to the Athena Widget set. Both are available from CPAN. See the directory

http://www.perl.com/CPAN/modules/by-category/08_User_Interfaces/

Invaluable for Perl/Tk programming are the Perl/Tk FAQ at <http://w4.lns.cornell.edu/%7Epvh/ptk/ptkTOC.html>,

the Perl/Tk Reference Guide available at http://www.perl.com/CPAN-local/authors/Stephen_O_Lidie/, and the

online manpages at <http://www-users.cs.umn.edu/~7Eamundson/perl/perlTk/toc.html> .

How can I generate simple menus without using CGI or Tk?

The <http://www.perl.com/CPAN/authors/id/SKUNZ/perlmenu.v4.0.tar.gz> module, which is curses-based, can help with this.

What is undump?

See the next question on ``How can I make my Perl program run faster?''

How can I make my Perl program run faster?

The best way to do this is to come up with a better algorithm. This can often make a dramatic difference. Jon Bentley's book ``Programming Pearls'' (that's not a misspelling!) has some good tips on optimization, too. Advice on benchmarking boils down to: benchmark and profile to make sure you're optimizing the right part, look for better algorithms instead of microtuning your code, and when all else fails consider just buying faster hardware.

A different approach is to autoload seldom-used Perl code. See the AutoSplit and AutoLoader modules in the standard distribution for that. Or you could locate the bottleneck and think about writing just that part in C, the way we used to take bottlenecks in C code and write them in assembler. Similar to rewriting in C, modules that have critical sections can be written in C (for instance, the PDL module from CPAN).

In some cases, it may be worth it to use the backend compiler to produce byte code (saving compilation time) or compile into C, which will certainly save compilation time and sometimes a small amount (but not much) execution time. See the question about compiling your Perl programs for more on the compiler--the wins aren't as obvious as you'd hope.

If

you're currently linking your perl executable to a shared libc.so, you can often gain a 10-25% performance benefit by rebuilding it to link with a static libc.a instead. This will make a bigger perl executable, but your Perl programs (and programmers) may thank you for it. See the INSTALL file in the source distribution for more information.

Unsubstantiated reports allege that Perl interpreters that use sfio outperform those that don't (for I/O intensive applications). To try this, see the INSTALL file in the source distribution, especially the ``Selecting File I/O mechanisms'' section.

The undump program was an old attempt to speed up your Perl program by storing the already-compiled form to disk. This is no longer a viable option, as it only worked on a few architectures, and wasn't a good solution anyway.

How can I make my Perl program take less memory?

When it comes to time-space tradeoffs, Perl nearly always prefers to throw memory at a problem. Scalars in Perl use more memory than

strings in C, arrays take more than that, and hashes use even more. While there's still a lot to be done, recent releases have been addressing these issues. For example, as of 5.004, duplicate hash keys are shared amongst all hashes using them, so require no reallocation.

In some cases, using substr() or vec() to simulate arrays can be highly beneficial. For example, an array of a thousand booleans will take at least 20,000 bytes of space, but it can be turned into one 125-byte bit vector--a considerable memory savings. The standard Tie::SubstrHash module can also help for certain types of data structure. If you're working with specialist data structures (matrices, for instance) modules that implement these in C may use less memory than equivalent Perl modules.

Another thing to try is learning whether your Perl was compiled with the system malloc or with Perl's builtin malloc. Whichever one it is, try using the other one and see whether this makes a difference. Information about malloc is in the INSTALL file in the source distribution. You can find out whether you are using perl's malloc by typing `perl -V:usemymalloc`.

Is it unsafe to return a pointer to local data?

No, Perl's garbage collection system takes care of this.

```
sub makeone {
    my @a = ( 1 .. 10 );
    return \@a;
```

```

}
for $i ( 1 .. 10 ) {
    push @many, makeone();
}
print $many[4][5], "\n";
print "@many\n";

```

How can I free an array or hash so my program shrinks?

You can't. On most operating systems, memory allocated to a program can never be returned to the system. That's why long-running programs sometimes re-exec themselves. Some operating systems (notably, FreeBSD and Linux) allegedly reclaim large chunks of memory that is no longer used, but it doesn't appear to happen with Perl (yet). The Mac appears to be the only platform that will reliably (albeit, slowly) return memory to the OS.

We've had reports that on Linux (Redhat 5.1) on Intel, `undef $scalar` will return memory to the system, while on Solaris 2.6 it won't. In general, try it yourself and see.

However, judicious use of `my()` on your variables will help make sure that they go out of scope so that Perl can free up that space for use in other parts of your program. A global variable, of course, never goes out of scope, so you can't get its space automatically reclaimed, although `undef()`ing and/or `delete()`ing it will achieve the same effect. In general, memory allocation and de-allocation isn't something you can or should be worrying about much in Perl, but even this capability (preallocation of data types) is in the works.

How can I make my CGI script more efficient?

Beyond the normal measures described to make general Perl programs faster or smaller, a CGI program has additional issues. It may be run several times per second. Given that each time it runs it will need to be re-compiled and will often allocate a megabyte or more of system memory, this can be a killer. Compiling into C isn't going to help you because the process start-up overhead is where the bottleneck is.

There are two popular ways to avoid this overhead. One solution involves running the Apache HTTP server (available from <http://www.apache.org/>) with either of the `mod_perl` or `mod_fastcgi` plugin modules.

With `mod_perl` and the `Apache::Registry` module (distributed with `mod_perl`), `httpd` will run with an embedded Perl interpreter which pre-compiled your script and then executes it within the same address space without forking. The Apache extension also gives Perl access to the internal server API, so modules written in Perl can do just about anything a module written in C can. For more on `mod_perl`, see <http://perl.apache.org/>

With the `FCGI` module (from CPAN) and the `mod_fastcgi` module (available from <http://www.fastcgi.com/>) each of your Perl programs becomes a permanent CGI daemon process.

Both of these solutions can have far-reaching effects on your system and on the way you write your CGI programs, so investigate them with care.

See http://www.perl.com/CPAN/modules/by-category/15_World_Wide_Web_HTML_HTTP_CGI/.

A non-free, commercial product, ``The Velocity Engine for Perl'', (<http://www.binevolve.com/> or <http://www.binevolve.com/velocigen/>) might also be worth looking at. It will allow you to increase the performance of your Perl programs, running programs up to 25 times faster than normal CGI Perl when running in persistent Perl mode or 4 to 5 times faster without any modification to your existing CGI programs. Fully functional evaluation copies are available from the web site.

How can I hide the source for my Perl program?

Delete it. :-) Seriously, there are a number of (mostly unsatisfactory) solutions with varying levels of ``security''. First of all, however, you can't take away read permission, because the source code has to be readable in order to be compiled and interpreted. (That doesn't mean that a CGI script's source is readable by people on the web, though-- only by people

with access to the filesystem.) So you have to leave the permissions at the socially friendly 0755 level.

Some people regard this as a security problem. If your program does insecure things and relies on people not knowing how to exploit those insecurities, it is not secure. It is often possible for someone to determine the insecure

things and exploit them without viewing the source. Security through obscurity, the name for hiding your bugs instead of fixing them, is little security indeed.

You can try using encryption via source filters (Filter::* from CPAN), but any decent programmer will be able to decrypt it. You can try using the byte code compiler and interpreter described below, but the curious might still be able to de-compile it. You can try using the native-code compiler described below, but crackers might be able to disassemble it. These pose varying degrees of difficulty to people wanting to get at your code, but none can definitively conceal it (true of every language, not just Perl).

If you're concerned about people profiting from your code, then the bottom line is that nothing but a restrictive license will give you legal security. License your software and pepper it with threatening statements like ``This is unpublished proprietary software of XYZ Corp. Your access to it does not give you permission to use it blah blah blah.'' We are not lawyers, of course, so you should see a lawyer if you want to be sure your license's wording will stand up in court.

How can I compile my Perl program into byte code or C?

Malcolm Beattie has written a multifunction backend compiler, available from CPAN, that can do both these things. It is included in the perl5.005 release, but is still considered experimental. This means it's fun to play with if you're a programmer but not really for people looking for turn-key solutions.

Merely compiling into C does not in and of itself guarantee that your code will run very much faster. That's because except for lucky cases where

a lot of native type inferencing is possible, the normal Perl run-time system is still present and so your program will take just as long to run and be just as big. Most programs save little more than compilation time, leaving execution no more than 10-30% faster. A few rare programs actually benefit significantly (even running several times faster), but this takes some tweaking of your code.

You'll probably be astonished to learn that the current version of the compiler generates a compiled form of your script whose executable is just as big as the original perl executable, and then some. That's because as currently written, all programs are prepared for a full eval() statement. You can tremendously reduce this cost by building a shared libperl.so library and linking against that. See the INSTALL podfile in the Perl source distribution for details. If you link your main perl binary with this, it will make it minuscule. For example, on one author's system, /usr/bin/perl is only 11k in size!

In general, the compiler will do nothing to make a Perl program smaller, faster, more portable, or more secure. In fact, it can make your situation worse. The executable will be bigger, your VM system may take longer to load the whole thing, the binary is fragile and hard to fix, and compilation never stopped software piracy in the form of crackers, viruses, or bootleggers. The real advantage of the compiler is merely packaging, and once you see the size of what it makes (well, unless you use a shared libperl.so), you'll probably want a complete Perl install anyway.

How can I compile Perl into Java?

You can also integrate Java and Perl with the Perl Resource Kit from O'Reilly and Associates. See <http://www.oreilly.com/catalog/prkunix/>.

Perl 5.6 comes with Java Perl Lingo, or JPL. JPL, still in development, allows Perl code to be called from Java. See [jpl/README](#) in the Perl source tree.

How can I get #!perl to work on [MS-DOS,NT,...]?

For OS/2 just use

```
extproc perl -S -your_switches
```

as

the first line in *.cmd file (-S due to a bug in cmd.exe's `extproc' handling). For DOS one should first invent a corresponding batch file and codify it in ALTERNATIVE_SHEBANG (see the INSTALL file in the source distribution for more information).

The Win95/NT installation, when using the ActiveState port of Perl, will modify the Registry to associate the .pl

extension with the perl interpreter. If you install another port, perhaps even building your own Win95/NT Perl from the standard sources by using a Windows port of gcc (e.g., with cygwin or mingw32), then you'll have to modify the Registry yourself. In addition to associating .pl with the interpreter, NT people can use: SET PATHEXT=%PATHEXT%;PL to let them run the program install-linux.pl merely by typing install-linux. Macintosh Perl programs will have the appropriate Creator and Type, so that double-clicking them will invoke the Perl application.

IMPORTANT!: Whatever you do, PLEASE don't get frustrated, and just throw the perl interpreter into your cgi-bin directory, in order to get your programs working for a web server. This is an EXTREMELY big security risk. Take the time to figure out how to do it correctly.

Can I write useful Perl programs on the command line?

Yes. Read perlrun for more information. Some examples follow. (These assume standard Unix shell quoting rules.)

```
# sum first and last fields
perl -lane 'print $F[0] + $F[-1]' *
# identify text files
perl -le 'for(@ARGV) {print if -f && -T _}' *
# remove (most) comments from C program
perl -0777 -pe 's{^\*.*?\*/}{ }gs' foo.c
# make file a month younger than today, defeating reaper daemons
perl -e '$X=24*60*60; utime(time(),time() + 30 * $X,@ARGV)' *
# find first unused uid
perl -le '$i++ while getpwuid($i); print $i'
# display reasonable manpath
echo $PATH | perl -nl -072 -e '
    s![^/+]!$!man!&&-d&&!$s{$_}++&&push@m,$_;END{print"@m"}'
```

OK, the last one was actually an Obfuscated Perl Contest

entry. :-)

Why don't Perl one-liners work on my DOS/Mac/VMS system?

The problem is usually that the command interpreters on those systems have rather different ideas about quoting than the Unix shells under which the one-liners were created. On some systems, you may have to change single-quotes to double ones, which you must NOT do on Unix or Plan9 systems. You might also have to change a single % to a %%.

For example:

```
# Unix
perl -e 'print "Hello world\n"'
# DOS, etc.
perl -e "print \"Hello world\n\""
# Mac
print "Hello world\n"
    (then Run "Myscript" or Shift-Command-R)
# VMS
perl -e "print ""Hello world\n"""
```

The problem is that none of these examples are reliable: they depend on the command interpreter. Under Unix, the first two often work. Under DOS, it's entirely possible that neither works. If 4DOS was the command shell, you'd probably have better luck like this:

```
perl -e "print <Ctrl-x>"Hello world\n<Ctrl-x>"
```

Under the Mac, it depends

which environment you are using. The MacPerl shell, or MPW, is much like Unix shells in its support for several quoting variants, except that it makes free use of the Mac's non-ASCII characters as control characters.

Using qq(), q(), and qx(), instead of "double quotes", 'single quotes', and `backticks`, may make one-liners easier to write.

There is no general solution to all of this. It is a mess, pure and simple. Sucks to be away from Unix, huh? :-)

[Some of this answer was contributed by Kenneth Albanowski.]

Where can I learn about CGI or Web programming in Perl?

For modules, get the CGI or LWP modules from CPAN. For textbooks, see the two especially dedicated to web stuff in the question on books. For problems and questions related to the web, like ``Why do I get 500 Errors" or ``Why doesn't it run from the browser right when it runs fine on the command line", see these sources:

WWW Security FAQ

<http://www.w3.org/Security/Faq/>

Web FAQ

<http://www.boutell.com/faq/>

CGI FAQ

<http://www.webthing.com/tutorials/cgifaq.html>

HTTP Spec

<http://www.w3.org/pub/WWW/Protocols/HTTP/>

HTML Spec

<http://www.w3.org/TR/REC-html40/>

<http://www.w3.org/pub/WWW/MarkUp/>

CGI Spec

<http://www.w3.org/CGI/>

CGI Security FAQ

<http://www.go2net.com/people/paulp/cgi-security/safe-cgi.txt>

Where can I learn about object-oriented Perl programming?

A good place to start is perltoot, and you can use perlobj, perlboot, and perlbot for reference. Perltoot didn't come out until the 5.004 release; you can get a copy (in pod, html, or postscript) from

<http://www.perl.com/CPAN/doc/FMTEYEWTK/> .

Where can I learn about linking C with Perl? [h2xs, xsubpp]

If you want to call C from Perl, start with perlxsut, moving on to perlxs, xsubpp, and perlguits. If you want to call Perl from C, then read perlembed, perllcall, and perlguts. Don't forget that you can learn a lot from looking at how the authors of existing extension modules

wrote their code and solved their problems.

I've read perlembed, perlguts, etc., but I can't embed perl in my C program; what am I doing wrong?

Download the ExtUtils::Embed kit from CPAN and run `make test'. If the tests pass, read the pods again and again and again. If they fail, see perlbug and send a bug report with the output of make test TEST_VERBOSE=1 along with perl -V.

When I tried to run my script, I got this message. What does it mean?

A complete list of Perl's error messages and warnings with explanatory text can be found in perldiag. You can also use the splain program (distributed with Perl) to explain the error messages:

```
perl program 2>diag.out
```

```
splain [-v] [-p] diag.out
```

or change your program to explain the messages for you:

```
use diagnostics;
```

or

```
use diagnostics -verbose;
```

What's MakeMaker?

This module (part of the standard Perl distribution) is designed to write a Makefile for an extension module from a Makefile.PL. For more information, see ExtUtils::MakeMaker.

AUTHOR
AND COPYRIGHT

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Found in path(s):

```
* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/t/perlfaq.txt
```

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=head1 NAME

Pod::Simple::HTMLBatch - convert several Pod files to several HTML files

=head1 SYNOPSIS

```
perl -MPod::Simple::HTMLBatch -e 'Pod::Simple::HTMLBatch::go' in out
```

=head1 DESCRIPTION

This module is used for running batch-conversions of a lot of HTML documents

This class is NOT a subclass of Pod::Simple::HTML (nor of bad old Pod::Html) -- although it uses Pod::Simple::HTML for doing the conversion of each document.

The normal use of this class is like so:

```
use Pod::Simple::HTMLBatch;
my $batchconv = Pod::Simple::HTMLBatch->new;
$batchconv->some_option( some_value );
$batchconv->some_other_option( some_other_value );
$batchconv->batch_convert( \@search_dirs, $output_dir );
```

=head2 FROM THE COMMAND LINE

Note that this class also provides (but does not export) the function Pod::Simple::HTMLBatch::go.

This is basically just a shortcut for C<<

```
Pod::Simple::HTMLBatch->batch_convert(@ARGV) >>.
```

It's

meant to be handy for calling from the command line.

However, the shortcut requires that you specify exactly two command-line arguments, C<indirs> and C<outdir>.

Example:

```
% mkdir out_html
% perl -MPod::Simple::HTMLBatch -e Pod::Simple::HTMLBatch::go @INC out_html
  (to convert the pod from Perl's @INC
   files under the directory ./out_html)
```

(Note that the command line there contains a literal atsign-I-N-C. This is handled as a special case by batch_convert, in order to save you having to enter the odd-looking "" as the first command-line parameter when you mean "just use whatever's in @INC".)

Example:

```
% mkdir ../seekrut
% chmod og-rx ../seekrut
% perl -MPod::Simple::HTMLBatch -e Pod::Simple::HTMLBatch::go . ../seekrut
  (to convert the pod under the current dir into HTML
   files under the directory ../seekrut)
```

Example:

```
% perl -MPod::Simple::HTMLBatch -e Pod::Simple::HTMLBatch::go happydocs .
  (to convert all pod from happydocs into the current
  directory)
```

```
=head1 MAIN METHODS
```

```
=over
```

```
=item $batchconv = Pod::Simple::HTMLBatch->new;
```

```
This TODO
```

```
=item $batchconv->batch_convert( I<indirs>, I<outdir> );
```

```
this TODO
```

```
=item $batchconv->batch_convert( undef , ...);
```

```
=item $batchconv->batch_convert( q{ @INC}, ...);
```

These two values for `I<indirs>` specify that the normal Perl `@INC`

```
=item $batchconv->batch_convert( \@dirs , ...);
```

This specifies that the input directories are the items in the arrayref `C<\@dirs>`.

```
=item $batchconv->batch_convert( "somedir" , ...);
```

This specifies that the director "somedir" is the input. (This can be an absolute or relative path, it doesn't matter.)

A common value you might want would be just "." for the current directory:

```
$batchconv->batch_convert( ".", ...);
```

```
=item $batchconv->batch_convert( 'somedir:someother:also' , ...);
```

This specifies that you want the dirs "somedir", "someother", and "also" scanned, just as if you'd passed the arrayref `C<[qw(somedir someother also)]>`. Note that a ":"-separator is normal under Unix, but Under MSWin, you'll need `C<'somedir;someother;also'>` instead, since the pathsep on MSWin is ";" instead of ":". (And `I<that>` is because ":" often comes up in paths, like `C<"c:/perl/lib">`.)

(Exactly what separator character should be used, is gotten from `C<$Config::Config{'path_sep'}>`, via the `L<Config>` module.)

```
=item $batchconv->batch_convert( ... , undef );
```

This specifies that you want the HTML output to go into the current directory.

(Note that a missing or undefined value means a different thing in the first slot than in the second. That's so that `C<batch_convert()>` with no arguments (or undef arguments) means "go from `@INC`, into the current directory.)

```
=item $batchconv->batch_convert( ... , 'somedir' );
```

This specifies that you want the HTML output to go into the directory 'somedir'.

(This can be an absolute or relative path, it doesn't matter.)

=back

Note that you can also call `C->batch_convert` as a class method, like so:

```
Pod::Simple::HTMLBatch->batch_convert(
... );
```

That is just short for this:

```
Pod::Simple::HTMLBatch->new->batch_convert(...);
```

That is, it runs a conversion with default options, for whatever inputdirs and output dir you specify.

=head2 ACCESSOR METHODS

The following are all accessor methods -- that is, they don't do anything on their own, but just alter the contents of the conversion object, which comprises the options for this particular batch conversion.

We show the "put" form of the accessors below (i.e., the syntax you use for setting the accessor to a specific value). But you can also call each method with no parameters to get its current value. For example, `C-><$self->contents_file()` returns the current value of the `contents_file` attribute.

=over

```
=item $batchconv->verbose( I<nonnegative_integer> );
```

This controls how verbose to be during batch conversion, as far as notes to STDOUT (or whatever is `C->select'd`) about how the conversion is going. If 0, no progress information is printed.

If 1 (the default value), some progress information is printed.

Higher values print more information.

```
=item $batchconv->index( I<true-or-false> );
```

This controls whether or not each HTML page is liable to have a little table of contents at the top (which we call an "index" for historical

reasons). This is true by default.

```
=item $batchconv->contents_file( I<filename> );
```

If set, should be the name of a file (in the output directory) to write the HTML index to. The default value is "index.html". If you set this to a false value, no contents file will be written.

```
=item $batchconv->contents_page_start( I<HTML_string> );
```

This specifies what string should be put at the beginning of the contents page.

The default is a string more or less like this:

```
<html>
<head><title>Perl Documentation</title></head>
<body class='contentspage'>
<h1>Perl Documentation</h1>
```

```
=item $batchconv->contents_page_end( I<HTML_string> );
```

This specifies what string should be put at the end of the contents page.

The default is a string more or less like this:

```
<p class='contentsfooty'>Generated by
Pod::Simple::HTMLBatch v3.01 under Perl v5.008
<br >At Fri May 14 22:26:42 2004 GMT,
which is Fri May 14 14:26:42 2004 local time.</p>
```

```
=item $batchconv->add_css( $url );
```

TODO

```
=item $batchconv->add_javascript( $url );
```

TODO

```
=item $batchconv->css_flurry( I<true-or-false> );
```

If true (the default value), we autogenerate some CSS files in the output directory, and set our HTML files to use those.

TODO: continue

```
=item $batchconv->javascript_flurry( I<true-or-false> );
```

If true (the default value), we autogenerate a JavaScript in the output directory, and set our HTML files to use it. Currently, the JavaScript is used only to get the browser to remember what stylesheet it prefers.

TODO: continue

```
=item $batchconv->no_contents_links( I<true-or-false> );
```

TODO

```
=item $batchconv->html_render_class( I<classname> );
```

This sets what class is used for rendering the files.

The

default is "Pod::Simple::HTML". If you set it to something else, it should probably be a subclass of Pod::Simple::HTML, and you should C<require> or C<use> that class so that's it's loaded before Pod::Simple::HTMLBatch tries loading it.

```
=item $batchconv->search_class( I<classname> );
```

This sets what class is used for searching for the files.

The default is "Pod::Simple::Search". If you set it to something else, it should probably be a subclass of Pod::Simple::Search, and you should C<require> or C<use> that class so that's it's loaded before Pod::Simple::HTMLBatch tries loading it.

```
=back
```

```
=head1 NOTES ON CUSTOMIZATION
```

TODO

call add_css(\$someurl) to add stylesheet as alternate

call add_css(\$someurl,1) to add as primary stylesheet

call add_javascript

subclass Pod::Simple::HTML and set \$batchconv->html_render_class to that classname

and maybe override

```
$page->batch_mode_page_object_init($self, $module, $infile, $outfile, $depth)
```

or maybe override

```
$batchconv->batch_mode_page_object_init($page, $module, $infile, $outfile, $depth)
subclass Pod::Simple::Search and set $batchconv->search_class to
that classname
```

=head1 ASK ME!

If you want to do some kind of big pod-to-HTML version with some particular kind of option that you don't see how to achieve using this module, email me (C<sburke@cpan.org>) and I'll probably have a good idea how to do it. For reasons of concision and energetic laziness, some methods and options in this module (and the dozen modules it depends on) are undocumented; but one of those undocumented bits might be just what you're looking for.

=head1 SEE ALSO

L<Pod::Simple>, L<Pod::Simple::HTMLBatch>, L<perlpod>, L<perlpodspec>

=head1 SUPPORT

Questions or discussion about POD and Pod::Simple should be sent to the pod-people@perl.org mail list. Send an empty email to pod-people-subscribe@perl.org to subscribe.

This module is managed in an open GitHub repository,
L<<https://github.com/theory/pod-simple/>>.

Feel free to fork and contribute, or
to clone L<[git://github.com/theory/pod-simple.git](https://github.com/theory/pod-simple.git)> and send patches!

Patches against Pod::Simple are welcome. Please send bug reports to
<bug-pod-simple@rt.cpan.org>.

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=head1 AUTHOR

Pod::Simple was created by Sean M. Burke <sburke@cpan.org>. But don't bother him, he's retired.

Pod::Simple is maintained by:

=over

=item * Allison Randal C<allison@perl.org>

=item * Hans Dieter Pearcey C<hdp@cpan.org>

=item * David E. Wheeler C<dwheeler@cpan.org>

=back

=cut

Found in path(s):

* /opt/cola/permits/1204657996_1634081840.75/0/perl-Pod-Simple-3.28-4.amzn2.src.rpm-cosi-expand-archive-WmDaSuOq/Pod-Simple-3.28.tar.gz-cosi-expand-archive-3eEJHyDE/Pod-Simple-3.28/lib/Pod/Simple/HTMLBatch.pm

1.134 perl-file-temp 0.23.01-3.amzn2

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Found in path(s):

* /opt/cola/permits/1204657760_1634081445.35/0/perl-File-Temp-0.23.01-3.amzn2.src.rpm-cosi-expand-archive-HziLKB24/perl-File-Temp.spec

1.135 distlib 0.3.3

1.135.1 Available under license :

A. HISTORY OF THE SOFTWARE

=====

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 (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 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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes

2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1	2010	PSF	yes
3.2	3.1	2010	PSF	yes

Footnotes:

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=====
Distutils2 Contributors
=====

The Distutils2 project was started by Tarek Ziad and is currently maintained by ric Araujo. Many people have contributed to the project.

distlib has started off using some of the code from distutil2.

If you're making a patch, please add your name below in alphabetical order, and welcome into the Fellowship of the Packaging!

Thanks to:

- Rajiv Abraham
- Ali Afshar
- David Barnett
- Pior Bastida
- Anthony Baxter
- Erik Bray
- C. Titus Brown
- Francisco Martn Brugu
- Nicolas Cadou
- Godefroid Chapelle
- Julien Courteau
- Christophe Combelles
- Jason R. Coombs
- Pierre-Yves David
- Ned Deily
- Konrad DeLong
- Josip Djolonga
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- Boris Feld
- Andrew Francis
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Any executables

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```

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```

```
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```
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. The file ``src/libs/snprintf/snprintf.c'`, written by Mark Martinec <mark.martinec@ijs.si>.

Please look into `snprintf.c` for the copyright message.

The complete `snprintf` package together with documentation is available from

<http://www.ijs.si/software/snprintf/> .

. The ``grn'` preprocessor, written by Barry Roitblat <barry@rentonww.com> and David Slattengren <slatteng@Xinet.COM>. These files have been part of the original Berkeley ditroff distribution, without AT&T code, and

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The original package can be found at
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```
src/preproc/grn/gprint.h
src/preproc/grn/hdb.cpp
src/preproc/grn/hgraph.cpp
src/preproc/grn/hpoint.cpp
src/preproc/grn/main.cpp
```

. The `gxditview' output device. It is based on X11's `xditview' program and thus has the X license.

```
src/devices/xditview/DESC.in
src/devices/xditview/Dvi.c
src/devices/xditview/Dvi.h
src/devices/xditview/DviP.h
src/devices/xditview/FontMap
src/devices/xditview/GXditview.ad
src/devices/xditview/Menu.h
src/devices/xditview/ad2c
src/devices/xditview/device.c
src/devices/xditview/device.h
src/devices/xditview/draw.c
src/devices/xditview/font.c
src/devices/xditview/gray1.bm
src/devices/xditview/gray2.bm
src/devices/xditview/gray3.bm
src/devices/xditview/gray4.bm
src/devices/xditview/gray5.bm
src/devices/xditview/gray6.bm
src/devices/xditview/gray7.bm
src/devices/xditview/gray8.bm
src/devices/xditview/gxditview.man
src/devices/xditview/lex.c
src/devices/xditview/page.c
src/devices/xditview/parse.c
src/devices/xditview/xdit.bm
src/devices/xditview/xdit_mask.bm
src/devices/xditview/xditview.c

src/include/DviChar.h
src/include/XFontName.h

src/libs/libxutil/DviChar.c
src/libs/libxutil/XFontName.c
```

Macro Packages

. The -mdoc macro set, using the BSD license.

```
tmac/doc.tmac
tmac/doc-old.tmac
tmac/doc-common
tmac/doc-ditroff
tmac/doc-nroff
tmac/doc-syms
tmac/groff_mdoc.man
```

. The -me macro set, using the BSD license.

```
tmac/e.tmac
tmac/groff_me.man
doc/meintro.me
doc/meref.me
```

Hyphenation Patterns

. The file `tmac/hyphen.us' is identical to the file `hyphen.tex', part of the TeX system written by Donald E. Knuth; the master file can be found at

```
ftp://labrea.stanford.edu/pub/tex/dist/lib/hyphen.tex
```

.

It has been renamed for consistency, i.e., to make patterns available under the filenames `hyphen.<language>', e.g. `hyphen.de' or `hyphen.uk'.

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. The file `tmac/hyphen.fr' contains the same patterns as the file `frhyph.tex' (for TeX), which can be found at

```
http://dante.ctan.org/CTAN/language/hyphenation/frhyph.tex .
```

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. The file `tmac/hyphen.sv' is identical to the file `svhyph.tex', which can be found at

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. The files `tmac/hyphen.det' and `tmac/hyphen.den' contain the same patterns as the files `dehyphn.tex' and `dehypht.tex' (for TeX), which can be found at

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. The file `tmac/hyphenex.det' is identical to the file `dehyphtex.tex', which can be found at

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. The file `tmac/hyphen.cs' contains the same patterns as the file `czyphen.tex' (for TeX), which can be found in the archive

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```
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1.145 libverto-devel 0.2.5-4.amzn2.0.2

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1.146 urllib3 1.26.6-1.ph1

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1.147 python-iniparse 0.4-9.amzn2

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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 (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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Release from	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		
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes

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Version 3.1, 31 March 2009

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1.151 python-setuptools 49.1.3-1.amzn2.0.2

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1.152 python-rpm-macros 3-60.amzn2.0.1

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* /opt/cola/permits/1222980049_1694207835.1383271/0/python-rpm-macros-3-60.amzn2.0.1.src.rpm-cosi-expand-archive-tDDrddjB/compileall2.py

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1.153 system-release 2-14.amzn2

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1.154 jmespath 0.10.0

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1.155 msgpack 1.0.3

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1.156 future 0.4

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1.157 pep517 0.5.0

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1.158 python-requests 2.27.1

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1.159 subprocess32 3.5.3

1.159.1 Available under license :

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 (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 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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes

2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1	2010	PSF	yes

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(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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1.161 tcp-wrappers-libs 7.6-77.amzn2.0.2

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1.162 rich 11.0.0

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1.163 kerberos 1.15

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lib/gss_mechs/mech_krb5/et/kdb5_err.c
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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
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lib/libgss/g_dsp_status.c
lib/libgss/g_dup_name.c
lib/libgss/g_exp_sec_context.c
lib/libgss/g_export_name.c
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lib/libgss/g_glue.c
lib/libgss/g_imp_name.c
lib/libgss/g_imp_sec_context.c
lib/libgss/g_init_sec_context.c
lib/libgss/g_initialize.c
lib/libgss/g_inquire_context.c
lib/libgss/g_inquire_cred.c
lib/libgss/g_inquire_names.c
lib/libgss/g_process_context.c
lib/libgss/g_rel_buffer.c
lib/libgss/g_rel_cred.c
lib/libgss/g_rel_name.c
lib/libgss/g_rel_oid_set.c
lib/libgss/g_seal.c
lib/libgss/g_sign.c
lib/libgss/g_store_cred.c
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
uts/common/gssapi/include/gssapi_err_generic.h
uts/common/gssapi/include/mechglueP.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
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lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
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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/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.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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1.164 python-pip 22.0.4

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This package contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov 3 19:04:19 2011#

This is a bundle of X.509 certificates of public Certificate Authorities (CA). These were automatically extracted from Mozilla's root certificates file (certdata.txt). This file can be found in the mozilla source tree:

<http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#>

It contains the certificates in PEM format and therefore can be directly used with curl / libcurl / php_curl, or with an Apache+mod_ssl webserver for SSL client authentication.

Just configure this file as the SSLCACertificateFile.#

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@(#) \$RCSfile: certdata.txt,v \$

\$Revision: 1.80 \$ \$Date: 2011/11/03 15:11:58 \$

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 (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 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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes

2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
2.7	2.6	2010	PSF	yes

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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 (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.

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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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				

2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
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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 (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 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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(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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1.165 cyrus-sasl 2.1.26-24.amzn2

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1.166 binutils 2.29.1-31.amzn2

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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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section 10

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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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+++++

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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A. HISTORY OF THE SOFTWARE

=====

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 (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 the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

Release from	Derived	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
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes

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(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.

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

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Any executables

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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) <year> <name of author>
```

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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
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```

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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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`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

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

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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:

```
Gnomovision version 69, Copyright (C) year 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 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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=====

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Version 3, 29 June 2007

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The

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

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@c man end

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Any

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The

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Version 3.1, 31 March 2009

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

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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.

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7. You may place library facilities that are a work based on the

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gfdl(7), fsf-funding(7).

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@item

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@item

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Any

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Version 3.1, 31 March 2009

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Version 3, 29 June 2007

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

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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.)

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

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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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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.

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@ignore

@c Set file name and title for man page.

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@c man begin SEEALSO

gfdl(7), fsf-funding(7).

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@heading TERMS AND CONDITIONS

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The work must carry prominent notices stating that you modified it, and giving a relevant date.

@item

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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 customarily used for software interchange.

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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.

@item

Convey individual copies of the object code with a copy of the written offer

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@item

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.

@item

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 3.1, 31 March 2009

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1.177 python-certifi 2019.06.16

1.177.1 Available under license :

This package contains a modified version of ca-bundle.crt:

ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov 3 19:04:19 2011#

This is a bundle of X.509 certificates of public Certificate Authorities (CA). These were automatically extracted from Mozilla's root certificates file (certdata.txt). This file can be found in the mozilla source tree:

<http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#>

It contains the certificates in PEM format and therefore can be directly used with curl / libcurl / php_curl, or with an Apache+mod_ssl webserver for SSL client authentication.

Just configure this file as the SSLCACertificateFile.#

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@(#) \$RCSfile: certdata.txt,v \$

\$Revision: 1.80 \$ \$Date: 2011/11/03 15:11:58 \$

1.178 libgomp 7.3.1-15.amzn2

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

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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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@c man begin SEEALSO

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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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@enumerate

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@item

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@item

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.

@item

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.

@item

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.

@item

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.

@end enumerate

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@smallexample

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@smallexample

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@c man end

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Version 2.1, February 1999

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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

executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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```
<one line to give the program's name and a brief idea of what it does.>  
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```

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```
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Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.  
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under certain conditions; type `show c' for details.
```

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

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1.181 chardet 4.0.0

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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!

1.182 colorama 0.4.4

1.182.1 Available under license :

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1.183 webencodings 0.5.1

1.183.1 Available under license :

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python-webencodings

=====

This is a Python implementation of the `WHATWG Encoding standard` <<http://encoding.spec.whatwg.org/>>` _.

- * Latest documentation: <http://packages.python.org/webencodings/>
- * Source code and issue tracker: <https://github.com/gsnedders/python-webencodings>
- * PyPI releases: <http://pypi.python.org/pypi/webencodings>
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- * Python 2.6+ and 3.3+

In order to be compatible with legacy web content when interpreting something like ``Content-Type: text/html; charset=latin1``, tools need to use a particular set of aliases for encoding labels as well as some overriding rules.

For example, ``US-ASCII`` and ``iso-8859-1`` on the web are actually aliases for ``windows-1252``, and an UTF-8 or UTF-16 BOM takes precedence over any other encoding declaration.

The Encoding standard defines all such details so that implementations do not have to reverse-engineer each other.

This module has encoding labels and BOM detection, but the actual implementation for encoders and decoders is Python's.

Found in path(s):

* /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/README.rst

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```
from setuptools import setup, find_packages
import io
from os import path
import re

VERSION = re.search("VERSION = '([^\s]+)'", io.open(
    path.join(path.dirname(__file__), 'webencodings', '__init__.py'),
    encoding='utf-8'
).read().strip()).group(1)

LONG_DESCRIPTION = io.open(
    path.join(path.dirname(__file__), 'README.rst'),
    encoding='utf-8'
).read()

setup(
    name='webencodings',
    version=VERSION,
    url='https://github.com/SimonSapin/python-webencodings',
    license='BSD',
    author='Simon Sapin',
    author_email='simon.sapin@exyr.org',
    maintainer='Geoffrey Sneddon',
    maintainer_email='me@gsnedders.com',
    description='Character encoding aliases for legacy web content',
    long_description=LONG_DESCRIPTION,
    classifiers=[
        'Development Status :: 4 - Beta',
        'Intended Audience :: Developers',
        'License :: OSI Approved :: BSD License',
        'Programming Language
:: Python',
        'Programming Language :: Python :: 2',
        'Programming Language :: Python :: 2.6',
        'Programming Language :: Python :: 2.7',
        'Programming Language :: Python :: 3',
        'Programming Language :: Python :: 3.3',
        'Programming Language :: Python :: 3.4',
        'Programming Language :: Python :: 3.5',
        'Programming Language :: Python :: 3.6',
        'Programming Language :: Python :: Implementation :: CPython',
        'Programming Language :: Python :: Implementation :: PyPy',
        'Topic :: Internet :: WWW/HTTP',
    ],
)
```

```
packages=find_packages(),
)
```

Found in path(s):

```
* /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/setup.py
```

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```
"""
```

```
webencodings.mklabels
```

```
~~~~~
```

Regenerate the webencodings.labels module.

```
:copyright: Copyright 2012 by Simon Sapin
```

```
:license: BSD, see LICENSE for details.
```

```
"""
```

```
import json
```

```
try:
```

```
    from urllib import urlopen
```

```
except ImportError:
```

```
    from urllib.request import urlopen
```

```
def assert_lower(string):
```

```
    assert string == string.lower()
```

```
    return string
```

```
def generate(url):
```

```
    parts = ["\
```

```
"""
```

```
webencodings.labels
```

```
~~~~~
```

Map encoding labels to their name.

```
:copyright: Copyright 2012 by Simon Sapin
```

```
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```

```
"""
```

```
# XXX Do not edit!
```

```
# This file is automatically generated by mklabels.py
```

```

LABELS = {
    ""
    labels = [
        (repr(assert_lower(label)).lstrip('u'),
         repr(encoding['name']).lstrip('u'))
        for category in json.loads(urlopen(url).read().decode('ascii'))
        for encoding in category['encodings']
        for label in encoding['labels']]
    max_len = max(len(label) for label, name in labels)
    parts.extend(
        ' %s:%s %s,\n' % (label, ' ' * (max_len - len(label)), name)
        for label, name in labels)
    parts.append('}')
    return ".join(parts)

if __name__ == '__main__':
    print(generate('http://encoding.spec.whatwg.org/encodings.json'))

```

Found in path(s):

* /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/webencodings/mklabels.py

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Found in path(s):

* /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/webencodings/labels.py

* /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/webencodings/__init__.py

* /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/webencodings/tests.py

* /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/webencodings/x_user_defined.py

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Metadata-Version: 1.1

Name: webencodings

Version: 0.5.1

Summary: Character encoding aliases for legacy web content

Home-page: <https://github.com/SimonSapin/python-webencodings>

Author: Geoffrey Sneddon

Author-email: me@gsnedders.com

License: BSD

Description: python-webencodings

=====

This is a Python implementation of the `WHATWG Encoding standard`
<<http://encoding.spec.whatwg.org/>>`_.

- * Latest documentation: <http://packages.python.org/webencodings/>
- * Source code and issue tracker:
<https://github.com/gsnedders/python-webencodings>
- * PyPI releases: <http://pypi.python.org/pypi/webencodings>
- * License: BSD
- * Python 2.6+ and 3.3+

In order to be compatible with legacy web content
when interpreting something like ``Content-Type: text/html; charset=latin1``,
tools need to use a particular set
of aliases for encoding labels
as well as some overriding rules.
For example, ``US-ASCII`` and ``iso-8859-1`` on the web are actually
aliases for ``windows-1252``, and an UTF-8 or UTF-16 BOM takes precedence
over any other encoding declaration.
The Encoding standard defines all such details so that implementations do
not have to reverse-engineer each other.

This module has encoding labels and BOM detection,
but the actual implementation for encoders and decoders is Python's.

Platform: UNKNOWN
Classifier: Development Status :: 4 - Beta
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Classifier: Programming Language :: Python :: 2
Classifier: Programming Language :: Python :: 2.6
Classifier: Programming Language :: Python :: 2.7
Classifier: Programming Language :: Python :: 3
Classifier: Programming Language :: Python
:: 3.3
Classifier: Programming Language :: Python :: 3.4
Classifier: Programming Language :: Python :: 3.5
Classifier: Programming Language :: Python :: 3.6
Classifier: Programming Language :: Python :: Implementation :: CPython
Classifier: Programming Language :: Python :: Implementation :: PyPy
Classifier: Topic :: Internet :: WWW/HTTP

Found in path(s):

- * /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/webencodings.egg-info/PKG-INFO
- * /opt/cola/permits/1401468445_1661617535.3616152/0/webencodings-0-5-1-1-tar-gz/webencodings-0.5.1/PKG-INFO

1.184 packaging 21.3

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1.185 pep517 0.12.0

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1.186 six 1.16.0

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1.187 python-certifi 2021.10.08

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Certificate data from Mozilla as of: Thu Nov 3 19:04:19 2011#

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<http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#>

It contains the certificates in PEM format and therefore can be directly used with curl / libcurl / php_curl, or with an Apache+mod_ssl webserver for SSL client authentication. Just configure this file as the SSLCACertificateFile.#

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@(#) \$RCSfile: certdata.txt,v \$

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1.188 pycparser 2.21

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pycparser -- A C parser in Python

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1.189 futures 3.3.0

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1.190 python-dateutil 2.8.2

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dateutil - Extensions to the standard Python datetime module.

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1.191 python-urlgrabber 3.10

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Any executables

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1.192 packaging 16.8

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1.193 wsgiref 0.1.2

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Found in path(s):

* /opt/cola/permits/1403963770_1661913703.6112542/0/wsgiref-0-1-2-2-zip/wsgiref-0.1.2/wsgiref/validate.py

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

Metadata-Version: 1.0

Name: wsgiref

Version: 0.1.2

Summary: WSGI (PEP 333) Reference Library

Home-page: <http://cheeseshop.python.org/pypi/wsgiref>

Author: Phillip J. Eby

Author-email: web-sig@python.org

License: PSF or ZPL

Description: This is a standalone release of the ``wsgiref`` library to be included in Python 2.5. For the standalone version's documentation, see:

HTML

http://peak.telecommunity.com/wsgiref_docs/

PDF

<http://peak.telecommunity.com/wsgiref.pdf>

Platform: UNKNOWN

Found in path(s):

* /opt/cola/permits/1403963770_1661913703.6112542/0/wsgiref-0-1-2-2-zip/wsgiref-0.1.2/wsgiref.egg-info/PKG-INFO

* /opt/cola/permits/1403963770_1661913703.6112542/0/wsgiref-0-1-2-2-zip/wsgiref-0.1.2/PKG-INFO

1.194 pyliblzma 0.5.3

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1.195 gnupg 2.0.22-5.amzn2.0.5

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1.196 idna 3.4

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1.197 distlib 0.2.9.post0

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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 (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 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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1	2010	PSF	yes
3.2	3.1	2010	PSF	yes

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=====
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=====

The Distutils2 project was started by Tarek Ziad and is currently maintained by ric Araujo. Many people have contributed to the project.

distlib has started off using some of the code from distutil2.

If you're making a patch, please add your name below in alphabetical order, and welcome into the Fellowship of the Packaging!

Thanks to:

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- Ali Afshar
- David Barnett
- Pior Bastida
- Anthony Baxter

- Erik Bray
- C. Titus Brown
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<one line to give the program's name and a brief idea of what it does.>

Copyright (C) 19yy <name of author>

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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:

```
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!

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The End

1.200 perl-file-path 2.09-2.amzn2

1.200.1 Available under license :

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

License: GPL+ or Artistic

Found in path(s):

* /opt/cola/permits/1496435272_1670015371.2924106/0/perl-File-Path-2.09-2.amzn2.src.rpm-cosi-expand-archive-ugpUIfxu/perl-File-Path.spec

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

/opt/cola/permits/1496435272_1670015371.2924106/0/perl-File-Path-2.09-2.amzn2.src.rpm-cosi-expand-archive-ugpUIfxu/File-Path-2.09.tar.gz-cosi-expand-archive-Bkxc34ZB/File-Path-2.09.tar.gz: binary file matches

Found in path(s):

* /bin/grep

1.201 perl-text-parsewords 3.29-4.amzn2

1.201.1 Available under license :

Return-Path: rt-cpan-org-return@perl.org

Received: from zmta04.collab.prod.int.phx2.redhat.com (LHLO

zmta04.collab.prod.int.phx2.redhat.com) (10.5.81.11) by

zmail14.collab.prod.int.phx2.redhat.com with LMTP; Mon, 18 Nov 2013

11:06:10 -0500 (EST)

Received: from zmta04.collab.prod.int.phx2.redhat.com (localhost [127.0.0.1])

by zmta04.collab.prod.int.phx2.redhat.com (Postfix) with ESMTP id 9A08BDA0C9

for <mmaslano@redhat.com>; Mon, 18 Nov 2013 11:06:10 -0500 (EST)

Received: from int-mx10.intmail.prod.int.phx2.redhat.com (int-mx10.intmail.prod.int.phx2.redhat.com [10.5.11.23])

by zmta04.collab.prod.int.phx2.redhat.com (Postfix) with ESMTP id 954E9D1F23
for <mmaslano@mail.corp.redhat.com>; Mon, 18 Nov 2013 11:06:10 -0500 (EST)
Received: from mx1.redhat.com (ext-mx14.extmail.prod.ext.phx2.redhat.com [10.5.110.19])
by int-mx10.intmail.prod.int.phx2.redhat.com (8.14.4/8.14.4) with ESMTP id rAIG6A3W024510
for <mmaslano@redhat.com>; Mon, 18 Nov 2013 11:06:10 -0500
Received: from rtcpn.develooper.com
(rtcpn.develooper.com [207.171.7.181])
by mx1.redhat.com (8.14.4/8.14.4) with ESMTP id rAIG69Uk032392
for <mmaslano@redhat.com>; Mon, 18 Nov 2013 11:06:09 -0500
Received: by rtcpn.develooper.com (Postfix, from userid 536)
id D3030FA; Mon, 18 Nov 2013 08:06:08 -0800 (PST)
Precedence: normal
Subject: [rt.cpan.org #90483] missing license file
From: "Alexandr Ciornii via RT" <bug-Text-ParseWords@rt.cpan.org>
Reply-To: bug-Text-ParseWords@rt.cpan.org
In-Reply-To: <rt-4.0.18-4704-1384789048-1647.90483-6-0@rt.cpan.org>
References: <RT-Ticket-90483@rt.cpan.org>
<rt-4.0.18-4704-1384789048-1647.90483-6-0@rt.cpan.org>
Message-ID: <rt-4.0.18-2172-1384790768-1347.90483-6-0@rt.cpan.org>
X-RT-Loop-Prevention: rt.cpan.org
RT-Ticket: rt.cpan.org #90483
Managed-BY: RT 4.0.18 (<http://www.bestpractical.com/rt/>)
RT-Originator: CHORNY@cpan.org
To: mmaslano@redhat.com
MIME-Version: 1.0
Content-Transfer-Encoding: 8bit
Content-Type: text/plain; charset="utf-8"
X-RT-Original-Encoding: utf-8
Date:
Mon, 18 Nov 2013 11:06:08 -0500
X-RedHat-Spam-Score: -1.9 (BAYES_00,SPF_PASS,URIBL_BLOCKED)
X-Scanned-By: MIMEDefang 2.68 on 10.5.11.23
X-Scanned-By: MIMEDefang 2.68 on 10.5.110.19

<URL: <https://rt.cpan.org/Ticket/Display.html?id=90483> >

On Mon Nov 18 10:37:28 2013, mmaslano@redhat.com wrote:
> It would be a big help if you have better defined license. License
> text in .pm file would be enough.

Will do in next version.

> I found Perl license in Makefile.PL,
> so we assumed it's Perl (GPL+ or Artistic). Is it correct?

yes

--

1.202 perl-podlators 2.5.1-3.amzn2.0.1

1.202.1 Available under license :

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

license: perl

Found in path(s):

```
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-  
archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/META.yml
```

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

```
#!/perl
```

```
# pod2text -- Convert POD data to formatted ASCII text.
```

```
#
```

```
# Copyright 1999, 2000, 2001, 2004, 2006, 2008, 2010, 2012, 2013
```

```
# Russ Allbery <rra@stanford.edu>
```

```
#
```

```
# This program is free software; you may redistribute it and/or modify it
```

```
# under the same terms as Perl itself.
```

```
#
```

```
# The driver script for Pod::Text, Pod::Text::Termcap, and Pod::Text::Color,
```

```
# invoked by perldoc -t among other things.
```

```
require 5.004;
```

```
use Getopt::Long qw(GetOptions);
```

```
use Pod::Text ();
```

```
use Pod::Usage qw(pod2usage);
```

```
use strict;
```

```
# Clean up $0 for error reporting.
```

```
$0 =~ s%.*%/%%;
```

```
# Take an initial pass through our options, looking for one of the form
```

```
# -<number>. We turn that into -w <number> for compatibility with the
```

```
# original pod2text script.
```

```
for (my $i = 0; $i < @ARGV; $i++) {
```

```
    last if $ARGV[$i] =~ /^--$/;
```

```
    if ($ARGV[$i] =~ /^-(d+)$/) {
```

```
        splice (@ARGV, $i++, 1, '-w', $1);
```

```
    }
```

```
}
```



```

# Insert -- into @ARGV before any
# single dash argument to hide it from
# Getopt::Long; we want to interpret it as meaning stdin (which Pod::Simple
# does correctly).
my $stdin;
@ARGV = map { $_ eq '-' && !$stdin++ ? ('-', $_) : $_ } @ARGV;

# Parse our options. Use the same names as Pod::Text for simplicity, and
# default to sentence boundaries turned off for compatibility.
my %options;
$options{sentence} = 0;
Getopt::Long::config ('bundling');
GetOptions (\%options, 'alt|a', 'code', 'color|c', 'errors=s', 'help|h',
            'indent|i=i', 'loose|l', 'margin|left-margin|m=i', 'nourls',
            'overstrike|o', 'quotes|q=s', 'sentence|s', 'stderr', 'termcap|t',
            'utf8|u', 'width|w=i')
    or exit 1;
pod2usage (1) if $options{help};

# Figure out what formatter we're going to use. -c overrides -t.
my $formatter = 'Pod::Text';
if ($options{color}) {
    $formatter = 'Pod::Text::Color';
    eval { require Term::ANSIColor };
    if ($?) { die "-c (--color) requires Term::ANSIColor be installed\n" }
    require
    Pod::Text::Color;
} elsif ($options{termcap}) {
    $formatter = 'Pod::Text::Termcap';
    require Pod::Text::Termcap;
} elsif ($options{overstrike}) {
    $formatter = 'Pod::Text::Overstrike';
    require Pod::Text::Overstrike;
}
delete @options{'color', 'termcap', 'overstrike'};

# If neither stderr nor errors is set, default to errors = die.
if (!defined $options{stderr} && !defined $options{errors}) {
    $options{errors} = 'die';
}

# Initialize and run the formatter.
my $parser = $formatter->new (%options);
my $status = 0;
do {
    my ($input, $output) = splice (@ARGV, 0, 2);
    $parser->parse_from_file ($input, $output);
}

```

```

if ($parser->{CONTENTLESS}) {
    $status = 1;
    warn "$0: unable to format $input\n";
    if (defined ($output) and $output ne '-') {
        unlink $output unless (-s $output);
    }
}
} while (@ARGV);
exit $status;

```

__END__

```

=for stopwords
-aclostu --alt --stderr Allbery --overstrike overstrike --termcap --utf8
UTF-8 subclasses
--nourls

```

=head1 NAME

pod2text - Convert POD data to formatted ASCII text

=head1 SYNOPSIS

```

pod2text [B<-aclostu>] [B<--code>] [B<--errors>=I<style>] [B<-i> I<indent>]
  S<[B<-q> I<quotes>]> [B<--nourls>] [B<--stderr>] S<[B<-w> I<width>]>
  [I<input> [I<output> ...]]

```

pod2text B<-h>

=head1 DESCRIPTION

B<pod2text> is a front-end for Pod::Text and its subclasses. It uses them to generate formatted ASCII text from POD source. It can optionally use either termcap sequences or ANSI color escape sequences to format the text.

I<input> is the file to read for POD source (the POD can be embedded in code). If I<input> isn't given, it defaults to C<STDIN>. I<output>, if given, is the file to which to write the formatted output. If I<output> isn't given, the formatted output is written to C<STDOUT>. Several POD files can be processed in the same B<pod2text> invocation (saving module load and compile times) by providing multiple pairs of I<input> and I<output> files on the command line.

=head1 OPTIONS

=over 4

=item B<-a>, B<--alt>

Use an alternate output format that, among other things, uses a different heading style and marks C<=item> entries with a colon in the left margin.

=item B<--code>

Include any non-POD text from the input file in the output as well. Useful for viewing code documented with POD blocks with the POD rendered and the code left intact.

=item B<-c>, B<--color>

Format the output with ANSI color escape sequences. Using this option requires that Term::ANSIColor be installed on your system.

=item B<-i> I<indent>, B<--indent=>I<indent>

Set the number of spaces to indent regular text, and the default indentation for C<=over> blocks. Defaults to 4 spaces if this option isn't given.

=item B<-errors>=I<style>

Set the error handling style. C<die> says to throw an exception on any POD formatting error. C<stderr> says to report errors on standard error, but not to throw an exception. C<pod> says to include a POD ERRORS section in the resulting documentation summarizing the errors. C<none> ignores POD errors entirely, as much as possible.

The default is C<die>.

=item B<-h>, B<--help>

Print out usage information and exit.

=item B<-l>, B<--loose>

Print a blank line after a C<=head1> heading. Normally, no blank line is printed after C<=head1>, although one is still printed after C<=head2>, because this is the expected formatting for manual pages; if you're formatting arbitrary text documents, using this option is recommended.

=item B<-m> I<width>, B<--left-margin>=I<width>, B<--margin>=I<width>

The width of the left margin in spaces. Defaults to 0. This is the margin for all text, including headings, not the amount by which regular text is indented; for the latter, see B<-i> option.

=item B<--nourls>

Normally, LZ<>> formatting codes with a URL but anchor text are formatted to show both the anchor text and the URL. In other words:

```
L<foo|http://example.com/>
```

is formatted as:

```
foo <http://example.com/>
```

This

flag, if given, suppresses the URL when anchor text is given, so this example would be formatted as just C<foo>. This can produce less cluttered output in cases where the URLs are not particularly important.

=item B<-o>, B<--overstrike>

Format the output with overstrike printing. Bold text is rendered as character, backspace, character. Italics and file names are rendered as underscore, backspace, character. Many pagers, such as B<less>, know how to convert this to bold or underlined text.

=item B<-q> I<quotes>, B<--quotes>=I<quotes>

Sets the quote marks used to surround CE<lt>> text to I<quotes>. If I<quotes> is a single character, it is used as both the left and right quote; if I<quotes> is two characters, the first character is used as the left quote and the second as the right quoted; and if I<quotes> is four characters, the first two are used as the left quote and the second two as the right quote.

I<quotes> may also be set to the special value C<none>, in which case no quote marks are added around CE<lt>> text.

=item B<-s>, B<--sentence>

Assume each sentence ends with two spaces and try to preserve that spacing. Without this option, all consecutive whitespace in non-verbatim paragraphs is compressed into a single space.

=item B<--stderr>

By default, B<pod2text> dies if any errors are detected in the POD input. If B<--stderr> is given and no B<--errors> flag is present, errors are sent to standard error, but B<pod2text> does not abort. This is

equivalent to `C<--errors=stderr>` and is supported for backward compatibility.

=item `B<-t>`, `B<--termcap>`

Try to determine the width of the screen and the bold and underline sequences for the terminal from `termcap`, and use that information in formatting the output. Output will be wrapped at two columns less than the width of your terminal device. Using this option requires that your system have a `termcap` file somewhere where `Term::Cap` can find it and requires that your system support `termios`.

With this option, the output of `B<pod2text>` will contain terminal control sequences for your current terminal type.

=item `B<-u>`, `B<--utf8>`

By default, `B<pod2text>` tries to use the same output encoding as its input encoding (to be backward-compatible with older versions). This option says to instead force the output encoding to UTF-8.

Be aware that, when using this option, the input encoding of your POD source must be properly declared unless it is US-ASCII or Latin-1. POD input without an `C<=encoding>` command will be assumed to be in Latin-1, and if it's actually in UTF-8, the output will be double-encoded. See `L<perlpod(1)>` for more information on the `C<=encoding>` command.

=item `B<-w>`, `B<--width=>I<width>`, `B<->I<width>`

The column at which to wrap text on the right-hand side. Defaults to 76, unless `B<-t>` is given, in which case it's two columns less than the width of your terminal device.

=back

=head1 EXIT STATUS

As long as all documents processed result in some output, even if that output includes errata (a `C<POD ERRORS>` section generated with `C<--errors=pod>`), `B<pod2text>` will exit with status 0. If any of the documents being processed do not result in an output document, `B<pod2text>` will exit with status 1. If there are syntax errors in a POD document being processed and the error handling style is set to the default of `C<die>`, `B<pod2text>` will abort immediately with exit status 255.

=head1 DIAGNOSTICS

If `B<pod2text>` fails with errors, see `L<Pod::Text>` and `L<Pod::Simple>` for

information about what those errors might mean. Internally, it can also produce the following diagnostics:

=over 4

=item -c (--color) requires Term::ANSIColor be installed

(F) B<-c> or B<--color> were given, but Term::ANSIColor could not be loaded.

=item Unknown option: %s

(F) An unknown command line option was given.

=back

In addition, other L<Getopt::Long> error messages may result from invalid command-line options.

=head1 ENVIRONMENT

=over 4

=item COLUMNS

If B<-t>

is given, B<pod2text> will take the current width of your screen from this environment variable, if available. It overrides terminal width information in TERMCAP.

=item TERMCAP

If B<-t> is given, B<pod2text> will use the contents of this environment variable if available to determine the correct formatting sequences for your current terminal device.

=back

=head1 SEE ALSO

L<Pod::Text>, L<Pod::Text::Color>, L<Pod::Text::Overstrike>,
L<Pod::Text::Termcap>, L<Pod::Simple>, L<perlpod(1)>

The current version of this script is always available from its web site at L<<http://www.eyrie.org/~eagle/software/podlators/>>. It is also part of the Perl core distribution as of 5.6.0.

=head1 AUTHOR

Russ Allbery <rra@stanford.edu>.

=head1 COPYRIGHT AND LICENSE

Copyright 1999, 2000, 2001, 2004, 2006, 2008, 2010, 2012, 2013 Russ Allbery <rra@stanford.edu>.

This program is free software; you may redistribute it and/or modify it under the same terms as Perl itself.

=cut

Found in path(s):

*

/opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/scripts/pod2text

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

abstract: 'Convert POD data to various other formats'

author:

- 'Russ Allbery <rra@stanford.edu>'

build_requires:

ExtUtils::MakeMaker: 0

configure_requires:

ExtUtils::MakeMaker: 0

distribution_type: module

dynamic_config: 0

generated_by: 'ExtUtils::MakeMaker version 6.57_05'

license: perl

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: podlators

no_index:

directory:

- t

- inc

requires:

Encode: 0

File::Spec: 0.8

Pod::Simple: 3.06

version: 2.5.1

Found in path(s):

* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/MYMETA.yml

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

```
# This program is free software; you may redistribute it and/or modify it
# under the same terms as Perl itself.
# version.
```

Found in path(s):

```
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-
archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-
2.5.1/lib/Pod/Text/Overstrike.pm
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-
archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/lib/Pod/Text/Termcap.pm
```

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

=head1 NAME

perlpodstyle - Perl POD style guide

=head1 DESCRIPTION

These are general guidelines for how to write POD documentation for Perl scripts and modules, based on general guidelines for writing good UNIX man pages. All of these guidelines are, of course, optional, but following them will make your documentation more consistent with other documentation on the system.

The name of the program being documented is conventionally written in bold (using `BE<lt>E<gt>`) wherever it occurs, as are all program options. Arguments should be written in italics (`IE<lt>E<gt>`). Function names are traditionally written in italics; if you write a function as `function()`, Pod::Man will take care of this for you. Literal code or commands should be in `CE<lt>E<gt>`. References to other man pages should be in the form `C<manpage(section)>` or `C<LE<lt>manpage(section)E<gt>>`, and Pod::Man will automatically format those appropriately.

The second form, with `LE<lt>E<gt>`, is used to request that a POD formatter make a link to the man page if possible. As an exception, one normally omits the section when referring to module documentation since it's not clear what section module documentation will be in; use `C<LE<lt>Module::NameE<gt>>` for module references instead.

References to other programs or functions are normally in the form of man page references so that cross-referencing tools can provide the user with links and the like. It's possible to overdo this, though, so be careful not to clutter your documentation with too much markup. References to other programs that are not given as man page references should be enclosed in `BE<lt>E<gt>`.

The major headers should be set out using a `C<=head1>` directive, and are historically written in the rather startling ALL UPPER CASE format; this is not mandatory, but it's strongly recommended so that sections have consistent naming across different software packages. Minor headers may be included using `C<=head2>`, and are typically in mixed case.

The standard sections of a manual page are:

`=over 4`

`=item NAME`

Mandatory section; should be a comma-separated list of programs or functions documented by this POD page, such as:

foo, bar - programs to do something

Manual page indexers are often extremely picky about the format of this section, so don't put anything in it except this line. Every program or function documented by this POD page should be listed, separated by a comma and a space. For a Perl module, just give the module name. A single dash, and only a single dash, should separate the list of programs or functions from the description. Do not use any markup such as `CE<lt>E<gt>` or `BE<lt>E<gt>` anywhere in this line. Functions should not be qualified with `C<()>` or the like. The description should ideally fit on a single line, even if a man program replaces the dash with a few tabs.

`=item SYNOPSIS`

A short usage summary for programs and functions.

This section is mandatory for section 3 pages. For Perl module documentation, it's usually convenient to have the contents of this section be a verbatim block showing some (brief) examples of typical ways the module is used.

`=item DESCRIPTION`

Extended description and discussion of the program or functions, or the body of the documentation for man pages that document something else. If particularly long, it's a good idea to break this up into subsections `C<=head2>` directives like:

`=head2 Normal Usage`

`=head2 Advanced Features`

`=head2 Writing Configuration Files`

or whatever is appropriate for your documentation.

For a module, this is generally where the documentation of the interfaces provided by the module goes, usually in the form of a list with an C<=item> for each interface. Depending on how many interfaces there are, you may want to put that documentation in separate METHODS, FUNCTIONS, CLASS METHODS, or INSTANCE METHODS sections instead and save the DESCRIPTION section for an overview.

=item OPTIONS

Detailed description of each of the command-line options taken by the program. This should be separate from the description for the use of parsers like L<Pod::Usage>. This is normally presented as a list, with each option as a separate C<=item>. The specific option string should be enclosed in BE<lt>E<gt>. Any values that the option takes should be enclosed in IE<lt>E<gt>. For example, the section for the option B<--section>=I<manext> would be introduced with:

=item B<--section>=I<manext>

Synonymous options (like both the short and long forms) are separated by a comma and a space on the same C<=item> line, or optionally listed as their own item with a reference to the canonical name. For example, since B<--section> can also be written as B<-s>, the above would be:

=item B<-s> I<manext>, B<--section>=I<manext>

Writing the short option first is recommended because it's easier to read. The long option is long enough to draw the eye to it anyway and the short option can otherwise get lost in visual noise.

=item RETURN VALUE

What the program or function returns, if successful. This section can be omitted for programs whose precise exit codes aren't important, provided they return 0 on success and non-zero on failure as is standard. It should always be present for functions. For modules, it may be useful to summarize return values from the module interface here, or it may be more useful to discuss return values separately in the documentation of each function or method the module provides.

=item ERRORS

Exceptions, error return codes, exit statuses, and errno settings.

Typically used for function or module documentation; program documentation uses `DIAGNOSTICS` instead. The general rule of thumb is that errors printed to `C<STDOUT>` or `C<STDERR>` and intended for the end user are documented in `DIAGNOSTICS` while errors passed internal to the calling program and intended for other programmers are documented in `ERRORS`. When documenting a function that sets `errno`, a full list of the possible `errno` values should be given here.

=item `DIAGNOSTICS`

All possible messages the program can print out and what they mean. You may wish to follow the same documentation style as the Perl documentation; see `perldiag(1)` for more details (and look at the POD source as well).

If applicable, please include details on what the user should do to correct the error; documenting an error as indicating "the input buffer is too small" without telling the user how to increase the size of the input buffer (or at least telling them that it isn't possible) aren't very useful.

=item `EXAMPLES`

Give some example uses of the program or function. Don't skimp; users often find this the most useful part of the documentation. The examples are generally given as verbatim paragraphs.

Don't just present an example without explaining what it does. Adding a short paragraph saying what the example will do can increase the value of the example immensely.

=item `ENVIRONMENT`

Environment variables that the program cares about, normally presented as a list using `C<=over>`, `C<=item>`, and `C<=back>`. For example:

=over 6

=item `HOME`

Used to determine the user's home directory. `F<.foorc>` in this directory is read for configuration details, if it exists.

=back

Since environment variables are normally in all uppercase, no additional special formatting is generally needed; they're glaring enough as it is.

=item FILES

All files used by the program or function, normally presented as a list, and what it uses them for. File names should be enclosed in `<E>`. It's particularly important to document files that will be potentially modified.

=item CAVEATS

Things to take special care with, sometimes called WARNINGS.

=item BUGS

Things that are broken or just don't work quite right.

=item RESTRICTIONS

Bugs you don't plan to fix. :-)

=item NOTES

Miscellaneous commentary.

=item AUTHOR

Who

wrote it (use AUTHORS for multiple people). It's a good idea to include your current e-mail address (or some e-mail address to which bug reports should be sent) or some other contact information so that users have a way of contacting you. Remember that program documentation tends to roam the wild for far longer than you expect and pick a contact method that's likely to last.

=item HISTORY

Programs derived from other sources sometimes have this. Some people keep a modification log here, but that usually gets long and is normally better maintained in a separate file.

=item COPYRIGHT AND LICENSE

For copyright

Copyright YEAR(s) YOUR NAME(s)

(No, (C) is not needed. No, "all rights reserved" is not needed.)

For licensing the easiest way is to use the same licensing as Perl itself:

This library is free software; you may redistribute it and/or modify it under the same terms as Perl itself.

This makes it easy for people to use your module with Perl. Note that this

licensing example is neither an endorsement or a requirement, you are of course free to choose any licensing.

=item SEE ALSO

Other man pages to check out, like man(1), man(7), makewhatis(8), or catman(8). Normally a simple list of man pages separated by commas, or a paragraph giving the name of a reference work. Man page references, if they use the standard C<name(section)> form, don't have to be enclosed in LE<lt>E<gt> (although it's recommended), but other things in this section probably should be when appropriate.

If the package has a mailing list, include a URL or subscription instructions here.

If the package has a web site, include a URL here.

=back

Documentation of object-oriented libraries or modules may want to use CONSTRUCTORS and METHODS sections, or CLASS METHODS and INSTANCE METHODS sections, for detailed documentation of the parts of the library and save the DESCRIPTION section for an overview. Large modules with a function interface may want to use FUNCTIONS for similar reasons. Some people use OVERVIEW to summarize the description if it's quite long.

Section ordering varies, although NAME must always be the first section (you'll break some man page systems otherwise), and NAME, SYNOPSIS, DESCRIPTION, and OPTIONS generally always occur first and in that order if present. In general, SEE ALSO, AUTHOR, and similar material should be left for last. Some systems also move WARNINGS and NOTES to last. The order given above should be reasonable for most purposes.

Some systems use CONFORMING TO to note conformance to relevant standards and MT-LEVEL to note safeness for use in threaded programs or signal handlers. These headings are primarily useful when documenting parts of a C library.

Finally, as a general note, try not to use an excessive amount of markup.

As documented here and in L<Pod::Man>, you can safely leave Perl

variables, function names, man page references, and the like unadorned by markup and the POD translators will figure it out for you. This makes it much easier to later edit the documentation. Note that many existing translators will do the wrong thing with e-mail addresses when wrapped in `LE<lt>E<gt>`, so don't do that.

=head1 SEE ALSO

For additional information that may be more accurate for your specific system, see either `L<man(5)>` or `L<man(7)>` depending on your system manual section numbering conventions.

This documentation is maintained as part of the podlators distribution. The current version is always available from its web site at `<http://www.eyrie.org/~eagle/software/podlators/>`.

=head1 AUTHOR

Russ Allbery `<rra@stanford.edu>`, with large portions of this documentation taken from the documentation of the original `B<pod2man>` implementation by Larry Wall and Tom Christiansen.

=head1 COPYRIGHT AND LICENSE

Copyright 1999, 2000, 2001, 2004, 2006, 2008, 2010 Russ Allbery `<rra@stanford.edu>`.

This documentation is free software; you may redistribute it and/or modify it under the same terms as Perl itself.

=cut

Found in path(s):

* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/pod/perlpodstyle.pod
No license file was found, but licenses were detected in source scan.

This program is free software; you may redistribute it and/or modify it
under the same terms as Perl itself.

Found in path(s):

* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/pod-parser.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/lib/Pod/ParseLink.pm
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-

archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/man-options.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/text-perlio.t
*
/opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/color.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/filehandle.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/man-utf8.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/text.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/lib/Pod/Text/Color.pm
*
/opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/lib/Pod/Text.pm
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/basic.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/text-utf8.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/termcap.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/parselink.t
*
/opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/overstrike.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/text-options.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/lib/Pod/Man.pm
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/man-heading.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/pod.t
*
/opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/man.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/man-perlio.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/text-encoding.t
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/t/pod-spelling.t
No license file was found, but licenses were detected in source scan.

License: GPL+ or Artistic

Found in path(s):

```
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-  
archive-P4j9GZ1H/perl-podlators.spec
```

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

```
#!perl
```

```
# pod2man -- Convert POD data to formatted *roff input.
```

```
#
```

```
# Copyright 1999, 2000, 2001, 2004, 2006, 2008, 2010, 2012, 2013
```

```
# Russ Allbery <rra@stanford.edu>
```

```
#
```

```
# This program is free software; you may redistribute it and/or modify it
```

```
# under the same terms as Perl itself.
```

```
require 5.004;
```

```
use Getopt::Long qw(GetOptions);
```

```
use Pod::Man ();
```

```
use Pod::Usage qw(pod2usage);
```

```
use strict;
```

```
# Clean up $0 for error reporting.
```

```
$0 =~ s%.*%%;
```

```
# Insert -- into @ARGV before any single dash argument to hide it from
```

```
# Getopt::Long; we want to interpret it as meaning stdin.
```

```
my $stdin;
```

```
@ARGV = map { $_ eq '-' && !$stdin++ ? ('-', $_) : $_ } @ARGV;
```

```
# Parse our options, trying to retain backward compatibility with pod2man but
```

```
# allowing short forms as well. --lax is currently ignored.
```

```
my %options;
```

```
Getopt::Long::config ('bundling_override');
```

```
GetOptions (\%options, 'center|c=s', 'date|d=s', 'errors=s', 'fixed=s',
```

```
    'fixedbold=s', 'fixeditalic=s', 'fixedbolditalic=s', 'help|h',
```

```
    'lax|l', 'name|n=s', 'nourls', 'official|o', 'quotes|q=s',
```

```
    'release|r:s', 'section|s=s', 'stderr', 'verbose|v', 'utf8|u')
```

```
    or exit 1;
```

```
pod2usage (0) if $options{help};
```

```
# Official sets --center, but don't override things explicitly set.
```

```
if ($options{official} && !defined $options{center}) {
```

```
    $options{center} = 'Perl Programmers Reference Guide';
```

```
}
```



```

# Verbose is only our flag, not a Pod::Man flag.
my $verbose = $options{verbose};
delete $options{verbose};

# This isn't a valid Pod::Man option and is only accepted for backward
# compatibility.
delete $options{lax};

# If neither stderr nor errors is set, default to errors = die.
if (!defined $options{stderr} && !defined $options{errors}) {
    $options{errors} = 'die';
}

# Initialize and run the formatter, pulling a pair of input and output off at
# a time. For each file, we check whether the document was completely empty
# and, if so, will remove
# the created file and exit with a non-zero exit
# status.
my $parser = Pod::Man->new (%options);
my $status = 0;
my @files;
do {
    @files = splice (@ARGV, 0, 2);
    print " $files[1]\n" if $verbose;
    $parser->parse_from_file (@files);
    if ($parser->{CONTENTLESS}) {
        $status = 1;
        warn "$0: unable to format $files[0]\n";
        if (defined ($files[1]) and $files[1] ne '-') {
            unlink $files[1] unless (-s $files[1]);
        }
    }
} while (@ARGV);
exit $status;

```

__END__

=for stopwords

en em --stderr stderr --utf8 UTF-8 overdo markup MT-LEVEL Allbery Solaris
URL troff troff-specific formatters uppercased Christiansen --nourls

=head1 NAME

pod2man - Convert POD data to formatted *roff input

=head1 SYNOPSIS

pod2man [B<--center>=I<string>] [B<--date>=I<string>] [B<--errors>=I<style>]
[B<--fixed>=I] [B<--fixedbold>=I] [B<--fixeditalic>=I]
[B<--fixedbolditalic>=I] [B<--name>=I<name>] [B<--nourls>]
[B<--official>] [B<--quotes>=I<quotes>]
[B<--release>[=I<version>]]
[B<--section>=I<manext>] [B<--stderr>] [B<--utf8>] [B<--verbose>]
[I<input> [I<output>] ...]

pod2man B<--help>

=head1 DESCRIPTION

B<pod2man> is a front-end for Pod::Man, using it to generate *roff input from POD source. The resulting *roff code is suitable for display on a terminal using nroff(1), normally via man(1), or printing using troff(1).

I<input> is the file to read for POD source (the POD can be embedded in code). If I<input> isn't given, it defaults to C<STDIN>. I<output>, if given, is the file to which to write the formatted output. If I<output> isn't given, the formatted output is written to C<STDOUT>. Several POD files can be processed in the same B<pod2man> invocation (saving module load and compile times) by providing multiple pairs of I<input> and I<output> files on the command line.

B<--section>, B<--release>, B<--center>, B<--date>, and B<--official> can be used to set the headers and footers to use; if not given, Pod::Man will assume various defaults. See below or L<Pod::Man> for details.

B<pod2man> assumes that your *roff formatters have a fixed-width font named C<CW>. If yours is called something else (like C<CR>), use B<--fixed> to specify it. This generally only matters for troff output for printing. Similarly, you can set the fonts used for bold, italic, and bold italic fixed-width output.

Besides the obvious pod conversions, Pod::Man, and therefore pod2man also takes care of formatting func(), func(n), and simple variable references like \$foo or @bar so you don't have to use code escapes for them; complex expressions like C<\$fred{'stuff'}> will still need to be escaped, though. It also translates dashes that aren't used as hyphens into en dashes, makes long dashes--like this--into proper em dashes, fixes "paired quotes," and takes care of several other troff-specific tweaks. See L<Pod::Man> for complete information.

=head1 OPTIONS

=over 4

=item B<-c> I<string>, B<--center>=I<string>

Sets

the centered page header to I<string>. The default is "User Contributed Perl Documentation", but also see B<--official> below.

=item B<-d> I<string>, B<--date>=I<string>

Set the left-hand footer string to this value. By default, the modification date of the input file will be used, or the current date if input comes from C<STDIN>.

=item B<-errors>=I<style>

Set the error handling style. C<die> says to throw an exception on any POD formatting error. C<stderr> says to report errors on standard error, but not to throw an exception. C<pod> says to include a POD ERRORS section in the resulting documentation summarizing the errors. C<none> ignores POD errors entirely, as much as possible.

The default is C<die>.

=item B<--fixed>=I

The fixed-width font to use for verbatim text and code. Defaults to C<CW>. Some systems may want C<CR> instead. Only matters for troff(1) output.

=item B<--fixedbold>=I

Bold version of the fixed-width font. Defaults to C<CB>. Only matters for troff(1) output.

=item B<--fixeditalic>=I

Italic version of the fixed-width font (actually, something of a misnomer, since most fixed-width fonts only have an oblique version, not an italic version). Defaults to C<CI>. Only matters for troff(1) output.

=item B<--fixedbolditalic>=I

Bold italic (probably actually oblique) version of the fixed-width font. Pod::Man doesn't assume you have this, and defaults to C<CB>. Some systems (such as Solaris) have this font available as C<CX>. Only matters for troff(1) output.

=item B<-h>, B<--help>

Print out usage information.

=item B<-l>, B<--lax>

No longer used. B<pod2man> used to check its input for validity as a manual page, but this should now be done by L<podchecker(1)> instead. Accepted for backward compatibility; this option no longer does anything.

=item B<-n> I<name>, B<--name>=I<name>

Set the name of the manual page to I<name>. Without this option, the manual name is set to the

uppercased base name of the file being converted unless the manual section is 3, in which case the path is parsed to see if it is a Perl module path. If it is, a path like C<.../lib/Pod/Man.pm> is converted into a name like C<Pod::Man>. This option, if given, overrides any automatic determination of the name.

Note that this option is probably not useful when converting multiple POD files at once. The convention for Unix man pages for commands is for the man page title to be in all-uppercase even if the command isn't.

=item B<--nourls>

Normally, LZ<<>> formatting codes with a URL but anchor text are formatted to show both the anchor text and the URL. In other words:

L<foo|http://example.com/>

is formatted as:

foo <http://example.com/>

This flag, if given, suppresses the URL when anchor text is given, so this example would be formatted as just C<foo>. This can produce less cluttered output in cases where the URLs are not particularly important.

=item B<-o>, B<--official>

Set

the default header to indicate that this page is part of the standard Perl release, if B<--center> is not also given.

=item B<-q> I<quotes>, B<--quotes>=I<quotes>

Sets the quote marks used to surround CE<lt>> text to I<quotes>. If I<quotes> is a single character, it is used as both the left and right

quote; if I<quotes> is two characters, the first character is used as the left quote and the second as the right quoted; and if I<quotes> is four characters, the first two are used as the left quote and the second two as the right quote.

I<quotes> may also be set to the special value C<none>, in which case no quote marks are added around CE<lt>> text (but the font is still changed for troff output).

=item B<-r>, B<--release>

Set the centered footer. By default, this is the version of Perl you run B<pod2man> under. Note that some system an macro sets assume that the centered footer will be a modification date and will prepend something like "Last modified: "; if this is the case, you may want to set B<--release> to the last modified date and B<--date> to the version number.

=item B<-s>, B<--section>

Set the section for the C<.TH> macro. The standard section numbering convention is to use 1 for user commands, 2 for system calls, 3 for functions, 4 for devices, 5 for file formats, 6 for games, 7 for miscellaneous information, and 8 for administrator commands. There is a lot of variation here, however; some systems (like Solaris) use 4 for file formats, 5 for miscellaneous information, and 7 for devices. Still others use 1m instead of 8, or some mix of both. About the only section numbers that are reliably consistent are 1, 2, and 3.

By default, section 1 will be used unless the file ends in C<.pm>, in which case section 3 will be selected.

=item B<--stderr>

By default, B<pod2man> dies if any errors are detected in the POD input. If B<--stderr> is given and no B<--errors> flag is present, errors are sent to standard error, but B<pod2man> does not abort. This is equivalent to C<--errors=stderr> and is supported for backward compatibility.

=item B<-u>, B<--utf8>

By default, B<pod2man> produces the most conservative possible *roff output to try to ensure that it will work with as many different *roff implementations as possible. Many *roff implementations cannot handle non-ASCII characters, so this means all non-ASCII characters are converted either to a *roff escape sequence that tries to create a properly accented character (at least for troff output) or to C<X>.

This option says to instead output literal UTF-8 characters. If your troff implementation can handle it, this is the best output format to use and avoids corruption of documents containing non-ASCII characters. However, be warned that troff source with literal UTF-8 characters is not supported by many implementations and may even result in segfaults and other bad behavior.

Be aware that, when using this option, the input encoding of your POD source must be properly declared unless it is US-ASCII or Latin-1. POD input without an C<=<encoding> command will be assumed to be in Latin-1, and if it's actually in UTF-8, the output will be double-encoded. See L<perlpod(1)> for more information on the C<=<encoding> command.

=item B<-v>, B<--verbose>

Print out the name of each output file as it is being generated.

=back

=head1 EXIT STATUS

As long as all documents processed result in some output, even if that output includes errata (a C<POD ERRORS> section generated with C<--errors=pod>), B<pod2man> will exit with status 0. If any of the documents being processed do not result in an output document, B<pod2man> will exit with status 1. If there are syntax errors in a POD document being processed and the error handling style is set to the default of C<die>, B<pod2man> will abort immediately with exit status 255.

=head1 DIAGNOSTICS

If B<pod2man> fails with errors, see L<Pod::Man> and L<Pod::Simple> for information about what those errors might mean.

=head1

EXAMPLES

```
pod2man program > program.1
pod2man SomeModule.pm /usr/perl/man/man3/SomeModule.3
pod2man --section=7 note.pod > note.7
```

If you would like to print out a lot of man page continuously, you probably want to set the C and D registers to set contiguous page numbering and even/odd paging, at least on some versions of man(7).

```
troff -man -rC1 -rD1 perl.1 perldata.1 perlsyn.1 ...
```

To get index entries on C<STDERR>, turn on the F register, as in:

```
troff -man -rF1 perl.1
```

The indexing merely outputs messages via C<.tm> for each major page, section, subsection, item, and any C<XE<lt>E<gt>> directives. See L<Pod::Man> for more details.

=head1 BUGS

Lots of this documentation is duplicated from L<Pod::Man>.

=head1 SEE ALSO

L<Pod::Man>, L<Pod::Simple>, L<man(1)>, L<nroff(1)>, L<perlpod(1)>, L<podchecker(1)>, L<perlpodstyle(1)>, L<troff(1)>, L<man(7)>

The man page documenting the an macro set may be L<man(5)> instead of L<man(7)> on your system.

The current

version of this script is always available from its web site at L<<http://www.eyrie.org/~eagle/software/podlators/>>. It is also part of the Perl core distribution as of 5.6.0.

=head1 AUTHOR

Russ Allbery <rra@stanford.edu>, based I<very> heavily on the original B<pod2man> by Larry Wall and Tom Christiansen.

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=cut

Found in path(s):

```
* /opt/cola/permits/1496435268_1670015365.9223757/0/perl-podlators-2.5.1-3.amzn2.0.1.src.rpm-cosi-expand-archive-P4j9GZ1H/podlators-2.5.1.tar.gz-cosi-expand-archive-2DbRfs3q/podlators-2.5.1/scripts/pod2man
```

1.203 perl-pod-usage 1.63-3.amzn2

1.203.1 Available under license :

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

/opt/cola/permits/1496435287_1670015362.2061563/0/perl-Pod-Usage-1.63-3.amzn2.src.rpm-cosi-expand-archive-C2UlwzoU/Pod-Usage-1.63.tar.gz-cosi-expand-archive-qy7Nnz7w/Pod-Usage-1.63.tar.gz: binary file matches

Found in path(s):

* /bin/grep

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

License: GPL+ or Artistic

Found in path(s):

* /opt/cola/permits/1496435287_1670015362.2061563/0/perl-Pod-Usage-1.63-3.amzn2.src.rpm-cosi-expand-archive-C2UlwzoU/perl-Pod-Usage.spec

1.204 nspr 4.34.0-3.1.amzn2

1.204.1 Available under license :

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```
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```

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```
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```

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1.209 libcom-err-devel 1.42.9-19.amzn2.0.1

1.209.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

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Index: tdbsa/tdb.c

=====

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
- + trivial database library - standalone version

- trivial database library - private includes
-
- Copyright (C) Andrew Tridgell 2005
- + Copyright (C) Andrew Tridgell 1999-2005
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Gadi Oxman, August 1995

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```

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

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#

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): \$(OBS)

(cd pic; ld -Bshareable -o \$(BSD_LIB) \$(LDFLAGS) \$(OBS))

\$(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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Theodore Ts'o
23-June-2007

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<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

This is the Debian GNU/Linux prepackaged version of the Common Error Description library. It is currently distributed together with the EXT2 file system utilities, which are otherwise packaged as "e2fsprogs".

This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:
tsx-11.mit.edu:/pub/linux/packages/ext2fs/

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system utilities (e2fsck, mke2fs, etc.). The EXT2 utilities were
written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

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Julian Seward, jseward@bzip.org
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@end smallexample

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

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

```
@smallexample
@var{program} Copyright (C) @var{year} @var{name of author}
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This is free software, and you are welcome to redistribute it
under certain conditions; type @samp{show c} for details.
@end smallexample
```

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@c man end

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Version 2.1, February 1999

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Any

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Version 3, 29 June 2007

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Version 3.1, 31 March 2009

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1.215 importlib-resources 5.10.2

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1.216 e2fsprogs 1.42.9-19.amzn2.0.1

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Index: tdbsa/tdb.c

=====
--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes

-

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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>
```

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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:

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
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:

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

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

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it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

<http://sourceforge.net/projects/e2fsprogs>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

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#

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) $(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)
This package, the EXT2 filesystem utilities, are made available under
the GNU Public License version 2, with the exception of the lib/ext2fs

```

and lib/e2p libraries, which are made available under the GNU Library General Public License Version 2, the lib/uuid library which is made available under a BSD-style license and the lib/et and lib/ss libraries which are made available under an MIT-style license. Please see lib/uuid/COPYING for more details for the license for the files comprising the lib/uuid library, and the source file headers of the libet and libss libraries for more information.

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Theodore Ts'o
23-June-2007

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Version 2, June 1991

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```
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```

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

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This is the Debian GNU/Linux prepackaged version of the Common Error
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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

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1.217 importlib-metadata 6.0.0

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1.218 zlib 1.2.7-19.amzn2.0.2

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1.219 keyutils 1.5.8-3.amzn2.0.2

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<one line to give the program's name and a brief idea of what it does.>
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```
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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.

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

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

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The precise terms and conditions for copying, distribution and

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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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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

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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, 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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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

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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.

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- 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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- 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.

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1.220 future 0.18.3

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1.221 libtasn 4.10-1.amzn2.0.3

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Version 2.1, February 1999

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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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Version 3, 29 June 2007

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Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand

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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.

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

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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.

The

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```
#!/usr/bin/env bash
# MIT licenses will each have a unique MD5 sum since they contain a unique copyright.
# This script will read the license file into memory, strip out the copyright, and then
# generate an MD5 that is not unique and can be matched against a known MIT MD5 sum.
set -e
```

```
calculate_md5_sum() {
  local FILE="$1"

  # Read the contents of the file into a variable
  local raw_license_text=$(<"$FILE")
```



```

# Convert to lowercase
local lowercase_license_text="{raw_license_text,}"

# Remove anything before the beginning of the license
local stripped_license_text=$(awk '/permission is hereby granted/{p=1} p' <<< "$lowercase_license_text")

# Replace line breaks (Windows or Linux) with a single space
local replaced_linebreaks=$(tr '\r\n' ' ' <<< "$stripped_license_text")

# Replace multiple spaces with a single space
local normalized_license_text=$(tr -s ' ' <<< "$replaced_linebreaks")

# Strip away any non-printable, non-whitespace characters
local clean_unprintable_license_text=$(tr
-cd '[:print:][:space:]' <<< "$normalized_license_text")

# Remove punctuation and special characters
local clean_license_text=$(echo "$clean_unprintable_license_text" | sed 's/[^a-zA-Z ]//g')

# Calculate the MD5 sum of the cleaned license text
local MD5SUM=$(echo -n "$clean_license_text" | md5sum | awk '{print $1}')

# Output the MD5 sum
echo "$MD5SUM"
}

# Check if the FILE argument is provided
if [ -z "$1" ]; then
echo "Please provide a FILE as an argument."
exit 1
fi

# Invoke the function with the provided FILE argument
calculate_md5_sum "$1"

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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.

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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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cmd/krb5/ipropl/ipropl_hdr.h
cmd/krb5/kadmin/server/ipropl_svc.c
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
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lib/libgss/g_delete_sec_context.c
lib/libgss/g_dsp_name.c
lib/libgss/g_dsp_status.c
lib/libgss/g_dup_name.c
lib/libgss/g_exp_sec_context.c
lib/libgss/g_export_name.c
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lib/libgss/gssd_pname_to_uid.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
- 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/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
slave/kpropd_rpc.c
slave/kproplog.c

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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/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
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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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slave/kpropd_rpc.c
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1.227 krb5-devel 1.15.1-55.amzn2.2.5

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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
lib/libgss/g_dsp_name.c
lib/libgss/g_dsp_status.c
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lib/libgss/g_export_name.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
uts/common/gssapi/include/mechglueP.h

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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/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
slave/kpropr_rpc.c
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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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(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.

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

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contribution to the Google C++ Testing Framework project. People
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1.232 python 3.7.16-1.amzn2.0.2

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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.

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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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1.237 pyasn1 0.5.0

1.237.1 Available under license :

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```
[metadata]
name = pyasn1
version = attr: pyasn1.__version__
description = Pure-Python implementation of ASN.1 types and DER/BER/CER codecs (X.208)
long_description = file: README.md
long_description_content_type = text/markdown
license = BSD-2-Clause
license_files = LICENSE.rst
url = https://github.com/pyasn1/pyasn1
author = Ilya Etingof
author_email = etingof@gmail.com
maintainer = pyasn1 maintenance organization
maintainer_email = Christian Heimes <christian@python.org>
project_urls =
  Documentation=https://pyasn1.readthedocs.io
  Source=https://github.com/pyasn1/pyasn1
  Issues=https://github.com/pyasn1/pyasn1/issues
```

Changelog=<https://pyasn1.readthedocs.io/en/latest/changelog.html>

platforms = any

classifiers =

Development Status :: 5 - Production/Stable

Environment :: Console

Intended Audience :: Developers

Intended Audience :: Education

Intended Audience :: Information Technology

Intended Audience :: System

Administrators

Intended Audience :: Telecommunications Industry

License :: OSI Approved :: BSD License

Natural Language :: English

Operating System :: OS Independent

Programming Language :: Python :: 2

Programming Language :: Python :: 2.7

Programming Language :: Python :: 3

Programming Language :: Python :: 3.6

Programming Language :: Python :: 3.7

Programming Language :: Python :: 3.8

Programming Language :: Python :: 3.9

Programming Language :: Python :: 3.10

Programming Language :: Python :: 3.11

Programming Language :: Python :: Implementation :: CPython

Programming Language :: Python :: Implementation :: PyPy

Topic :: Communications

Topic :: Software Development :: Libraries :: Python Modules

[options]

python_requires = >=2.7, !=3.0.*, !=3.1.*, !=3.2.*, !=3.3.*, !=3.4.*, !=3.5.*

zip_safe = True

setup_requires = setuptools

packages =

pyasn1

pyasn1.type

pyasn1.compat

pyasn1.codec

pyasn1.codec.ber

pyasn1.codec.cer

pyasn1.codec.der

pyasn1.codec.native

[bdist_wheel]

universal

= 1

[egg_info]

tag_build =

tag_date = 0

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* /opt/cola/permits/1646745104_1682526286.3746493/0/pyasn1-0-5-0-tar-gz/pyasn1-0.5.0/setup.cfg
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The package is now maintained by **Christian Heimes** and **Simon Pichugin** in project <https://github.com/pyasn1/pyasn1>.

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- * Generic implementation of ASN.1 types (X.208)
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- * Dumps/loads ASN.1 structures from Python types
- * 100% Python, works with Python 2.7 and 3.6+
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```
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 OptionalNamedType(
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)
),
 DefaultedNamedType(
 'house', Integer(0).subtype(
 implicitTag=Tag(tagClassContext, tagFormatSimple, 1)
)
)
)
```
```

...

It is in the spirit of ASN.1 to take abstract data description and turn it into a programming language specific form. Once you have your ASN.1 data structure expressed in Python, you can use it along the lines of similar Python type (e.g. ASN.1 `SET` is similar to Python `dict`, `SET OF` to `list`):

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Part of the power of ASN.1 comes from its serialisation features. You can serialise your data structure and send it over the network.

```
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0000:
 30 07 02 01 7B 80 02 01 41
```
```

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```python
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>>>
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room is 321
house is 0
>>>
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True
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With ASN.1 design, serialisation codecs are decoupled from data objects, so you could turn every single ASN.1 object into many different serialised forms. As of this moment, pyasn1 supports BER, DER, CER and Python built-ins codecs. The extremely compact PER encoding is expected to be introduced in the upcoming pyasn1 release.

More information on pyasn1 APIs can be found in the [documentation](<https://pyasn1.readthedocs.io/en/latest/pyasn1/contents.html>), compiled ASN.1 modules for different protocols and file formats could be found in the pyasn1-modules [repo](<https://github.com/pyasn1/pyasn1-modules>).

How to get pyasn1

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* /opt/cola/permits/1646745104_1682526286.3746493/0/pyasn1-0-5-0-tar-gz/pyasn1-0.5.0/README.md

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Metadata-Version: 2.1

Name: pyasn1

Version: 0.5.0

Summary: Pure-Python implementation of ASN.1 types and DER/BER/CER codecs (X.208)

Home-page: https://github.com/pyasn1/pyasn1

Author: Ilya Etingof

Author-email: etingof@gmail.com

Maintainer: pyasn1 maintenance organization

Maintainer-email: Christian Heimes <christian@python.org>

License: BSD-2-Clause

Project-URL: Documentation, https://pyasn1.readthedocs.io

Project-URL: Source, https://github.com/pyasn1/pyasn1

Project-URL: Issues, https://github.com/pyasn1/pyasn1/issues

Project-URL: Changelog, https://pyasn1.readthedocs.io/en/latest/changelog.html

Platform: any

Classifier: Development Status :: 5 - Production/Stable

Classifier: Environment :: Console

Classifier: Intended Audience :: Developers

Classifier: Intended Audience :: Education

Classifier: Intended Audience :: Information Technology

Classifier: Intended Audience :: System Administrators

Classifier: Intended Audience

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Classifier: License :: OSI Approved :: BSD License

Classifier: Natural Language :: English

Classifier: Operating System :: OS Independent

Classifier: Programming Language :: Python :: 2

Classifier: Programming Language :: Python :: 2.7

Classifier: Programming Language :: Python :: 3

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Classifier: Programming Language :: Python :: 3.7

Classifier: Programming Language :: Python :: 3.8

Classifier: Programming Language :: Python :: 3.9
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Classifier: Programming Language :: Python :: Implementation :: CPython
Classifier: Programming Language :: Python :: Implementation :: PyPy
Classifier: Topic :: Communications
Classifier: Topic :: Software Development :: Libraries :: Python Modules
Requires-Python: !=3.0.*,!=3.1.*,!=3.2.*,!=3.3.*,!=3.4.*,!=3.5.*,>=2.7
Description-Content-Type: text/markdown
License-File:
LICENSE.rst

ASN.1 library for Python

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```

```

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```

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- \* /opt/cola/permits/1646745104\_1682526286.3746493/0/pyasn1-0-5-0-tar-gz/pyasn1-0.5.0/pyasn1.egg-info/PKG-INFO

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

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License

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.. include:: ../../LICENSE.rst

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ASN.1 library for Python

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Abstract Syntax Notation One (ASN.1

<[http://en.wikipedia.org/wiki/Abstract\\_Syntax\\_Notation\\_1x](http://en.wikipedia.org/wiki/Abstract_Syntax_Notation_1x)>\_) is a technology for exchanging structured data in a universally understood, hardware agnostic way. Many industrial, security and telephony applications heavily rely on ASN.1.

The `pyasn1` <<https://pypi.org/project/pyasn1/>>\_ library implements ASN.1 support in pure-Python.

What is ASN.1

-----

ASN.1 is a large, arguably over-engineered and extremely old data modelling and serialisation tool. It is probably among the first serialisation protocols in the history of computer science and technology.

ASN.1 started its life over 30 years ago as a serialisation mechanism for the first electronic mail (known as X.400). Later on it was split off the e-mail application and became a stand-alone tech still being actively supported by its designers and widely used in industry and technology.

Since then ASN.1 is sort of haunted by its relations with the OSI model -- the first, unsuccessful, version of the Internet. You can read many interesting

discussions <<https://news.ycombinator.com/item?id=8871453>> on that topic.

In the following years, generations of software engineers tackled the serialisation problem many times. We can see that in Google's `ProtoBuffers` <<https://developers.google.com/protocol-buffers/>> or `FlatBuffers` <<https://google.github.io/flatbuffers/>>, for example. Interestingly, many new takes on binary protocol design do not depart far from ASN.1 from technical perspective. It's more of a matter of striking a balance between processing overhead, wire format overhead and human readability.

Looking at what ASN.1 has to offer, it has three loosely coupled parts:

- \* Data types: the standard introduces a collection of basic data types (integers, bits, strings, arrays and records) that can be used for describing arbitrarily complex, nested data structures.
- \* Serialisation protocols: the above data structures could be converted into a series of octets for storage or transmission over the wire as well as recovered back into their structured form. The system is fully agnostic to hardware architectures differences.
- \* Schema language: ASN.1 data structures could be described in terms of a schema language for ASN.1 compiler to turn it into platform-specific implementation.

#### ASN.1 applications

-----

Being an old and generally successful standard, ASN.1 is widely adopted for many uses. To give you an example, these technologies use ASN.1 for their data exchange needs:

- \* Signaling standards for the public switched telephone network (SS7 family)
- \* Network management standards (SNMP, CMIP)
- \* Directory standards (X.500 family, LDAP)
- \* Public Key Infrastructure standards (X.509, etc.)
- \* PBX control (CSTA)
- \* IP-based Videoconferencing (H.323 family)
- \* Biometrics (BIP, CBEFF, ACBio)
- \* Intelligent transportation (SAE J2735)
- \* Cellular telephony (GSM, GPRS/EDGE, UMTS, LTE)

#### ASN.1 gotchas

-----

Apparently, ASN.1 is hard to implement properly. Quality open-source



ASN.1 tools are rare, but ad-hoc implementations are numerous. Judging from the ``statistics <http://cve.mitre.org/cgi-bin/cvekey.cgi?keyword=ASN.1>`_` on discovered security vulnerabilities, many people have implemented ASN.1 parsers and oftentimes fell victim to its edge cases.

On the bright side, ASN.1 has been around for a long time, it is well understood and security reviewed.

## Documentation

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```

[/pyasn1/contents](#)

## Use case

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[/example-use-case](#)

## Download & Install

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[/download](#)

## Changes

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All changes and release history is maintained in changelog. There you could also download the latest unreleased pyasn1 tarball containing the latest fixes and improvements.

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[/changelog](#)

## License

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Getting help

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Please, file your `issues` <<https://github.com/pyasn1/pyasn1/issues>>`\_`  
and `PRs` <<https://github.com/pyasn1/pyasn1/pulls>>`\_` at GitHub.  
Alternatively, you could ask for help at  
`Stack Overflow` <<http://stackoverflow.com/questions/tagged/pyasn1>>`\_`  
or search  
`pyasn1-users` <<https://lists.sourceforge.net/lists/listinfo/pyasn1-users>>`\_`  
mailing list archive.

Books on ASN.1

-----

The pyasn1 implementation is largely based on reading up the following awesome books:

- \* `ASN.1 - Communication between heterogeneous systems` <<http://www.oss.com/asn1/dubuisson.html>>`\_` by Olivier Dubuisson
- \* `ASN.1 Complete` <<http://www.oss.com/asn1/resources/books-whitepapers-pubs/larmouth-asn1-book.pdf>>`\_` by Prof John Larmouth

Here you can get the official standards which is hard to read:

- \* `ITU standards`  
<<http://www.itu.int/ITU-T/studygroups/com17/languages/X.680-X.693-0207w.zip>>`\_`

On the other end of the readability spectrum, here is a quick and sweet write up:

- \* `A Layman's Guide to a Subset of ASN.1, BER, and DER` <<ftp://ftp.rsasecurity.com/pub/pkcs/ascii/layman.asc>>`\_` by Burton S. Kaliski

If you are working with ASN.1, we'd highly recommend reading a proper book on the subject.

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```

# 1.238 libsepol 2.5-8.1.amzn2.0.2

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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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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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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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We call this license the @dfn{Lesser} General Public License because it does @emph{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.

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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.

## @subheading TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@enumerate 0

@item

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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.

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either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term ``modification".)

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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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The modified work must itself be a software library.

@item

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@item

You must

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

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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.)

@end enumerate

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.

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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.

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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.

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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.

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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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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.)

@item

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.

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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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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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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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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

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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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@end enumerate

@subheading END OF TERMS AND CONDITIONS

@page

@subheading How to Apply These Terms to Your New Libraries

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@smallexample

@var{one line to give the library's name and an idea of what it does.}

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@end

smallexample

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@smallexample

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@var{signature of Ty Coon}, 1 April 1990

Ty Coon, President of Vice

@end smallexample

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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@item

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@page

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```
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```

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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.

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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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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.

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<signature of Ty Coon>, 1 April 1990

Ty Coon, President of Vice

That's all there is to it!

## 1.244 libxml2 2.9.1-6.amzn2.5.8

### 1.244.1 Available under license :

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## 1.245 ca-certificates 2021.2.50-72.amzn2.0.7

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\* /opt/cola/permits/1669409552\_1692292638.141352/0/ca-certificates-2021.2.50-72.amzn2.0.7.src.rpm-cosi-expand-archive-657za0Bi/certdata2pem.py

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\* /opt/cola/permits/1669409552\_1692292638.141352/0/ca-certificates-2021.2.50-72.amzn2.0.7.src.rpm-cosi-expand-archive-657za0Bi/nssckbi.h

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////

ca-legacy(8)

=====

:doctype: manpage

:man source: ca-legacy

NAME

----

ca-legacy - Manage the system configuration for legacy CA certificates

## SYNOPSIS

-----

`*ca-legacy*` [`COMMAND`]

## DESCRIPTION

-----

`ca-legacy(8)` is used to include or exclude a set of legacy Certificate Authority (CA) certificates in the system's list of trusted CA certificates.

The list of CA certificates and trust flags included in the `ca-certificates` package are based on the decisions made by Mozilla.org according to the Mozilla CA policy.

Occasionally, removal or distrust decisions made by Mozilla.org might be incompatible with the requirements or limitations of some applications that also use the CA certificates list in the Linux environment.

The `ca-certificates` package might keep some CA certificates included and trusted by default, as long as it is seen necessary by the maintainers, despite the fact that they have been removed by Mozilla. These certificates are called legacy CA certificates.

The general requirements to keep legacy CA certificates included and trusted might change over time, for example if functional limitations of software packages have been resolved. Future versions of the `ca-certificates` package might reduce the set of legacy CA certificates that are included and trusted by default.

The `ca-legacy(8)` command can be used to override the default behaviour.

The mechanisms to individually trust or distrust CA certificates as described in `update-ca-trust(8)` still apply.

## COMMANDS

-----

`*check*::`

The current configuration will be shown.

`*default*::`

Configure the system to use the default configuration, as recommended by the package maintainers.

`*disable*::`

Configure the system to explicitly disable legacy CA certificates. Using this configuration, the system will use the set of included and trusted CA certificates as released by Mozilla.

`*install*::`

The configuration file will be read and the system configuration will be set accordingly. This command is executed automatically during upgrades of the ca-certificates package.

## FILES

-----

/etc/pki/ca-trust/ca-legacy.conf::

A configuration file that will be used and modified by the ca-legacy command.

The contents of the configuration file will be read on package upgrades.

## AUTHOR

-----

Written by Kai Engert.

Found in path(s):

\* /opt/cola/permits/1669409552\_1692292638.141352/0/ca-certificates-2021.2.50-72.amzn2.0.7.src.rpm-cosi-expand-archive-657za0Bi/ca-legacy.8.txt

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////

update-ca-trust(8)

=====

:doctype: manpage

:man source: update-ca-trust

## NAME

-----

update-ca-trust - manage consolidated and dynamic configuration of CA certificates and associated trust

## SYNOPSIS

-----  
\*update-ca-trust\* ['COMMAND']

## DESCRIPTION

-----  
update-ca-trust(8) is used to manage a consolidated and dynamic configuration feature of Certificate Authority (CA) certificates and associated trust.

The feature is available for new applications that read the consolidated configuration files found in the /etc/pki/ca-trust/extracted directory or that load the PKCS#11 module p11-kit-trust.so

Parts of the new feature are also provided in a way to make it useful for legacy applications.

Many legacy applications expect CA certificates and trust configuration in a fixed location, contained in files with particular path and name, or by referring to a classic PKCS#11 trust module provided by the NSS cryptographic library.

The dynamic configuration feature provides functionally compatible replacements for classic configuration files and for the classic NSS trust module named libnssckbi.

In order to enable legacy applications, that read the classic files or access the classic module, to make use of the new consolidated and dynamic configuration feature, the classic filenames have been changed to symbolic links.

The symbolic links refer to dynamically created and consolidated output stored below the /etc/pki/ca-trust/extracted directory hierarchy.

The output is produced using the 'update-ca-trust' command (without parameters), or using the 'update-ca-trust extract' command.

In order to produce the output, a flexible set of source configuration is read, as described in section <<sourceconf,SOURCE CONFIGURATION>>.

In addition, the classic PKCS#11 module is replaced with a new PKCS#11 module (p11-kit-trust.so) that dynamically reads the same source configuration.

[[sourceconf]]

## SOURCE CONFIGURATION

-----  
The dynamic configuration feature uses several source directories that will be scanned for any number of source files. \*It is important to select the correct subdirectory for adding files, as the subdirectory defines how

contained certificates will be trusted or distrusted, and which file formats are read.\*

Files in \*subdirectories below the directory hierarchy /usr/share/pki/ca-trust-source/\* contain CA certificates and trust settings in the PEM file format. The trust settings found here will be interpreted with a \*low priority\*.

Files in \*subdirectories below the directory hierarchy /etc/pki/ca-trust/source/\* contain CA certificates and trust settings in the PEM file format. The trust settings found here will be interpreted with a \*high priority\*.

.You may use the following rules of thumb to decide, whether your configuration files should be added to the /etc or rather to the /usr directory hierarchy:

\* If you are manually adding a configuration file to a system, you probably want it to override any other default configuration, and you most likely should add it to the respective subdirectory in the /etc hierarchy.

\* If you are creating a package that provides additional root CA certificates, that is intended for distribution to several computer systems, but you still want to allow the administrator to override your list, then your package should add your files to the respective subdirectory in the /usr hierarchy.

\* If you are creating a package that is supposed to override the default system trust settings, that is intended for distribution to several computer systems, then your package should install the files to the respective subdirectory in the /etc hierarchy.

.\*QUICK HELP 1\*:. To add a certificate in the simple PEM or DER file formats to the list of CAs trusted on the system:

- \* add it as a new file to directory /etc/pki/ca-trust/source/anchors/
- \* run 'update-ca-trust extract'

.\*QUICK HELP 2\*:. If your certificate is in the extended BEGIN TRUSTED file format (which may contain distrust/blacklist trust flags, or trust flags for usages other than TLS) then:

- \* add it as a new file to directory /etc/pki/ca-trust/source/
- \* run 'update-ca-trust extract'

.In order to offer simplicity and flexibility, the way certificate files are treated depends on the subdirectory they are installed to.

- \* simple trust anchors subdirectory: /usr/share/pki/ca-trust-source/anchors/ or /etc/pki/ca-trust/source/anchors/
- \*
- simple blacklist (distrust) subdirectory: /usr/share/pki/ca-trust-source/blacklist/ or /etc/pki/ca-trust/source/blacklist/
- \* extended format directory: /usr/share/pki/ca-trust-source/ or /etc/pki/ca-trust/source/

.In the main directories /usr/share/pki/ca-trust-source/ or /etc/pki/ca-trust/source/ you may install one or multiple files in the following file formats:

- \* certificate files that include trust flags,
- in the BEGIN/END TRUSTED CERTIFICATE file format
- (any file name), which have been created using the openssl x509 tool

and the `-addrject` `-addtrust` options.

Bundle files with multiple certificates are supported.

\* files in the p11-kit file format using the `.p11-kit` file name extension, which can (e.g.) be used to distrust certificates based on serial number and issuer name, without having the full certificate available.

(This is currently an undocumented format, to be extended later.

For examples of the supported formats, see the files shipped with the `ca-certificates` package.)

\* certificate files without trust flags in either the DER file format or in the PEM (BEGIN/END CERTIFICATE) file format (any file name). Such files will be added with neutral trust, neither trusted nor distrusted.

They will simply be known to the system, which might be helpful to assist cryptographic software in constructing chains of certificates.

(If you want a CA certificate in these file formats to be trusted, you should remove it from this directory and move it to the `./anchors` subdirectory instead.)

In the anchors subdirectories `/usr/share/pki/ca-trust-source/anchors/` or `/etc/pki/ca-trust/source/anchors/` you may install one or multiple certificates in either the DER file format or in the PEM (BEGIN/END CERTIFICATE) file format. Each certificate will be treated as `*trusted*` for all purposes.

In the blacklist subdirectories `/usr/share/pki/ca-trust-source/blacklist/` or `/etc/pki/ca-trust/source/blacklist/` you may install one or multiple certificates in either the DER file format or in the PEM (BEGIN/END CERTIFICATE) file format. Each certificate will be treated as `*distrusted*` for all purposes.

Please refer to the x509(1) manual page for the documentation of the BEGIN/END CERTIFICATE and BEGIN/END TRUSTED CERTIFICATE file formats.

Applications that rely on a static file for a list of trusted CAs may load one of the files found in the `/etc/pki/ca-trust/extracted` directory. After modifying any file in the `/usr/share/pki/ca-trust-source/` or `/etc/pki/ca-trust/source/` directories or in any of their subdirectories, or after adding a file, it is necessary to run the `'update-ca-trust extract'` command, in order to update the consolidated files in `/etc/pki/ca-trust/extracted/`.

Applications that load the classic PKCS#11 module using filename `libnssckbi.so` (which has been converted into a symbolic link pointing to the new module) and any application capable of loading PKCS#11 modules and loading `p11-kit-trust.so`, will benefit from the dynamically merged set of certificates and trust information stored in the `/usr/share/pki/ca-trust-source/` and `/etc/pki/ca-trust/source/` directories.



[[extractconf]]

## EXTRACTED CONFIGURATION

-----

The directory `/etc/pki/ca-trust/extracted/` contains generated CA certificate bundle files which are created and updated, based on the `<<sourceconf,SOURCE CONFIGURATION>>` by running the `'update-ca-trust extract'` command.

If your application isn't able to load the PKCS#11 module `p11-kit-trust.so`, then you can use these files in your application to load a list of global root CA certificates.

Please never manually edit the files stored in this directory, because your changes will be lost and the files automatically overwritten, each time the `'update-ca-trust extract'` command gets executed.

In order to install new trusted or distrusted certificates, please rather install them in the respective subdirectory below the `/usr/share/pki/ca-trust-source/` or `/etc/pki/ca-trust/source/` directories, as described in the `<<sourceconf,SOURCE CONFIGURATION>>` section.

The directory `/etc/pki/ca-trust/extracted/java/` contains a CA certificate bundle in the java keystore file format. Distrust information cannot be represented in this file format, and distrusted certificates are missing from these files. File `cacerts` contains CA certificates trusted for TLS server authentication.

The directory `/etc/pki/ca-trust/extracted/openssl/` contains CA certificate bundle files in the extended BEGIN/END TRUSTED CERTIFICATE file format, as described in the x509(1) manual page. File `ca-bundle.trust.crt` contains the full set of all trusted or distrusted certificates, including the associated trust flags.

The directory `/etc/pki/ca-trust/extracted/pem/` contains CA certificate bundle files in the simple BEGIN/END CERTIFICATE file format, as described in the x509(1) manual page. Distrust information cannot be represented in this file format, and distrusted certificates are missing from these files. File `tls-ca-bundle.pem` contains CA certificates trusted for TLS server authentication. File `email-ca-bundle.pem` contains CA certificates trusted for E-Mail protection. File `objsign-ca-bundle.pem` contains CA certificates trusted for code signing.

## COMMANDS

-----

(absent/empty command)::

Same as the `*extract*` command described below. (However, the command may print fewer warnings, as this command is being run during rpm package installation, where non-fatal status output is undesired.)

`*extract*::`

Instruct `update-ca-trust` to scan the `<<sourceconf,SOURCE CONFIGURATION>>` and produce updated versions of the consolidated configuration files stored below the `/etc/pki/ca-trust/extracted` directory hierarchy.

## FILES

-----

`/etc/pki/tls/certs/ca-bundle.crt::`

Classic filename, file contains a list of CA certificates trusted for TLS server authentication usage, in the simple BEGIN/END CERTIFICATE file format, without distrust information.

This file is a symbolic link that refers to the consolidated output created by the `update-ca-trust` command.

`/etc/pki/tls/certs/ca-bundle.trust.crt::`

Classic filename, file contains a list of CA certificates in the extended BEGIN/END TRUSTED CERTIFICATE file format, which includes trust (and/or distrust) flags specific to certificate usage.

This file is a symbolic link that refers to the consolidated output created by the `update-ca-trust` command.

`/etc/pki/java/cacerts::`

Classic filename, file contains a list of CA certificates trusted for TLS server authentication usage, in the Java keystore file format, without distrust information.

This file is a symbolic link that refers to the consolidated output created by the `update-ca-trust` command.

`/usr/share/pki/ca-trust-source::`

Contains multiple, low priority source configuration files as explained in section `<<sourceconf,SOURCE CONFIGURATION>>`. Please pay attention to the specific meanings of the respective subdirectories.

`/etc/pki/ca-trust/source::`

Contains

multiple, high priority source configuration files as explained in section `<<sourceconf,SOURCE CONFIGURATION>>`. Please pay attention to the specific meanings of the respective subdirectories.

`/etc/pki/ca-trust/extracted::`

Contains consolidated and automatically generated configuration files for consumption by applications, which are created using the `'update-ca-trust extract'` command. Don't edit files in this directory, because they will be overwritten.

See section `<<extractconf,EXTRACTED CONFIGURATION>>` for additional details.

## AUTHOR

-----

Written by Kai Engert and Stef Walter.

Found in path(s):

\* /opt/cola/permits/1669409552\_1692292638.141352/0/ca-certificates-2021.2.50-72.amzn2.0.7.src.rpm-cosi-expand-archive-657za0Bi/update-ca-trust.8.txt

## 1.246 python2-rpm 4.11.3-48.amzn2.0.3

### 1.246.1 Available under license :

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\* /opt/cola/permits/1669416568\_1694207917.0792499/0/python-rpm-macros-3-60.amzn2.0.1.src.rpm-cosi-expand-archive-cwpTdlo5/python-rpm-macros.spec

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\* /opt/cola/permits/1669416568\_1694207917.0792499/0/python-rpm-macros-3-60.amzn2.0.1.src.rpm-cosi-expand-archive-cwpTdlo5/compileall2.py

## 1.247 libssh2 1.4.3-12.amzn2.2.4

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 \*/

## 1.248 perl 5.16.3-299.amzn2.0.2

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/opt/cola/permits/1685187768\_1693941915.7009728/0/perl-5-16-3-299-el7-9-x86-64-rpm-zip/perl-5.16.3-299.el7\_9.x86\_64.rpm: binary file matches

Found in path(s):

\* /bin/grep

## 1.249 perl 1.04-299.amzn2.0.2

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```
<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>
```

```
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the Free Software Foundation; either version 1, or (at your option)
any later version.
```

```
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```

```
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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.

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```
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!

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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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```

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```
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This is free software, and you are welcome to redistribute it
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```

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<signature of Ty Coon>, 1 April 1989  
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@subheading END OF TERMS AND CONDITIONS

@page

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necessary. Here is a sample; alter the names:

```
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`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

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

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```
#!/usr/bin/env bash
MIT licenses will each have a unique MD5 sum since they contain a unique copyright.
This script will read the license file into memory, strip out the copyright, and then
generate an MD5 that is not unique and can be matched against a known MIT MD5 sum.
set -e
```

```

calculate_md5_sum() {
local FILE="$1"

Read the contents of the file into a variable
local raw_license_text=$(<"$FILE")

Convert to lowercase
local lowercase_license_text="{raw_license_text,,}"

Remove anything before the beginning of the license
local stripped_license_text=$(awk '/permission is hereby granted,/{p=1} p' <<< "$lowercase_license_text")

Replace line breaks (Windows or Linux) with a single space
local replaced_linebreaks=$(tr '\r\n' ' ' <<< "$stripped_license_text")

Replace multiple spaces with a single space
local normalized_license_text=$(tr -s ' ' <<< "$replaced_linebreaks")

Strip away any non-printable, non-whitespace characters
local clean_unprintable_license_text=$(tr
-cd '[:print:][:space:]' <<< "$normalized_license_text")

Remove punctuation and special characters
local clean_license_text=$(echo "$clean_unprintable_license_text" | sed 's/[^a-zA-Z]//g')

Calculate the MD5 sum of the cleaned license text
local MD5SUM=$(echo -n "$clean_license_text" | md5sum | awk '{print $1}')

Output the MD5 sum
echo "$MD5SUM"
}

Check if the FILE argument is provided
if [-z "$1"]; then
echo "Please provide a FILE as an argument."
exit 1
fi

Invoke the function with the provided FILE argument
calculate_md5_sum "$1"

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```

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# 1.255 elfutils-libs 0.176-2.amzn2

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Version 3, 29 June 2007

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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.

@item

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.

@item

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:

@enumerate a

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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.)

@item

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.

@item

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.

@item

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

@end enumerate

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.

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@item

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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@subheading END OF TERMS AND CONDITIONS

@page

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@smallexample

@var{one line to give the library's name and an idea of what it does.}

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smallexample

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@var{signature of Ty Coon}, 1 April 1990  
Ty Coon, President of Vice  
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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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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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(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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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

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- 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.
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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 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.

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### 2020

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// <https://github.com/cockroachdb/cockroach/blob/master/licenses/CCL.txt>

```
import React from "react";
```

```
import step1Img from "assets/nodeMapSteps/1-getLicense.png";
```

```
import step2Img from "assets/nodeMapSteps/2-setKey.svg";
```

```
import step3Img from "assets/nodeMapSteps/3-seeMap.png";
```

```
import { NodeCanvasContainerOwnProps } from "src/views/clusterviz/containers/map/nodeCanvasContainer";
```

```
import * as docsURL from "src/util/docs";
```

```
import "./needEnterpriseLicense.styl";
```

// This takes the same props as the NodeCanvasContainer which it is swapped out with.

```
function Step(props: { num: number; img: string; children: React.ReactNode }) {
```

```
 return (
```

```
 <div className="license-step">
```

```

```

```
 <div className="license-step__text">
```

```
 Step {props.num}{ " " }
```

```
 {props.children}
```

```
 </div>
```

```
 </div>
```

```
);
```

```
}
```

```
export default class NeedEnterpriseLicense extends React.Component<NodeCanvasContainerOwnProps> {
```

```
 render() {
```

```
 return (
```

```
 <section className="need-license">
```

```
 <div className="need-license-blurb">
```

```
 <div>
```

```
 <h1 className="base-heading need-license-blurb__header">
```

```
 View the Node Map
```

```
 </h1>
```

```
 <p className="need-license-blurb__text">
```

```
 The Node Map shows the geographical layout of your cluster, along
```

```
 with metrics and health indicators. To enable the Node Map,
```

```
 request an{ " " }
```

```
 <a
```

```
 href={docsURL.enterpriseLicensing}
```



```

 target="_blank"
 rel="nofollow"
 >
 Enterprise trial license
 { " " }
 and refer to
this{ " " }

 configuration guide

 .
</p>
</div>
<a
 href={ docsURL.startTrial }
 className="need-license-blurb__trial-link"
 target="_blank"
 rel="nofollow"
>
 GET A 30-DAY ENTERPRISE TRIAL

</div>
<div className="need-license-steps">
 <Step num={ 1 } img={ step1Img }>

 Get a trial license
 { " " }
 delivered straight to your inbox.
 </Step>
 <Step num={ 2 } img={ step2Img }>
 Activate the trial license with two simple SQL commands.
 </Step>
 <Step num={ 3 } img={ step3Img }>
 Follow{ " " }

 this guide
 { " " }
 to configure localities and locations.
 </Step>
</div>
</section>
);
}
}

```

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PACKAGE

```
package goautoneg
import "bitbucket.org/ww/goautoneg"
```

HTTP Content-Type Autonegotiation.

The functions in this package implement the behaviour specified in <http://www.w3.org/Protocols/rfc2616/rfc2616-sec14.html>

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## FUNCTIONS

func Negotiate(header string, alternatives []string) (content\_type string)  
Negotiate the most appropriate content\_type given the accept header and a list of alternatives.

func ParseAccept(header string) (accept []Accept)  
Parse  
an Accept Header string returning a sorted list  
of clauses

## TYPES

```
type Accept struct {
 Type, SubType string
 Q float32
 Params map[string]string
}
```

Structure to represent a clause in an HTTP Accept Header

## SUBDIRECTORIES

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// <https://github.com/cockroachdb/cockroach/blob/master/licenses/CCL.txt>

package utilcl

import (

"fmt"

"testing"

"time"

"github.com/cockroachdb/cockroach/pkg/ccl/utilcl/licensecl"

"github.com/cockroachdb/cockroach/pkg/testutils"

"github.com/cockroachdb/cockroach/pkg/util/timeutil"

"github.com/cockroachdb/cockroach/pkg/util/uuid"

)

func TestLicense(t \*testing.T) {

clusterA, \_ := uuid.FromString("A0000000-0000-0000-0000-00000000000A")

clusterB, \_ := uuid.FromString("B0000000-0000-0000-0000-00000000000B")

clustersA, clustersB := []uuid.UUID{clusterA}, []uuid.UUID{clusterB}

```

t0 := timeutil.Unix(0, 0)
ts := t0.AddDate(40, 0, 0)
after := ts.Add(time.Hour * 24)
before := ts.Add(time.Hour * -24)
wayAfter := ts.Add(time.Hour
* 24 * 365 * 200)

for i, tc := range []struct {
 licType licensecl.License_Type
 grantedTo []uuid.UUID
 expiration time.Time
 checkCluster uuid.UUID
 checkOrg string
 checkTime time.Time
 err string
}{
 {licType: -1, err: "requires an enterprise license"},
 {licensecl.License_Evaluation, clustersA, ts, clusterA, "", ts, ""},
 {licensecl.License_Enterprise, clustersA, ts, clusterA, "", ts, ""},
 {licensecl.License_NonCommercial, clustersA, ts, clusterA, "", ts, ""},
 {licensecl.License_Evaluation, clustersA, after, clusterA, "", ts, ""},
 {licensecl.License_Evaluation, clustersA, ts, clusterA, "", before, ""},
 {licensecl.License_Evaluation, clustersA, wayAfter, clusterA, "", ts, ""},

 // expirations.
 {licensecl.License_Evaluation, clustersA, ts, clusterA, "", after, "expired"},
 {licensecl.License_Evaluation, clustersA, after, clusterA, "", wayAfter, "expired"},
 {licensecl.License_NonCommercial, clustersA, after, clusterA,
 "", wayAfter, "expired"},
 {licensecl.License_NonCommercial, clustersA, t0, clusterA, "", wayAfter, ""},
 {licensecl.License_Evaluation, clustersA, t0, clusterA, "", wayAfter, ""},

 // grace period.
 {licensecl.License_Enterprise, clustersA, after, clusterA, "", wayAfter, ""},

 // mismatch.
 {licensecl.License_Enterprise, clustersA, ts, clusterB, "", ts, "not valid for cluster"},
 {licensecl.License_Enterprise, clustersB, ts, clusterA, "", ts, "not valid for cluster"},
 {licensecl.License_Enterprise, append(clustersB, clusterA), ts, clusterA, "", ts, ""},
 {licensecl.License_Enterprise, nil, ts, clusterA, "", ts, "license valid only for"},
 {licensecl.License_Enterprise, nil, ts, clusterA, "tc-17", ts, ""},
} {
 var lic *licensecl.License
 if tc.licType != -1 {
 s, err := (&licensecl.License{
 ClusterID: tc.grantedTo,
 ValidUntilUnixSec: tc.expiration.Unix(),

```

```

 Type: tc.licType,
 OrganizationName: fmt.Sprintf("tc-%d", i),
 }).Encode()
 if
err != nil {
 t.Fatal(err)
 }

 lic, err = decode(s)
 if err != nil {
 t.Fatal(err)
 }
}
if err := check(
 lic, tc.checkTime, tc.checkCluster, tc.checkOrg, "", true,
); !testutils.IsError(err, tc.err) {
 t.Fatalf("%d: lic for %s to %s, checked by %s at %s.\n got %q", i,
 tc.grantedTo, tc.expiration, tc.checkCluster, tc.checkTime, err)
}
}
}

```

```

func TestBadLicenseStrings(t *testing.T) {
 for _, tc := range []struct{ lic, err string }{
 {"blah", "invalid license string"},
 {"crl-0-#####", "invalid license string"},
 {"crl-0-blah", "invalid license string"},
 } {
 if _, err := decode(tc.lic); !testutils.IsError(err, tc.err) {
 t.Fatalf("%q: expected err %q, got %v", tc.lic, tc.err, err)
 }
 }
}

```

```

func TestExpiredLicenseLanguage(t *testing.T) {
 lic := &licensecl.License{
 Type: licensecl.License_Evaluation,
 ValidUntilUnixSec: 1,
 }
 err := check(lic, timeutil.Now(), uuid.MakeV4(), "", "RESTORE", true)
 expected :=
 "Use of RESTORE requires an enterprise license. Your evaluation license expired on " +
 "January 1, 1970. If you're interested in getting a new license, please contact " +
 "subscriptions@cockroachlabs.com and we can help you out."
 if err == nil || err.Error() != expected {
 t.Fatalf("expected err:\n%s\ngot:\n%v", expected, err)
 }
}

```

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# Test multiple notices all display at once.

query T noticetrace

```
SELECT crdb_internal.notice('hi'), crdb_internal.notice('i am....'), crdb_internal.notice('otan!!!')
```

----

NOTICE: hi

NOTICE: i am....

NOTICE: otan!!!

subtest test\_notice\_severity

query T noticetrace

```
SELECT crdb_internal.notice('debug1', 'do not see this'), crdb_internal.notice('warning', 'but you see this'), crdb_internal.notice('debug2', 'and never this')
```

----

WARNING: but you see this

statement ok

```
SET client_min_messages = 'debug1'
```

query T noticetrace

```
SELECT crdb_internal.notice('debug1', 'now you see this'), crdb_internal.notice('warning', 'and you see this'), crdb_internal.notice('debug2', 'and never this')
```

----

DEBUG1: now you see this

WARNING: and you see this

statement ok

```
CREATE DATABASE d;
```

```
CREATE TABLE d.t (x int)
```

query T noticetrace

```
ALTER TABLE d.t RENAME TO d.t2
```

----

NOTICE: renaming tables with a qualification is deprecated

HINT: use ALTER TABLE d.t RENAME TO t2 instead

# Start off with an empty enum, and

add values to it.

statement ok

```
CREATE TYPE color AS ENUM ()
```

statement ok

```
ALTER TYPE color ADD VALUE 'black'
```

```
query T noticetrace
ALTER TYPE color ADD VALUE IF NOT EXISTS 'black'
```

----

NOTICE: enum value "black" already exists, skipping

```
statement ok
CREATE MATERIALIZED VIEW v AS SELECT 1
```

```
query T noticetrace
REFRESH MATERIALIZED VIEW CONCURRENTLY v
```

----

NOTICE: CONCURRENTLY is not required as views are refreshed concurrently

```
query T noticetrace
UNLISTEN temp
```

----

NOTICE: unimplemented: CRDB does not support LISTEN, making UNLISTEN a no-op

HINT: You have attempted to use a feature that is not yet implemented.

See: [https://go.crdb.dev/issue-v/41522/\\*](https://go.crdb.dev/issue-v/41522/*)

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Version 2.1, February 1999

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```
package builtins
```

```
import (
```

```
 "strings"
```

```
 "github.com/cockroachdb/cockroach/pkg/sql/pgwire/pgnotice"
```

```
 "github.com/cockroachdb/cockroach/pkg/sql/sem/eval"
```

```
 "github.com/cockroachdb/cockroach/pkg/sql/sem/tree"
```

```
 "github.com/cockroachdb/errors"
```

```
)
```

```
// crdbInternalSendNotice sends a notice.
```

```
// Note this is extracted to a different file to prevent churn on the pgwire
```

```
// test, which records line numbers.
```

```
func crdbInternalSendNotice(ctx *eval.Context, severity string, msg string) (tree.Datum, error) {
```

```
 if ctx.ClientNoticeSender == nil {
```

```
 return nil, errors.AssertionFailedf("notice sender not set")
```

```
 }
```

```
 ctx.ClientNoticeSender.BufferClientNotice(
```

```
 ctx.Context,
```

```
 pgnotice.NewWithSeverityf(strings.ToUpper(severity),
```

```
"%s", msg),
)
return tree.NewDInt(0), nil
}
```

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# Test notices work as expected by creating a VIEW on a TEMP TABLE.

# Prepare the environment.

send

Query {"String": "DROP TABLE IF EXISTS t CASCADE"}

----

until ignore=NoticeResponse

ReadyForQuery

----

{"Type": "CommandComplete", "CommandTag": "DROP TABLE"}

{"Type": "ReadyForQuery", "TxStatus": "I"}

# Start of test.

send

Query {"String": "CREATE TABLE t(x INT, y INT)"}

----

until

ReadyForQuery

----

{"Type": "CommandComplete", "CommandTag": "CREATE TABLE"}

```

{"Type":"ReadyForQuery","TxStatus":"I"}

send
Query {"String": "CREATE INDEX t_x_idx ON t(x)"}

until
ReadyForQuery

{"Type":"CommandComplete","CommandTag":"CREATE INDEX"}
{"Type":"ReadyForQuery","TxStatus":"I"}

send
Query {"String": "CREATE INDEX t_y_idx ON t(y)"}

until
ReadyForQuery

{"Type":"CommandComplete","CommandTag":"CREATE INDEX"}
{"Type":"ReadyForQuery","TxStatus":"I"}

Check that crdb reports a notice upon drop index.

send
Query {"String": "DROP INDEX t_x_idx"}

until crdb_only
CommandComplete

{"Severity":"NOTICE","SeverityUnlocalized":"NOTICE","Code":"00000","Message":"the
data for dropped indexes is reclaimed asynchronously","Detail":"","Hint":"The reclamation delay can be
customized in the zone configuration for the
table. ","Position":0,"InternalPosition":0,"InternalQuery":"","Where":"","SchemaName":"","TableName":"","Column
Name":"","DataTypeName":"","ConstraintName":"","File":"drop_index.go","Line":547,"Routine":"dropIndexByN
ame","UnknownFields":null}
{"Type":"CommandComplete","CommandTag":"DROP INDEX"}

until noncrdb_only
CommandComplete

{"Type":"CommandComplete","CommandTag":"DROP INDEX"}

until
ReadyForQuery

```

```

{"Type":"ReadyForQuery","TxStatus":"I"}

Disable notices and assert now it is not sent.
send crdb_only
Query {"String": "SET CLUSTER SETTING sql.notices.enabled = false"}

until crdb_only
ReadyForQuery

{"Type":"CommandComplete","CommandTag":"SET CLUSTER SETTING"}
{"Type":"ReadyForQuery","TxStatus":"I"}

Check that the notice is not printed
any more.

send
Query {"String": "DROP INDEX t_y_idx"}

until
ReadyForQuery

{"Type":"CommandComplete","CommandTag":"DROP INDEX"}
{"Type":"ReadyForQuery","TxStatus":"I"}
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```

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package utilccl

```
import (
 "bytes"
 "context"
 "strings"
 "sync/atomic"
 "time"

 "github.com/cockroachdb/cockroach/pkg/base"
 "github.com/cockroachdb/cockroach/pkg/ccl/utilccl/licenseccl"
 "github.com/cockroachdb/cockroach/pkg/server"
 "github.com/cockroachdb/cockroach/pkg/settings"
 "github.com/cockroachdb/cockroach/pkg/settings/cluster"
 "github.com/cockroachdb/cockroach/pkg/sql/pgwire/pgcode"
 "github.com/cockroachdb/cockroach/pkg/sql/pgwire/pgerror"
 "github.com/cockroachdb/cockroach/pkg/util/envutil"
 "github.com/cockroachdb/cockroach/pkg/util/log"
 "github.com/cockroachdb/cockroach/pkg/util/metric"
 "github.com/cockroachdb/cockroach/pkg/util/stop"
 "github.com/cockroachdb/cockroach/pkg/util/timeutil"
 "github.com/cockroachdb/cockroach/pkg/util/uuid"
 "github.com/cockroachdb/errors"
 "github.com/cockroachdb/redact"
)

var
 enterpriseLicense = func() *settings.StringSetting {
 s := settings.RegisterValidatedStringSetting(
 settings.TenantWritable,
 "enterprise.license",
 "the encoded cluster license",
 "",
 func(sv *settings.Values, s string) error {
 _, err := decode(s)
 return err
 },
)
 // Even though string settings are non-reportable by default, we
 // still mark them explicitly in case a future code change flips the
 // default.
 s.SetReportable(false)
 s.SetVisibility(settings.Public)
 return s
 }()

 // enterpriseStatus determines whether the cluster is enabled
 // for enterprise features or if enterprise status depends on the license.
```

```

var enterpriseStatus int32 = deferToLicense

const (
 deferToLicense = 0
 enterpriseEnabled = 1
)

// errEnterpriseRequired is returned by check() when the caller does
// not request
// detailed errors.
var errEnterpriseRequired = pgeerror.New(pgcode.CCLValidLicenseRequired,
 "a valid enterprise license is required")

// licenseCacheKey is used to cache licenses in cluster.Settings.Cache,
// keeping the entries private.
type licenseCacheKey string

// TestingEnableEnterprise allows overriding the license check in tests.
func TestingEnableEnterprise() func() {
 before := atomic.LoadInt32(&enterpriseStatus)
 atomic.StoreInt32(&enterpriseStatus, enterpriseEnabled)
 return func() {
 atomic.StoreInt32(&enterpriseStatus, before)
 }
}

// TestingDisableEnterprise allows re-enabling the license check in tests.
func TestingDisableEnterprise() func() {
 before := atomic.LoadInt32(&enterpriseStatus)
 atomic.StoreInt32(&enterpriseStatus, deferToLicense)
 return func() {
 atomic.StoreInt32(&enterpriseStatus, before)
 }
}

// ApplyTenantLicense verifies the COCKROACH_TENANT_LICENSE environment variable
// and enables enterprise features for the process. This is a bit of a hack and
//
// should be replaced once it is possible to read the host cluster's
// enterprise.license setting.
func ApplyTenantLicense() error {
 license, ok := envutil.EnvString("COCKROACH_TENANT_LICENSE", 0)
 if !ok {
 return nil
 }
 if _, err := decode(license); err != nil {
 return errors.Wrap(err, "COCKROACH_TENANT_LICENSE encoding is invalid")
 }
}

```

```

atomic.StoreInt32(&enterpriseStatus, enterpriseEnabled)
return nil
}

// CheckEnterpriseEnabled returns a non-nil error if the requested enterprise
// feature is not enabled, including information or a link explaining how to
// enable it.
//
// This should not be used in hot paths, since an unavailable feature will
// result in a new error being instantiated for every call -- use
// IsEnterpriseEnabled() instead.
//
// The ClusterID argument should be the tenant-specific logical
// cluster ID. is not used for the check itself; it is merely embedded
// in the URL displayed in the error message.
func CheckEnterpriseEnabled(st *cluster.Settings,
cluster uuid.UUID, org, feature string) error {
return checkEnterpriseEnabledAt(st, timeutil.Now(), cluster, org, feature, true /* withDetails */)
}

// IsEnterpriseEnabled returns whether the requested enterprise feature is
// enabled. It is faster than CheckEnterpriseEnabled, since it does not return
// details about why the feature is unavailable, and can therefore be used in
// hot paths.
//
// The ClusterID argument should be the tenant-specific logical
// cluster ID. is not used for the check itself; it is merely embedded
// in the URL displayed in the error message.
func IsEnterpriseEnabled(st *cluster.Settings, cluster uuid.UUID, org, feature string) bool {
return checkEnterpriseEnabledAt(
st, timeutil.Now(), cluster, org, feature, false /* withDetails */) == nil
}

func init() {
base.CheckEnterpriseEnabled = CheckEnterpriseEnabled
base.LicenseType = getLicenseType
base.UpdateMetricOnLicenseChange = UpdateMetricOnLicenseChange
server.ApplyTenantLicense = ApplyTenantLicense
}

var
licenseMetricUpdateFrequency = 1 * time.Minute

// UpdateMetricOnLicenseChange starts a task to periodically update
// the given metric with the seconds remaining until license expiry.
func UpdateMetricOnLicenseChange(
ctx context.Context,
st *cluster.Settings,

```

```

metric *metric.Gauge,
ts timeutil.TimeSource,
stopper *stop.Stopper,
) error {
enterpriseLicense.SetOnChange(&st.SV, func(ctx context.Context) {
updateMetricWithLicenseTTL(ctx, st, metric, ts)
}))
return stopper.RunAsyncTask(ctx, "write-license-expiry-metric", func(ctx context.Context) {
ticker := time.NewTicker(licenseMetricUpdateFrequency)
defer ticker.Stop()
for {
select {
case <-ticker.C:
updateMetricWithLicenseTTL(ctx, st, metric, ts)
case <-stopper.ShouldQuiesce():
return
}
}
})
}

```

```

func updateMetricWithLicenseTTL(
ctx context.Context, st *cluster.Settings, metric *metric.Gauge, ts timeutil.TimeSource,
) {
license, err := getLicense(st)
if err != nil {
log.Errorf(ctx, "unable
to update license expiry metric: %v", err)
metric.Update(0)
return
}
if license == nil {
metric.Update(0)
return
}
sec := timeutil.Unix(license.ValidUntilUnixSec, 0).Sub(ts.Now()).Seconds()
metric.Update(int64(sec))
}

```

```

func checkEnterpriseEnabledAt(
st *cluster.Settings, at time.Time, cluster uuid.UUID, org, feature string, withDetails bool,
) error {
if atomic.LoadInt32(&enterpriseStatus) == enterpriseEnabled {
return nil
}
license, err := getLicense(st)
if err != nil {
return err
}

```

```

}
return check(license, at, cluster, org, feature, withDetails)
}

// getLicense fetches the license from the given settings, using Settings.Cache
// to cache the decoded license (if any). The returned license must not be
// modified by the caller.
func getLicense(st *cluster.Settings) (*licenseccl.License, error) {
 str := enterpriseLicense.Get(&st.SV)
 if str == "" {
 return nil, nil
 }
 cacheKey := licenseCacheKey(str)
 if cachedLicense, ok := st.Cache.Load(cacheKey); ok {
 return
 cachedLicense.(*licenseccl.License), nil
 }
 license, err := decode(str)
 if err != nil {
 return nil, err
 }
 st.Cache.Store(cacheKey, license)
 return license, nil
}

func getLicenseType(st *cluster.Settings) (string, error) {
 license, err := getLicense(st)
 if err != nil {
 return "", err
 } else if license == nil {
 return "None", nil
 }
 return license.Type.String(), nil
}

// decode attempts to read a base64 encoded License.
func decode(s string) (*licenseccl.License, error) {
 lic, err := licenseccl.Decode(s)
 if err != nil {
 return nil, pgerror.WithCandidateCode(err, pgcode.Syntax)
 }
 return lic, nil
}

// check returns an error if the license is empty or not currently valid. If
// withDetails is false, a generic error message is returned for performance.
func check(
 l *licenseccl.License, at time.Time, cluster uuid.UUID, org, feature string, withDetails bool,

```



```

) error {
 if l == nil {
 if !withDetails {
 return errEnterpriseRequired
 }
 // TODO(dt): link to
 some stable URL that then redirects to a helpful page
 // that explains what to do here.
 link := "https://cockroachlabs.com/pricing?cluster="
 return pgerror.Newf(pgcode.CCLValidLicenseRequired,
 "use of %s requires an enterprise license. "+
 "see %s%s for details on how to enable enterprise features",
 errors.Safe(feature),
 link,
 cluster.String(),
)
 }

 // We extend some grace period to enterprise license holders rather than
 // suddenly throwing errors at them.
 if l.ValidUntilUnixSec > 0 && l.Type != licensecl.License_Enterprise {
 if expiration := timeutil.Unix(l.ValidUntilUnixSec, 0); at.After(expiration) {
 if !withDetails {
 return errEnterpriseRequired
 }
 licensePrefix := redact.SafeString("")
 switch l.Type {
 case licensecl.License_NonCommercial:
 licensePrefix = "non-commercial "
 case licensecl.License_Evaluation:
 licensePrefix = "evaluation "
 }
 return pgerror.Newf(pgcode.CCLValidLicenseRequired,
 "Use of %s requires
an enterprise license. Your %slicense expired on %s. If you're "+
 "interested in getting a new license, please contact subscriptions@cockroachlabs.com "+
 "and we can help you out.",
 errors.Safe(feature),
 licensePrefix,
 expiration.Format("January 2, 2006"),
)
 }
 }

 if l.ClusterID == nil {
 if strings.EqualFold(l.OrganizationName, org) {
 return nil
 }
 }
}

```

```

if !withDetails {
 return errEnterpriseRequired
}
return pterror.Newf(pgcode.CCLValidLicenseRequired,
 "license valid only for %q", l.OrganizationName)
}

for _, c := range l.ClusterID {
 if cluster == c {
 return nil
 }
}

// no match, so compose an error message.
if !withDetails {
 return errEnterpriseRequired
}
var matches bytes.Buffer
for i, c := range l.ClusterID {
 if i > 0 {
 matches.WriteString(", ")
 }
 matches.WriteString(c.String())
}
return pterror.Newf(pgcode.CCLValidLicenseRequired,
 "license for cluster(s) %s is not valid for cluster %s",
 matches.String(), cluster.String(),
)
}
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//
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// the Business Source License, use of this software will be governed
// by the Apache License, Version 2.0, included in the file
// licenses/APL.txt.

package base

import (
 "context"

 "github.com/cockroachdb/cockroach/pkg/settings/cluster"
 "github.com/cockroachdb/cockroach/pkg/util/metric"
 "github.com/cockroachdb/cockroach/pkg/util/stop"
 "github.com/cockroachdb/cockroach/pkg/util/timeutil"

```

```

"github.com/cockroachdb/cockroach/pkg/util/uuid"
"github.com/cockroachdb/errors"
)

var errEnterpriseNotEnabled = errors.New("OSS binaries do not include enterprise features")

// CheckEnterpriseEnabled returns a non-nil error if the requested enterprise
// feature is not enabled, including information or a link explaining how to
// enable it.
//
// This function is overridden
// by an init hook in CCL builds.
var CheckEnterpriseEnabled = func(_ *cluster.Settings, _ uuid.UUID, org, feature string) error {
 return errEnterpriseNotEnabled // nb: this is squarely in the hot path on OSS builds
}

var licenseTTLMetadata = metric.Metadata{
 // This metric name isn't namespaced for backwards
 // compatibility. The prior version of this metric was manually
 // inserted into the prometheus output
 Name: "seconds_until_enterprise_license_expiry",
 Help: "Seconds until enterprise license expiry (0 if no license present or running without enterprise features)",
 Measurement: "Seconds",
 Unit: metric.Unit_SECONDS,
}

// LicenseTTL is a metric gauge that measures the number of seconds
// until the current enterprise license (if any) expires.
var LicenseTTL = metric.NewGauge(licenseTTLMetadata)

// UpdateMetricOnLicenseChange is a function that's called on startup
// in order to connect the enterprise license setting update to the
// prometheus metric
// provided as an argument.
var UpdateMetricOnLicenseChange = func(
 ctx context.Context,
 st *cluster.Settings,
 metric *metric.Gauge,
 ts timeutil.TimeSource,
 stopper *stop.Stopper,
) error {
 return nil
}

// LicenseType returns what type of license the cluster is running with, or
// "OSS" if it is an OSS build.
//
// This function is overridden by an init hook in CCL builds.

```

```
var LicenseType = func(st *cluster.Settings) (string, error) {
 return "OSS", nil
}
```

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//

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//

// <https://github.com/cockroachdb/cockroach/blob/master/licenses/CCL.txt>

package utilccl

import (

"context"

"testing"

"time"

"github.com/cockroachdb/cockroach/pkg/base"

"github.com/cockroachdb/cockroach/pkg/ccl/utilccl/licenseccl"

"github.com/cockroachdb/cockroach/pkg/settings"

"github.com/cockroachdb/cockroach/pkg/settings/cluster"

"github.com/cockroachdb/cockroach/pkg/testutils"

"github.com/cockroachdb/cockroach/pkg/util/envutil"

"github.com/cockroachdb/cockroach/pkg/util/stop"

"github.com/cockroachdb/cockroach/pkg/util/timeutil"

"github.com/cockroachdb/cockroach/pkg/util/uuid"

"github.com/stretchr/testify/require"

)

func TestSettingAndCheckingLicense(t \*testing.T) {

idA, \_ := uuid.FromString("A0000000-0000-0000-0000-00000000000A")

idB,

```

_ := uuid.FromString("B0000000-0000-0000-0000-00000000000B")

ctx := context.Background()
t0 := timeutil.Unix(0, 0)

licA, _ := (&licenseccl.License{
 ClusterID: []uuid.UUID{idA},
 Type: licenseccl.License_Enterprise,
 ValidUntilUnixSec: t0.AddDate(0, 1, 0).Unix(),
}).Encode()

licB, _ := (&licenseccl.License{
 ClusterID: []uuid.UUID{idB},
 Type: licenseccl.License_Evaluation,
 ValidUntilUnixSec: t0.AddDate(0, 2, 0).Unix(),
}).Encode()

st := cluster.MakeTestingClusterSettings()

for i, tc := range []struct {
 lic string
 checkCluster uuid.UUID
 checkTime time.Time
 err string
}{
 // NB: we're observing the update manifest as changed behavior -- detailed
 // testing of that behavior is left to licenseccl's own tests.
 {"", idA, t0, "requires an enterprise license"},
 // adding a valid lic.
 {licA, idA, t0, ""},
 // clearing an existing lic.
 {"", idA, t0, "requires an enterprise
license"},
 // adding invalid lic.
 {licB, idA, t0, "not valid for cluster"},
 // clearing an existing, invalid lic.
 {"", idA, t0, "requires an enterprise license"},
} {
 updater := st.MakeUpdater()
 if err := setLicense(ctx, updater, tc.lic); err != nil {
 t.Fatal(err)
 }
 err := checkEnterpriseEnabledAt(st, tc.checkTime, tc.checkCluster, "", "", true)
 if !testutils.IsError(err, tc.err) {
 l, _ := decode(tc.lic)
 t.Fatalf("%d: lic %v, update by %T, checked by %s at %s, got %q", i, l, updater, tc.checkCluster, tc.checkTime, err)
 }
}

```



```

}

func TestGetLicenseTypePresent(t *testing.T) {
 ctx := context.Background()
 for _, tc := range []struct {
 licenseType licensecccl.License_Type
 expected string
 }{
 {licensecccl.License_NonCommercial, "NonCommercial"},
 {licensecccl.License_Enterprise, "Enterprise"},
 {licensecccl.License_Evaluation, "Evaluation"},
 } {
 st := cluster.MakeTestingClusterSettings()
 updater := st.MakeUpdater()
 lic, _ := (&licensecccl.License{
 ClusterID:
 []uuid.UUID{ },
 Type: tc.licenseType,
 ValidUntilUnixSec: 0,
 }).Encode()
 if err := setLicense(ctx, updater, lic); err != nil {
 t.Fatal(err)
 }
 actual, err := getLicenseType(st)
 if err != nil {
 t.Fatal(err)
 }
 if actual != tc.expected {
 t.Fatalf("expected license type %s, got %s", tc.expected, actual)
 }
 }
}

func TestGetLicenseTypeAbsent(t *testing.T) {
 expected := "None"
 actual, err := getLicenseType(cluster.MakeTestingClusterSettings())
 if err != nil {
 t.Fatal(err)
 }
 if actual != expected {
 t.Fatalf("expected license type %s, got %s", expected, actual)
 }
}

func TestSettingBadLicenseStrings(t *testing.T) {
 ctx := context.Background()
 for _, tc := range []struct{ lic, err string }{
 {"blah", "invalid license string"},
 }

```

```

{"cl-0-blah", "invalid license string"},
} {
st := cluster.MakeTestingClusterSettings()
u := st.MakeUpdater()

if err := setLicense(ctx, u, tc.lic); !testutils.IsError(
 err,
tc.err,
) {
t.Fatalf("%q: expected err %q, got %v", tc.lic, tc.err, err)
}
}
}

func TestTimeToEnterpriseLicenseExpiry(t *testing.T) {
ctx := context.Background()
id, _ := uuid.FromString("A0000000-0000-0000-0000-00000000000A")

t0 := timeutil.Unix(1603926294, 0)

lic1M, _ := (&licensecl.License{
ClusterID: []uuid.UUID{id},
Type: licensecl.License_Enterprise,
ValidUntilUnixSec: t0.AddDate(0, 1, 0).Unix(),
}).Encode()

lic2M, _ := (&licensecl.License{
ClusterID: []uuid.UUID{id},
Type: licensecl.License_Evaluation,
ValidUntilUnixSec: t0.AddDate(0, 2, 0).Unix(),
}).Encode()

lic0M, _ := (&licensecl.License{
ClusterID: []uuid.UUID{id},
Type: licensecl.License_Evaluation,
ValidUntilUnixSec: t0.AddDate(0, 0, 0).Unix(),
}).Encode()

licExpired, _ := (&licensecl.License{
ClusterID: []uuid.UUID{id},
Type: licensecl.License_Evaluation,
ValidUntilUnixSec: t0.AddDate(0,
-1, 0).Unix(),
}).Encode()

st := cluster.MakeTestingClusterSettings()
updater := st.MakeUpdater()
stopper := stop.NewStopper()

```

```

defer stopper.Stop(ctx)
manualTime := timeutil.NewManualTime(t0)

err := UpdateMetricOnLicenseChange(context.Background(), st, base.LicenseTTL, manualTime, stopper)
require.NoError(t, err)

for _, tc := range []struct {
 desc string
 lic string
 ttlSeconds int64
}{
 {"One Month", lic1M, 24 * 31 * 3600},
 {"Two Month", lic2M, (24*31 + 24*30) * 3600},
 {"Zero Month", lic0M, 0},
 {"Expired", licExpired, (-24 * 30) * 3600},
 {"No License", "", 0},
} {
 t.Run(tc.desc, func(t *testing.T) {
 if err := setLicense(ctx, updater, tc.lic); err != nil {
 t.Fatal(err)
 }
 actual := base.LicenseTTL.Value()
 require.Equal(t, tc.ttlSeconds, actual)
 })
}

func TestApplyTenantLicenseWithLicense(t *testing.T) {
 license, _ := (&licensecc1.License{
 Type: licensecc1.License_Enterprise,
 }).Encode()

 defer TestingDisableEnterprise()
 defer
 envutil.TestSetEnv(t, "COCKROACH_TENANT_LICENSE", license)

 settings := cluster.MakeClusterSettings()

 require.Error(t, CheckEnterpriseEnabled(settings, uuid.MakeV4(), "", ""))
 require.False(t, IsEnterpriseEnabled(settings, uuid.MakeV4(), "", ""))
 require.NoError(t, ApplyTenantLicense())
 require.NoError(t, CheckEnterpriseEnabled(settings, uuid.MakeV4(), "", ""))
 require.True(t, IsEnterpriseEnabled(settings, uuid.MakeV4(), "", ""))
}

func TestApplyTenantLicenseWithoutLicense(t *testing.T) {
 defer TestingDisableEnterprise()

```

```
settings := cluster.MakeClusterSettings()
_, ok := envutil.EnvString("COCKROACH_TENANT_LICENSE", 0)
envutil.ClearEnvCache()
require.False(t, ok)
```

```
require.Error(t, CheckEnterpriseEnabled(settings, uuid.MakeV4(), "", ""))
require.False(t, IsEnterpriseEnabled(settings, uuid.MakeV4(), "", ""))
require.NoError(t, ApplyTenantLicense())
require.Error(t, CheckEnterpriseEnabled(settings, uuid.MakeV4(), "", ""))
require.False(t, IsEnterpriseEnabled(settings,
uuid.MakeV4(), "", ""))
}
```

```
func TestApplyTenantLicenseWithInvalidLicense(t *testing.T) {
defer envutil.TestSetEnv(t, "COCKROACH_TENANT_LICENSE", "THIS IS NOT A VALID LICENSE")()
require.Error(t, ApplyTenantLicense())
}
```

```
func setLicense(ctx context.Context, updater settings.Updater, val string) error {
return updater.Set(ctx, "enterprise.license", settings.EncodedValue{
Value: val,
Type: "s",
})
}
```

Business Source License 1.1

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@require '~styl/base/palette.styl'

.need-license

padding-left 70px

padding-right 70px

padding-top 70px

padding-bottom 30px

.need-license-blurb

margin-bottom 30px

display flex

justify-content space-between

align-items flex-start

a

color \$link-color

text-decoration none

&\_\_header

text-transform none

letter-spacing normal

&\_\_text

margin-top 20px

width 470px

line-height 26px

&\_\_trial-link

font-size 16px

border 1px solid \$button-border-color

border-radius 5px

padding-left 30px

padding-right 30px

```

padding-top 10px
padding-bottom 10px

.need-license-steps
border-top 1px solid $button-border-color
padding-top 30px
display flex
justify-content space-between

a
color $link-color
text-decoration none

.license-step
width 320px
border 1px solid $table-border-color
border-radius 3px

&__text
margin 26px
line-height 26px

&__image
width 318px
height 200px
overflow hidden

&__stepnum
font-family Lato-Bold
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//
// https://github.com/cockroachdb/cockroach/blob/master/licenses/CCL.txt

package licensecl

import (
"encoding/base64"
"strings"

"github.com/cockroachdb/cockroach/pkg/util/protoutil"
"github.com/cockroachdb/errors"
)

// LicensePrefix is a prefix on license strings to make them easily recognized.

```



```

const LicensePrefix = "crl-0-"

// Encode serializes the License as a base64 string.
func (l *License) Encode() (string, error) {
 bytes, err := protoutil.Marshal(l)
 if err != nil {
 return "", err
 }
 return LicensePrefix + base64.RawStdEncoding.EncodeToString(bytes), nil
}

// Decode attempts to read a base64 encoded License.
func Decode(s string) (*License, error) {
 if s == "" {
 return nil, nil
 }
 if !strings.HasPrefix(s,
 LicensePrefix) {
 return nil, errors.New("invalid license string")
 }
 s = strings.TrimPrefix(s, LicensePrefix)
 data, err := base64.RawStdEncoding.DecodeString(s)
 if err != nil {
 return nil, errors.Wrapf(err, "invalid license string")
 }
 var lic License
 if err := protoutil.Unmarshal(data, &lic); err != nil {
 return nil, errors.Wrap(err, "invalid license string")
 }
 return &lic, nil
}

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package sql

import (
 "context"

 "github.com/cockroachdb/cockroach/pkg/settings"
 "github.com/cockroachdb/cockroach/pkg/sql/pgwire/pgerror"

```

```

"github.com/cockroachdb/cockroach/pkg/sql/pgwire/pgnotice"
"github.com/cockroachdb/cockroach/pkg/util/log"
)

// NoticesEnabled is the cluster setting that allows users
// to enable notices.
var NoticesEnabled = settings.RegisterBoolSetting(
 settings.TenantWritable,
 "sql.notices.enabled",
 "enable notices in the server/client protocol being sent",
 true,
).WithPublic()

// noticeSender is a subset of RestrictedCommandResult which allows
// sending notices.
type noticeSender
interface {
 BufferNotice(pgnotice.Notice)
}

// BufferClientNotice implements the eval.ClientNoticeSender interface.
func (p *planner) BufferClientNotice(ctx context.Context, notice pgnotice.Notice) {
 if log.V(2) {
 log.Infof(ctx, "buffered notice: %+v", notice)
 }
 noticeSeverity, ok := pgnotice.ParseDisplaySeverity(pgerror.GetSeverity(notice))
 if !ok {
 noticeSeverity = pgnotice.DisplaySeverityNotice
 }
 if p.noticeSender == nil ||
 noticeSeverity > pgnotice.DisplaySeverity(p.SessionData().NoticeDisplaySeverity) ||
 !NoticesEnabled.Get(&p.execCfg.Settings.SV) {
 // Notice cannot flow to the client - because of one of these conditions:
 // * there is no client
 // * the session's NoticeDisplaySeverity is higher than the severity of the notice.
 // * the notice protocol was disabled
 return
 }
 p.noticeSender.BufferNotice(notice)
}

```

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Protocol Buffers for Go with Gadgets

Go support for Protocol Buffers - Google's data interchange format

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<https://github.com/golang/protobuf>

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```
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CP#vMOoYL?6]2z({CLYj0
LFIU<>Q& }7!C }e6]]e`M,J}.dE,4hVmp
RsTk!|r!Quo1OE|FfP+A }XBT9 \<
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```
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This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.
```

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```
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`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

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

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```

#!/usr/bin/env bash
MIT licenses will each have a unique MD5 sum since they contain a unique copyright.
This script will read the license file into memory, strip out the copyright, and then
generate an MD5 that is not unique and can be matched against a known MIT MD5 sum.
set -e

calculate_md5_sum() {
 local FILE="$1"

 # Read the contents of the file into a variable
 local raw_license_text=$(<"$FILE")

 # Convert to lowercase
 local lowercase_license_text="{raw_license_text,,}"

 # Remove anything before the beginning of the license
 local stripped_license_text=$(awk '/permission is hereby granted,/{p=1} p' <<< "$lowercase_license_text")

 # Replace line breaks (Windows or Linux) with a single space
 local replaced_linebreaks=$(tr '\r\n' ' ' <<< "$stripped_license_text")

 # Replace multiple spaces with a single space
 local normalized_license_text=$(tr -s ' ' <<< "$replaced_linebreaks")

 # Strip away any non-printable, non-whitespace characters
 local clean_unprintable_license_text=$(tr
-cd '[:print:][:space:]' <<< "$normalized_license_text")

 # Remove punctuation and special characters
 local clean_license_text=$(echo "$clean_unprintable_license_text" | sed 's/[^a-zA-Z]//g')

 # Calculate the MD5 sum of the cleaned license text
 local MD5SUM=$(echo -n "$clean_license_text" | md5sum | awk '{print $1}')

 # Output the MD5 sum
 echo "$MD5SUM"
}

Check if the FILE argument is provided
if [-z "$1"]; then
 echo "Please provide a FILE as an argument."
 exit 1
fi

Invoke the function with the provided FILE argument
calculate_md5_sum "$1"

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```



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## 1.265 krb5-libs 1.15.1-55.amzn2.2.5

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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  
lib/libgss/g\_dsp\_name.c  
lib/libgss/g\_dsp\_status.c  
lib/libgss/g\_dup\_name.c  
lib/libgss/g\_exp\_sec\_context.c  
lib/libgss/g\_export\_name.c  
lib/libgss/g\_glue.c  
lib/libgss/g\_imp\_name.c  
lib/libgss/g\_imp\_sec\_context.c  
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lib/libgss/g\_inquire\_context.c  
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lib/libgss/g\_inquire\_names.c  
lib/libgss/g\_process\_context.c  
lib/libgss/g\_rel\_buffer.c  
lib/libgss/g\_rel\_cred.c  
lib/libgss/g\_rel\_name.c  
lib/libgss/g\_rel\_oid\_set.c  
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lib/libgss/g\_store\_cred.c  
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  
uts/common/gssapi/include/gssapi\_err\_generic.h  
uts/common/gssapi/include/mechglueP.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
- 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  
slave/kpropd\_rpc.c  
slave/kproplog.c

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=====

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

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\*/

/\*

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```

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```

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```
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```

```
<signature of Ty Coon>, 1 April 1989
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```

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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Upstream Author: Theodore Ts'o <tytso@mit.edu>

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#

# 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) \$(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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Theodore Ts'o  
23-June-2007

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```

```
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This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:  
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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

It is part of the main e2fsprogs distribution, which can be found at:

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it
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```

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```
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```

```
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Ty Coon, President of Vice
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```

#!/usr/bin/env bash
MIT licenses will each have a unique MD5 sum since they contain a unique copyright.
This script will read the license file into memory, strip out the copyright, and then
generate an MD5 that is not unique and can be matched against a known MIT MD5 sum.
set -e

calculate_md5_sum() {
 local FILE="$1"

 # Read the contents of the file into a variable
 local raw_license_text=$(<"$FILE")

 # Convert to lowercase
 local lowercase_license_text="{raw_license_text,,}"

 # Remove anything before the beginning of the license
 local stripped_license_text=$(awk '/permission is hereby granted,/{p=1} p' <<< "$lowercase_license_text")

 # Replace line breaks (Windows or Linux) with a single space
 local replaced_linebreaks=$(tr '\r\n' ' ' <<< "$stripped_license_text")

 # Replace multiple spaces with a single space
 local normalized_license_text=$(tr -s ' ' <<< "$replaced_linebreaks")

 # Strip away any non-printable, non-whitespace characters
 local clean_unprintable_license_text=$(tr
-cd '[:print:][:space:]' <<< "$normalized_license_text")

 # Remove punctuation and special characters
 local clean_license_text=$(echo "$clean_unprintable_license_text" | sed 's/[^a-zA-Z]//g')

 # Calculate the MD5 sum of the cleaned license text
 local MD5SUM=$(echo -n "$clean_license_text" | md5sum | awk '{print $1}')

 # Output the MD5 sum
 echo "$MD5SUM"
}

Check if the FILE argument is provided
if [-z "$1"]; then
 echo "Please provide a FILE as an argument."
 exit 1
fi

Invoke the function with the provided FILE argument
calculate_md5_sum "$1"

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```

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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.

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

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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

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@ignore

@c Set file name and title for man page.

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@settitle GNU General Public License

@c man begin SEEALSO

gfdl(7), fsf-funding(7).

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

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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 customarily used for software interchange.

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@item

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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.

@item

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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```
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Version 3.1, 31 March 2009

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## 1.273 audit-lib 2.8.1-3.amzn2.1

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```
* @version 3.0 (December 2000)
*
* Optimised ANSI C code for the Rijndael cipher (now AES)
*
* @author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
* @author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
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script is no longer included

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# 1.279 perl-carp 1.26-244.amzn2

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### NAME

Carp - alternative warn and die for modules

### DESCRIPTION

The Carp routines are useful in your own modules because they act like die() or warn(), but with a message which is more likely to be useful to a user of your module. In the case of cluck, confess, and longmess that context is a summary of every call in the call-stack. For a shorter message you can use carp or croak which report the error as being from where your module was called. There is no guarantee that that is where the error was, but it is a good educated guess.

You can also alter the way the output and logic of Carp works, by changing some global variables in the Carp namespace.

### INSTALLATION

```
perl Makefile.PL
make
make test
make install
```

### AUTHOR

The Carp module first appeared in Larry Wall's perl 5.000 distribution. Since then it has been modified by several of the perl 5 porters.

Andrew Main (Zefram) <zefram@fysh.org> divested Carp into an independent distribution.

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---

abstract: 'alternative warn and die for modules'

author:

- unknown

build\_requires:

ExtUtils::MakeMaker: 0

configure\_requires:

ExtUtils::MakeMaker: 0

dynamic\_config: 1

generated\_by: 'ExtUtils::MakeMaker version 6.6302, CPAN::Meta::Converter version 2.120921'

license: perl

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: Carp

no\_index:

directory:

- t

- inc

requires:

Exporter: 0

IPC::Open3: 1.0103

Test::More: 0

strict: 0

warnings: 0

version: 1.26

Found in path(s):

```
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```

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```
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```

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=head1 NAME

Carp - alternative warn and die for modules

=head1 SYNOPSIS

```
use Carp;
```

```
warn user (from perspective of caller)
```

```
carp "string trimmed to 80 chars";
```

```
die of errors (from perspective of caller)
```

```
croak "We're outta here!";
```

```
die of errors with stack backtrace
```

```
confess "not implemented";
```

```
cluck not exported by default
```

```
use Carp qw(cluck);
```

```
cluck "This is how we got here!";
```

=head1 DESCRIPTION

The Carp routines are useful in your own modules because they act like die() or warn(), but with a message which is more likely to be useful to a user of your module. In the case of cluck, confess, and longmess that context is a summary of every call in the call-stack. For a shorter message you can use C<carp> or C<croak> which report the error as being from where your module was called. There is no guarantee that that is where the error was, but it is a good educated guess.

You

can also alter the way the output and logic of C<Carp> works, by changing some global variables in the C<Carp> namespace. See the section on C<GLOBAL VARIABLES> below.



Here is a more complete description of how `C<carp>` and `C<croak>` work. What they do is search the call-stack for a function call stack where they have not been told that there shouldn't be an error. If every call is marked safe, they give up and give a full stack backtrace instead. In other words they presume that the first likely looking potential suspect is guilty. Their rules for telling whether a call shouldn't generate errors work as follows:

=over 4

=item 1.

Any call from a package to itself is safe.

=item 2.

Packages claim that there won't be errors on calls to or from packages explicitly marked as safe by inclusion in `C<@CARP_NOT>`, or (if that array is empty) `C<@ISA>`. The ability to override what `@ISA` says is new in 5.8.

=item 3.

The trust in item 2 is transitive. If A trusts B, and B trusts C, then A trusts C. So if you do not override `C<@ISA>` with `C<@CARP_NOT>`, then this trust relationship is identical to, "inherits from".

=item 4.

Any call from an internal Perl module is safe. (Nothing keeps user modules from marking themselves as internal to Perl, but this practice is discouraged.)

=item 5.

Any call to Perl's warning system (eg `Carp` itself) is safe. (This rule is what keeps it from reporting the error at the point where you call `C<carp>` or `C<croak>`.)

=item 6.

`C<${Carp}::CarpLevel>` can be set to skip a fixed number of additional call levels. Using this is not recommended because it is very difficult to get it to behave correctly.

=back

## =head2 Forcing a Stack Trace

As a debugging aid, you can force Carp to treat a croak as a confess and a carp as a cluck across I<all> modules. In other words, force a detailed stack trace to be given. This can be very helpful when trying to understand why, or from where, a warning or error is being generated.

This feature is enabled by 'importing' the non-existent symbol 'verbose'. You would typically enable it by saying

```
perl -MCarp=verbose script.pl
```

or by including the string C<-MCarp=verbose> in the PERL5OPT environment variable.

Alternately, you can set the global variable C<\$Carp::Verbose> to true. See the C<GLOBAL VARIABLES> section below.

## =head1 GLOBAL VARIABLES

### =head2 \$Carp::MaxEvalLen

This variable determines how many characters of a string-eval are to be shown in the output. Use a value of C<0> to show all text.

Defaults to C<0>.

### =head2 \$Carp::MaxArgLen

This variable determines how many characters of each argument to a function to print. Use a value of C<0> to show the full length of the argument.

Defaults to C<64>.

### =head2 \$Carp::MaxArgNums

This variable determines how many arguments to each function to show. Use a value of C<0> to show all arguments to a function call.

Defaults to C<8>.

### =head2 \$Carp::Verbose

This variable makes C<carp> and C<croak> generate stack backtraces just like

C<cluck> and C<confess>. This is how C<use Carp 'verbose'> is implemented internally.

Defaults to C<0>.

```
=head2 @CARP_NOT
```

This variable, I<in your package>, says which packages are I<not> to be considered as the location of an error. The C<carp()> and C<cluck()> functions will skip over callers when reporting where an error occurred.

NB: This variable must be in the package's symbol table, thus:

```
These work
our @CARP_NOT; # file scope
use vars qw(@CARP_NOT); # package scope
@My::Package::CARP_NOT = ... ; # explicit package variable

These don't work
sub xyz { ... @CARP_NOT = ... } # w/o declarations above
my @CARP_NOT; # even at top-level
```

Example of use:

```
package My::Carping::Package;
use Carp;
our @CARP_NOT;
sub bar { ... or _error('Wrong input') }
sub _error {
 # temporary control of where'ness, __PACKAGE__ is implicit
 local @CARP_NOT = qw(My::Friendly::Caller);
 carp(@_)
}
```

This would make C<Carp> report the error as coming from a caller not in C<My::Carping::Package>, nor from C<My::Friendly::Caller>.

Also read the L</DESCRIPTION> section above, about how C<Carp> decides where the error is reported from.

Use C<@CARP\_NOT>, instead of C<\$Carp::CarpLevel>.

Overrides C<Carp>'s use of C<@ISA>.

```
=head2 %Carp::Internal
```

This says what packages are internal to Perl. C<Carp> will never

report an error as being from a line in a package that is internal to Perl. For example:

```
$Carp::Internal{ (__PACKAGE__) }++;
time passes...
sub foo { ... or confess("whatever") };
```

would give a full stack backtrace starting from the first caller outside of `__PACKAGE__`. (Unless that package was also internal to Perl.)

```
=head2 %Carp::CarpInternal
```

This says which packages are internal to Perl's warning system. For generating a full stack backtrace this is the same as being internal to Perl, the stack backtrace will not start inside packages that are listed in `C<%Carp::CarpInternal>`.

But it is slightly different for the summary message generated by `C<carp>` or `C<croak>`. There errors will not be reported on any lines that are calling packages in `C<%Carp::CarpInternal>`.

For example `C<Carp>` itself is listed in `C<%Carp::CarpInternal>`. Therefore the full stack backtrace from `C<confess>` will not start inside of `C<Carp>`, and the short message from calling `C<croak>` is not placed on the line where `C<croak>` was called.

```
=head2 $Carp::CarpLevel
```

This variable determines how many additional call frames are to be skipped that would not otherwise be when reporting where an error occurred on a call to one of `C<Carp>`'s functions. It is fairly easy to count these call frames on calls that generate a full stack backtrace. However it is much harder to do this accounting for calls that generate a short message. Usually people skip too many call frames. If they are lucky they skip enough that `C<Carp>` goes all of the way through the call stack, realizes that something is wrong, and then generates a full stack backtrace. If they are unlucky then the error is reported from somewhere misleading very high in the call stack.

Therefore it is best to avoid `C<$Carp::CarpLevel>`. Instead use `C<@CARP_NOT>`, `C<%Carp::Internal>` and `C<%Carp::CarpInternal>`.

Defaults to `C<0>`.

```
=head1 BUGS
```

The Carp routines don't handle exception objects currently.  
If called with a first argument that is a reference, they simply  
call die() or warn(), as appropriate.

=head1 SEE ALSO

L<Carp::Always>,  
L<Carp::Clan>

=head1 AUTHOR

The Carp module first appeared in Larry Wall's perl 5.000 distribution.  
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Andrew Main (Zefram) <zefram@fysh.org> divested Carp into an independent  
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# 1.282 vim-data 9.0.1592-1.amzn2.0.1

# 1.283 ncurses-libs 6.0-8.20170212.amzn2.1.5

## 1.283.1 Available under license :

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```
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This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.
```

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```
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`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

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

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```

#!/usr/bin/env bash
MIT licenses will each have a unique MD5 sum since they contain a unique copyright.
This script will read the license file into memory, strip out the copyright, and then
generate an MD5 that is not unique and can be matched against a known MIT MD5 sum.
set -e

calculate_md5_sum() {
 local FILE="$1"

 # Read the contents of the file into a variable
 local raw_license_text=$(<"$FILE")

 # Convert to lowercase
 local lowercase_license_text="{raw_license_text,,}"

 # Remove anything before the beginning of the license
 local stripped_license_text=$(awk '/permission is hereby granted/{p=1} p' <<< "$lowercase_license_text")

 # Replace line breaks (Windows or Linux) with a single space
 local replaced_linebreaks=$(tr '\r\n' ' ' <<< "$stripped_license_text")

 # Replace multiple spaces with a single space
 local normalized_license_text=$(tr -s ' ' <<< "$replaced_linebreaks")

 # Strip away any non-printable, non-whitespace characters
 local clean_unprintable_license_text=$(tr
 -cd '[:print:][:space:]' <<< "$normalized_license_text")

 # Remove punctuation and special characters
 local clean_license_text=$(echo "$clean_unprintable_license_text" | sed 's/[^a-zA-Z]//g')

 # Calculate the MD5 sum of the cleaned license text
 local MD5SUM=$(echo -n "$clean_license_text" | md5sum | awk '{print $1}')

 # Output the MD5 sum
 echo "$MD5SUM"
}

Check if the FILE argument is provided
if [-z "$1"]; then
 echo "Please provide a FILE as an argument."
 exit 1
fi

Invoke the function with the provided FILE argument
calculate_md5_sum "$1"

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```

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\*/

7zXZF!t/]o."w[7gp<G

H:Oed 18uyMQ9]FO6

87I8.mhGl^eb\_X/UQKuB

)Cdk!B\_M/tw|11np#\_(~\*'uM%S61opMG`YfRXvY[R+t[ BS=)d

;\*!;\_>KfBqxY(F|0.Ve%S61opMG`YfRXvY[R+t[ BS=)d

;\*!;\_>KfBqxYm+sS|11np#\_(~\*'uM%S61opMG`YfRXvY[R+t[ BS=)d

;\*!;\_>KfBqxY(F|0.Ve%S61opMG`YfRXvY[R+t[ BS=)d ;\*!;\_>KfBqxY(F|0.Ve%Q?

\*sS|11np#\_(~\*'u7gi}[IgYZ

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# 1.284 perl-http-tiny 0.033-3.amzn2.0.1

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```
<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>
```

```
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any later version.
```

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```

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Foundation, Inc., 51
Franklin Street, Fifth Floor, Boston MA 02110-1301 USA
```

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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.

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```
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!

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# 1.285 perl-pod-perldoc 3.20-4.amzn2.0.1

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---

abstract: 'Look up Perl documentation in Pod format.'

author:

- 'Mark Allen <mallen@cpan.org>'

build\_requires:

ExtUtils::MakeMaker: 0

configure\_requires:

ExtUtils::MakeMaker: 0

dynamic\_config: 1

generated\_by: 'ExtUtils::MakeMaker version 6.6302, CPAN::Meta::Converter version 2.130880'

license: perl

meta-spec:

url: <http://module-build.sourceforge.net/META-spec-v1.4.html>

version: 1.4

name: Pod-Perldoc

no\_index:

directory:

- t

- inc

- corpus

requires:

Config: 0

Encode: 0

Fcntl: 0

File::Spec::Functions: 0

File::Temp: 0.22

IO::Select: 0

Pod::Man: 2.18

Pod::Simple::RTF: 3.16

Pod::Simple::XMLOutputStream: 3.16

Pod::Text: 0

Symbol: 0

Test::More: 0

Text::ParseWords: 0

parent: 0

strict: 0

warnings: 0

resources:

repository: <https://github.com/mrallen1/Pod-Perldoc.git>

version: 3.20

Found in path(s):

\* /opt/cola/permits/1732233878\_1694208018.9354093/0/perl-Pod-Perldoc-3.20-4.amzn2.0.1.src.rpm-cosi-expand-archive-CxoUBVc2/Pod-Perldoc-3.20.tar.gz-cosi-expand-archive-3W1M4gPb/Pod-Perldoc-3.20/META.yml

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=head1 NAME

Pod::Perldoc::ToRtf - let Perldoc render Pod as RTF

=head1 SYNOPSIS

```
perldoc -o rtf Some::Modulename
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use Pod::Simple::RTF as a formatter class.

This is actually a Pod::Simple::RTF subclass, and inherits all its options.

You have to have Pod::Simple::RTF installed (from the Pod::Simple dist), or this module won't work.

If Perldoc is running under MSWin and uses this class as a formatter, the output will be opened with F<write.exe> or whatever program is specified in the environment variable C<RTFREADER>. For example, to specify that RTF files should be opened the same as they are when you double-click them, you would do C<set RTFREADER=start.exe> in your F<autoexec.bat>.

Handy tip: put C<set PERLDOC=-ortf> in your F<autoexec.bat> and that will set this class as the default formatter to run when you do C<perldoc whatever>.

=head1

SEE ALSO

L<Pod::Simple::RTF>, L<Pod::Simple>, L<Pod::Perldoc>

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=head1 AUTHOR

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Past contributions from:

brian d foy C<< <bdfoy@cpan.org> >>

Adriano R. Ferreira C<< <ferreira@cpan.org> >>,

Sean M. Burke C<< <sburke@cpan.org> >>

=cut

Found in path(s):

```
* /opt/cola/permits/1732233878_1694208018.9354093/0/perl-Pod-Perldoc-3.20-4.amzn2.0.1.src.rpm-cosi-expand-
archive-CxoUBVc2/Pod-Perldoc-3.20.tar.gz-cosi-expand-archive-3W1M4gPb/Pod-Perldoc-
3.20/lib/Pod/Perldoc/ToRtf.pm
```

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=head1 NAME

Pod::Perldoc::BaseTo - Base for Pod::Perldoc formatters

=head1 SYNOPSIS

```
package Pod::Perldoc::ToMyFormat;
```

```
use base qw(Pod::Perldoc::BaseTo);
```

```
...
```

=head1 DESCRIPTION

This package is meant as a base of Pod::Perldoc formatters,  
like L<Pod::Perldoc::ToText>, L<Pod::Perldoc::ToMan>, etc.

It provides default implementations for the methods

```
is_pageable
write_with_binmode
output_extension
_perldoc_elem
```

The concrete formatter must implement

```
new
parse_from_file
```

=head1 SEE ALSO

L<perldoc>

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## =head1 AUTHOR

Current

maintainer: Mark Allen C<< <mallen@cpan.org> >>

Past contributions from:

brian d foy C<< <bdfoy@cpan.org> >>

Adriano R. Ferreira C<< <ferreira@cpan.org> >>,,

Sean M. Burke C<< <sburke@cpan.org> >>

=cut

Found in path(s):

\* /opt/cola/permits/1732233878\_1694208018.9354093/0/perl-Pod-Perldoc-3.20-4.amzn2.0.1.src.rpm-cosi-expand-archive-CxoUBVc2/Pod-Perldoc-3.20.tar.gz-cosi-expand-archive-3W1M4gPb/Pod-Perldoc-3.20/lib/Pod/Perldoc/BaseTo.pm

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## =head1 NAME

Pod::Perldoc::GetOptsOO - Customized option parser for Pod::Perldoc

## =head1 SYNOPSIS

```
use Pod::Perldoc::GetOptsOO ();
```

```
Pod::Perldoc::GetOptsOO::getopts($obj, \@args, $truth)
 or die "wrong usage";
```

## =head1 DESCRIPTION

Implements a customized option parser used for  
L<Pod::Perldoc>.

Rather like Getopt::Std's getopt:

=over

=item Call Pod::Perldoc::GetOptsOO::getopts(\$Object, \@ARGV, \$truth)

=item Given -n, if there's a opt\_n\_with, it'll call \$Object->opt\_n\_with( ARGUMENT )  
(e.g., "-n foo" => \$Object->opt\_n\_with('foo'). Ditto "-nfoo")

=item Otherwise (given -n) if there's an opt\_n, we'll call it \$Object->opt\_n(\$truth)  
(Truth defaults to 1)

=item Otherwise we try calling \$Object->handle\_unknown\_option('n')  
(and we increment the error count by the return value of it)

=item If there's no handle\_unknown\_option, then we just warn, and then increment  
the error counter

=back

The

return value of Pod::Perldoc::GetOptsOO::getopts is true if no errors,  
otherwise it's false.

=head1 SEE ALSO

L<Pod::Perldoc>

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Past contributions from:

brian d foy C<< <bdfoy@cpan.org> >>

Adriano R. Ferreira C<< <ferreira@cpan.org> >>,

Sean M. Burke C<< <sburke@cpan.org> >>

=cut

Found in path(s):

\* /opt/cola/permits/1732233878\_1694208018.9354093/0/perl-Pod-Perldoc-3.20-4.amzn2.0.1.src.rpm-cosi-expand-archive-CxoUBVc2/Pod-Perldoc-3.20.tar.gz-cosi-expand-archive-3W1M4gPb/Pod-Perldoc-3.20/lib/Pod/Perldoc/GetOptsOO.pm

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=head1 NAME

Pod::Perldoc::ToNroff - let Perldoc convert Pod to nroff

=head1 SYNOPSIS

```
perldoc -o nroff -d something.3 Some::Modulename
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use Pod::Man as a formatter class.

The following options are supported: center, date, fixed, fixedbold, fixeditalic, fixedbolditalic, quotes, release, section

Those options are explained in L<Pod::Man>.

For example:

```
perldoc -o nroff -w center:Pod -d something.3 Some::Modulename
```

=head1 CAVEAT

This module may change to use a different pod-to-nroff formatter class in the future, and this may change what options are supported.

=head1 SEE ALSO

L<Pod::Man>, L<Pod::Perldoc>, L<Pod::Perldoc::ToMan>

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Past contributions from:

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Adriano R. Ferreira C<< <ferreira@cpan.org> >>,

Sean M. Burke C<< <sburke@cpan.org> >>

=cut

Found in path(s):

```
* /opt/cola/permits/1732233878_1694208018.9354093/0/perl-Pod-Perldoc-3.20-4.amzn2.0.1.src.rpm-cosi-expand-
archive-CxoUBVc2/Pod-Perldoc-3.20.tar.gz-cosi-expand-archive-3W1M4gPb/Pod-Perldoc-
3.20/lib/Pod/Perldoc/ToNroff.pm
```

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=head1 NAME

Pod::Perldoc::ToChecker - let Perldoc check Pod for errors

=head1 SYNOPSIS

```
% perldoc -o checker SomeFile.pod
```

```
No Pod errors in SomeFile.pod
```

```
(or an error report)
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use Pod::Simple::Checker as a "formatter" class (or if that is not available, then Pod::Checker), to check for errors in a given Pod file.

This is actually a Pod::Simple::Checker (or Pod::Checker) subclass, and inherits all its options.

=head1 SEE ALSO

L<Pod::Simple::Checker>, L<Pod::Simple>, L<Pod::Checker>, L<Pod::Perldoc>

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=head1 NAME

Pod::Perldoc::ToTerm - render Pod with terminal escapes

=head1 SYNOPSIS

```
perldoc -o term Some::Modulename
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use

Pod::Text as a formatter class.

It supports the following options, which are explained in L<Pod::Text>: alt, indent, loose, quotes, sentence, width

For example:

```
perldoc -o term -w indent:5 Some::Modulename
```

=head1 CAVEAT

This module may change to use a different text formatter class in the future, and this may change what options are supported.

=head1 SEE ALSO

L<Pod::Text>, L<Pod::Text::Termcap>, L<Pod::Perldoc>

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=head1 NAME

Pod::Perldoc::ToXml - let Perldoc render Pod as XML

=head1 SYNOPSIS

```
perldoc -o xml -d out.xml Some::Modulename
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use Pod::Simple::XMLOutputStream as a formatter class.

This is actually a Pod::Simple::XMLOutputStream subclass, and inherits all its options.

You have to have installed Pod::Simple::XMLOutputStream (from the Pod::Simple dist), or this class won't work.

=head1 SEE ALSO

L<Pod::Simple::XMLOutputStream>, L<Pod::Simple>, L<Pod::Perldoc>

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=cut

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

=head1 NAME

Pod::Perldoc::ToMan - let Perldoc render Pod as man pages

=head1 SYNOPSIS

perldoc -o man Some::Modulename

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use Pod::Man and C<groff> for reading Pod pages.

The following options are supported: center, date, fixed, fixedbold, fixeditalic, fixedbolditalic, quotes, release, section

(Those options are explained in L<Pod::Man>.)

For example:

```
perldoc -o man -w center:Pod Some::Modulename
```

=head1 CAVEAT

This module may change to use a different pod-to-nroff formatter class in the future, and this may change what options are supported.

=head1 SEE ALSO

L<Pod::Man>, L<Pod::Perldoc>, L<Pod::Perldoc::ToNroff>

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Sean M. Burke C<< <sburke@cpan.org> >>

=cut

Found in path(s):

```
* /opt/cola/permits/1732233878_1694208018.9354093/0/perl-Pod-Perldoc-3.20-4.amzn2.0.1.src.rpm-cosi-expand-archive-CxoUBVc2/Pod-Perldoc-3.20.tar.gz-cosi-expand-archive-3W1M4gPb/Pod-Perldoc-3.20/lib/Pod/Perldoc/ToMan.pm
```

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=head1 NAME

Pod::Perldoc::ToANSI - render Pod with ANSI color escapes

=head1 SYNOPSIS

```
perldoc -o ansi Some::Modulename
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use Pod::Text as a formatter class.

It supports the following options, which are explained in L<Pod::Text>: alt, indent, loose, quotes, sentence, width

For example:

```
perldoc -o term -w indent:5 Some::Modulename
```

=head1 CAVEAT

This module may change to use a different text formatter class in the future, and this may change what options are supported.

=head1 SEE ALSO

L<Pod::Text>, L<Pod::Text::Color>, L<Pod::Perldoc>

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archive-CxoUBVc2/Pod-Perldoc-3.20.tar.gz-cosi-expand-archive-3W1M4gPb/Pod-Perldoc-  
3.20/lib/Pod/Perldoc/ToANSI.pm

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=head1 NAME

Pod::Perldoc - Look up Perl documentation in Pod format.

=head1 SYNOPSIS

```
use Pod::Perldoc ();
```

```
Pod::Perldoc->run();
```

=head1 DESCRIPTION

The guts of L<perldoc> utility.

=head1 SEE ALSO

L<perldoc>

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Found in path(s):

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

=head1 NAME

Pod::Perldoc::ToText - let Perldoc render Pod as plaintext

=head1 SYNOPSIS

```
perldoc -o text Some::Modulename
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to use

Pod::Text as a formatter class.

It supports the following options, which are explained in

L<Pod::Text>: alt, indent, loose, quotes, sentence, width

For example:

```
perldoc -o text -w indent:5 Some::Modulename
```

=head1 CAVEAT

This module may change to use a different text formatter class in the future, and this may change what options are supported.

=head1 SEE ALSO

L<Pod::Text>, L<Pod::Perldoc>

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=head1 NAME

Pod::Perldoc::ToPod - let Perldoc render Pod as ... Pod!

=head1 SYNOPSIS

```
perldoc -opod Some::Modulename
```

(That's currently the same as the following:)

```
perldoc -u Some::Modulename
```

=head1 DESCRIPTION

This is a "plug-in" class that allows Perldoc to display Pod source as itself! Pretty Zen, huh?

Currently this class works by just filtering out the non-Pod stuff from a given input file.



=head1 SEE ALSO

L<Pod::Perldoc>

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Found in path(s):

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## 1.286 pcre-devel 8.32-17.amzn2.0.3

### 1.286.1 Available under license :

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/opt/cola/permits/1732833211\_1693942003.5424116/0/pcre-devel-8-32-17-el7-x86-64-rpm-zip/pcre-devel-8.32-17.el7.x86\_64.rpm: binary file matches

Found in path(s):

\* /bin/grep

# 1.287 open-ldap 2.4.44-25.amzn2.0.6

## 1.287.1 Available under license :

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/opt/cola/permits/1733654235\_1693601784.953989/0/openldap-2-4-44-25-el7-9-x86-64-rpm-zip/openldap-2.4.44-25.el7\_9.x86\_64.rpm: binary file matches

Found in path(s):

\* /bin/grep

# 1.288 ncurses 6.0-8.20170212.amzn2.1.5

## 1.288.1 Available under license :

Upstream source <http://invisible-island.net/ncurses/ncurses-examples.html>

Current ncurses maintainer: Thomas Dickey <[dickey@invisible-island.net](mailto:dickey@invisible-island.net)>

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Files: \*

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-- vile: txtmode file-encoding=utf-8

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-- \$Id: COPYING,v 1.5 2017/01/08 00:33:50 tom Exp \$

Upstream source <http://invisible-island.net/ncurses/ncurses-examples.html>

Current ncurses maintainer: Thomas Dickey <[dickey@invisible-island.net](mailto:dickey@invisible-island.net)>

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-- vile: txtmode file-encoding=utf-8

Upstream source <http://invisible-island.net/ncurses/ncurses.html>

This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <[dickey@invisible-island.net](mailto:dickey@invisible-island.net)>

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# 1.289 glib 2.56.1-9.amzn2.0.6

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## 1.290 pyyaml 6.0.1

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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

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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
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```

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contextlib2 is a derivative of the contextlib module distributed by the PSF as part of the Python standard library. According, it is itself redistributed under the PSF license (reproduced in full below). As the contextlib module was added only in Python 2.5, the licenses for earlier Python versions are not applicable and have not been included.

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 (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.

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Release	Derived from	Year	Owner	GPL-compatible? (1)
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	

yes				
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1.1	2010	PSF	yes
3.1.3	3.1.2	2010	PSF	yes
3.1.4	3.1.3	2011	PSF	yes
3.2	3.1	2011	PSF	yes
3.2.1	3.2	2011	PSF	yes
3.2.2	3.2.1	2011	PSF	yes
3.3	3.2			
2012	PSF	yes		

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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 (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 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
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes

2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes
3.0	2.6	2008	PSF	yes
3.0.1	3.0	2009	PSF	yes
3.1	3.0.1	2009	PSF	yes
3.1.1	3.1	2009	PSF	yes
3.1.2	3.1	2010	PSF	yes
3.2	3.1	2010	PSF	yes

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(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.

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

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ca-bundle.crt -- Bundle of CA Root Certificates

Certificate data from Mozilla as of: Thu Nov 3 19:04:19 2011#

This is a bundle of X.509 certificates of public Certificate Authorities (CA). These were automatically extracted from Mozilla's root certificates file (certdata.txt). This file can be found in the mozilla source tree:

<http://mxr.mozilla.org/mozilla/source/security/nss/lib/ckfw/builtins/certdata.txt?raw=1#>

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Just configure this file as the SSLCACertificateFile.#

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## 1.300 xxd 9.0.1592-1.amzn2.0.1

## 1.301 python-devel 3.7.16-1.amzn2.0.2

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#### A. HISTORY OF THE SOFTWARE

=====

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.

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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
2.2 and above	2.1.1	2001-now		
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# 1.303 vim-common 9.0.1592-1.amzn2.0.1

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zip/vim-common-9.0.1592-1.amzn2023.0.1.x86\_64.rpm: binary file matches

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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.

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

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```
Gnomovision version 69, Copyright (C) year 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

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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Version 2, June 1991

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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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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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"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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(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 your rights to work written entirely by you; rather, the intent is to

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## 1.307 libffi-devel 3.0.13-18.amzn2.0.2

### 1.307.1 Available under license :

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

/opt/cola/permits/1753944454\_1693579648.080606/0/libffi-devel-3-0-13-18-amzn2-x86-64-rpm-zip/libffi-devel-3.0.13-18.amzn2.x86\_64.rpm: binary file matches

Found in path(s):

\* /bin/grep

# 1.308 system-rpm-config 9.1.0-76.amzn2.0.14

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# License: GPL

Found in path(s):

\* /opt/cola/permits/1753944436\_1694207132.629588/0/system-rpm-config-9.1.0-76.amzn2.0.14.src.rpm-cosi-expand-archive-xekz4NIN/redhat-rpm-config-9.1.0.tar.bz2-cosi-expand-archive-1ZuR4fjX/redhat-rpm-config-9.1.0/dist.sh

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Found in path(s):

\* /opt/cola/permits/1753944436\_1694207132.629588/0/system-rpm-config-9.1.0-76.amzn2.0.14.src.rpm-cosi-expand-archive-xekz4NIN/redhat-rpm-config-9.1.0.tar.bz2-cosi-expand-archive-1ZuR4fjX/redhat-rpm-config-9.1.0/kmodtool

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Found in path(s):

\* /opt/cola/permits/1753944436\_1694207132.629588/0/system-rpm-config-9.1.0-76.amzn2.0.14.src.rpm-cosi-expand-archive-xekz4NIN/system-rpm-config.spec

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From: Jiri Benc <jbenc@redhat.com>

Subject: Build correctly with z-stream kernels

In brew, there's usually a newer kernel installed than the one used for installation. Handle this situation correctly by allowing the spec file to define kernel\_version to be used in rpm dependencies, while building against a compatible newer (z-stream) kernel.

Signed-off-by: Jiri Benc <jbenc@redhat.com>



```

kmodtool | 31 ++++++-----
macros | 2 +-
2 files changed, 29 insertions(+), 4 deletions(-)

--- a/kmodtool
+++ b/kmodtool
@@ -9,6 +9,7 @@
Copyright (c) 2003-2010 Ville Skyttä <ville.skytta@iki.fi>,
Thorsten Leemhuis <fedora@leemhuis.info>
Jon Masters <jcm@redhat.com>
+# Copyright (c) 2012-2013 Jiri Benc <jbenc@redhat.com>
#
Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation
files (the
@@ -49,9 +50,25 @@ kver=
verrel=
variant=

+get_kernel_release ()
+{
+ if [[-z $1]]; then
+ uname -r
+ return
+ fi
+ local arch=$(arch)
+ local verrel=${1%.$sarch}
+ local verprefix=${verrel%.*}
+ local versuffix=${verrel#$verprefix}
+ verrel=$(ls -Ud /usr/src/kernels/$verprefix*$versuffix.$sarch | sort -V | tail -n 1)
+ verrel=${verrel##*/}
+ [[-z $verrel]] && verrel=$1.$sarch
+ echo "$verrel"
+}
+
get_verrel ()
{
- verrel=${1:-$(uname -r)}
+ verrel=$(get_kernel_release "$1")
 verrel=${verrel/%.$knownvariants/}
}

@@ -61,10 +78,16 @@ print_verrel ()
 echo "${verrel}"
}

```

```

+get_verrel_for_deps ()
+{
+ verrel_dep=${1:-$(uname -r)}
+ verrel_dep=${verrel_dep/%.$knownvariants/}
+}
+
get_variant ()
{
 get_verrel $@
- variant=${1:-$(uname -r)}
+ variant=$(get_kernel_release "$1")
 variant=${variant/#$verrel?./}
 variant=${variant:-""}
}
@@ -129,7 +152,7 @@ get_rpmtemplate ()
 echo "%global _use_internal_dependency_generator
0"

 cat <<EOF
-Provides: kernel-modules >= ${verrel}${dotvariant}
+Provides: kernel-modules >= ${verrel_dep}${dotvariant}
Provides: ${kmod_name}-kmod = %{ ?epoch:%{epoch}:}%{version}-%{release}
Requires(post): /sbin/depmod
Requires(postun): /sbin/depmod
@@ -206,6 +229,8 @@ print_rpmtemplate ()
 shift
 kver="${1}"
 get_verrel "${1}"
+ get_verrel_for_deps "${1}"
+ [[-z $kver]] && kver=$verrel
 shift
 if [-z "${kmod_name}"] ; then
 echo "Please provide the kmodule-name as first parameter." >&2
--- a/macros
+++ b/macros
@@ -218,7 +218,7 @@ package or when debugging this package.\
then \
 nobuildreqs="yes" \
fi \
- override_filelist="$filelist" override_preamble="$preamble" nobuildreqs="$nobuildreqs"
kmod_version=%kmod_version kmod_release=%kmod_release %{kmodtool} rpmtemplate %{-n*}%{!-n:%name}
%{kverrel} $flavors_to_build 2>/dev/null \
+ override_filelist="$filelist" override_preamble="$preamble" nobuildreqs="$nobuildreqs"
kmod_version=%kmod_version
kmod_release=%kmod_release %{kmodtool} rpmtemplate %{-n*}%{!-n:%name} %{kernel_version}
$flavors_to_build 2>/dev/null \
)}

```

#-----

Found in path(s):

\* /opt/cola/permits/1753944436\_1694207132.629588/0/system-rpm-config-9.1.0-76.amzn2.0.14.src.rpm-cosi-expand-archive-xekz4NIN/redhat-rpm-config-9.1.0-kmod-brew-build.patch

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Found in path(s):

\* /opt/cola/permits/1753944436\_1694207132.629588/0/system-rpm-config-9.1.0-76.amzn2.0.14.src.rpm-cosi-expand-archive-xekz4NIN/redhat-rpm-config-9.1.0.tar.bz2-cosi-expand-archive-1ZuR4fjX/redhat-rpm-config-9.1.0/rpmsort

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```
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```

Found in path(s):

\* /opt/cola/permits/1753944436\_1694207132.629588/0/system-rpm-config-9.1.0-76.amzn2.0.14.src.rpm-cosi-expand-archive-xekz4NIN/gpgverify

## 1.309 libcurl-devel 8.0.1-1.amzn2.0.1

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## 1.310 boto3 1.9.155

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## 1.312 tcp-wrappers 7.6-77.amzn2.0.2

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```

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```

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```

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