NAME

perl – The Perl 5 language interpreter

SYNOPSIS

perl   [−**sTtuUWX**]   [−**hv**][−**V**[:*configvar*]]   [−**cw**][−**d**[**t**][:*debugger*]][−**D**[*number/list*]]
[−**pna**][−**F***pattern*][−**l**[*octal*]][−**0**[*octal/hexadecimal*]]
[−**I***dir*][−**m**[−]*module*][−**M**[−]'*module...*'][−**f**]   [−**C**[***number/list***]]   [−**S**]
[−**x**[*dir*]]   [−**i**[*extension*]]   [[−**e**|−**E**]'*command*'][−−][*programfile*][*argument*]...

For more information on these options, you can run `perldoc perlrun`.

GETTING HELP

The *perldoc* program gives you access to all the documentation that comes with Perl. You can get more documentation, tutorials and community support online at <https://www.perl.org/>.

If you're new to Perl, you should start by running `perldoc perlintro`, which is a general intro for beginners and provides some background to help you navigate the rest of Perl's extensive documentation. Run `perldoc perldoc` to learn more things you can do with *perldoc*.

For ease of access, the Perl manual has been split up into several sections.

Overview

```
perl                Perl overview (this section)
perlintro           Perl introduction for beginners
perlrun             Perl execution and options
perltoc             Perl documentation table of contents
```

Tutorials

```
perlreftut          Perl references short introduction
perldsc             Perl data structures intro
perllol             Perl data structures: arrays of arrays

perlrequick         Perl regular expressions quick start
perlretut           Perl regular expressions tutorial

perlootut           Perl OO tutorial for beginners

perlperf            Perl Performance and Optimization Techniques

perlstyle           Perl style guide

perlcheat           Perl cheat sheet
perltrap            Perl traps for the unwary
perldebtut          Perl debugging tutorial

perlfaq             Perl frequently asked questions
  perlfaq1          General Questions About Perl
  perlfaq2          Obtaining and Learning about Perl
  perlfaq3          Programming Tools
  perlfaq4          Data Manipulation
  perlfaq5          Files and Formats
  perlfaq6          Regexes
  perlfaq7          Perl Language Issues
  perlfaq8          System Interaction
  perlfaq9          Networking
```

Reference Manual

```
        perlsyn            Perl syntax
        perldata           Perl data structures
        perlop             Perl operators and precedence
        perlsub            Perl subroutines
        perlfunc           Perl built-in functions
          perlopentut      Perl open() tutorial
          perlpacktut      Perl pack() and unpack() tutorial
        perlpod            Perl plain old documentation
        perlpodspec        Perl plain old documentation format specification
        perldocstyle       Perl style guide for core docs
        perlpodstyle       Perl POD style guide
        perldiag           Perl diagnostic messages
        perldeprecation    Perl deprecations
        perllexwarn        Perl warnings and their control
        perldebug          Perl debugging
        perlvar            Perl predefined variables
        perlre             Perl regular expressions, the rest of the story
        perlrebackslash    Perl regular expression backslash sequences
        perlrecharclass    Perl regular expression character classes
        perlreref          Perl regular expressions quick reference
        perlref            Perl references, the rest of the story
        perlform           Perl formats
        perlobj            Perl objects
        perltie            Perl objects hidden behind simple variables
          perldbmfilter    Perl DBM filters

        perlipc            Perl interprocess communication
        perlfork           Perl fork() information
        perlnumber         Perl number semantics

        perlthrtut         Perl threads tutorial

        perlport           Perl portability guide
        perllocale         Perl locale support
        perluniintro       Perl Unicode introduction
        perlunicode        Perl Unicode support
        perlunicook        Perl Unicode cookbook
        perlunifaq         Perl Unicode FAQ
        perluniprops       Index of Unicode properties in Perl
        perlunitut         Perl Unicode tutorial
        perlebcdic         Considerations for running Perl on EBCDIC platforms

        perlsec            Perl security
        perlsecpolicy      Perl security report handling policy

        perlmod            Perl modules: how they work
        perlmodlib         Perl modules: how to write and use
        perlmodstyle       Perl modules: how to write modules with style
        perlmodinstall     Perl modules: how to install from CPAN
        perlnewmod         Perl modules: preparing a new module for distribution
        perlpragma         Perl modules: writing a user pragma

        perlutil           utilities packaged with the Perl distribution
```

```
             perlfilter          Perl source filters

             perldtrace          Perl's support for DTrace

             perlglossary        Perl Glossary
```

Internals and C Language Interface
```
             perlembed           Perl ways to embed perl in your C or C++ application
             perldebguts         Perl debugging guts and tips
             perlxstut           Perl XS tutorial
             perlxs              Perl XS application programming interface
             perlxstypemap       Perl XS C/Perl type conversion tools
             perlclib            Internal replacements for standard C library functions
             perlguts            Perl internal functions for those doing extensions
             perlcall            Perl calling conventions from C
             perlmroapi          Perl method resolution plugin interface
             perlreapi           Perl regular expression plugin interface
             perlreguts          Perl regular expression engine internals

             perlapi             Perl API listing (autogenerated)
             perlintern          Perl internal functions (autogenerated)
             perliol             C API for Perl's implementation of IO in Layers
             perlapio            Perl internal IO abstraction interface

             perlhack            Perl hackers guide
             perlsource          Guide to the Perl source tree
             perlinterp          Overview of the Perl interpreter source and how it works
             perlhacktut         Walk through the creation of a simple C code patch
             perlhacktips        Tips for Perl core C code hacking
             perlpolicy          Perl development policies
             perlgov             Perl Rules of Governance
             perlgit             Using git with the Perl repository
```

History
```
             perlhist            Perl history records
             perldelta           Perl changes since previous version
             perl5321delta       Perl changes in version 5.32.1
             perl5320delta       Perl changes in version 5.32.0
             perl5303delta       Perl changes in version 5.30.3
             perl5302delta       Perl changes in version 5.30.2
             perl5301delta       Perl changes in version 5.30.1
             perl5300delta       Perl changes in version 5.30.0
             perl5283delta       Perl changes in version 5.28.3
             perl5282delta       Perl changes in version 5.28.2
             perl5281delta       Perl changes in version 5.28.1
             perl5280delta       Perl changes in version 5.28.0
             perl5263delta       Perl changes in version 5.26.3
             perl5262delta       Perl changes in version 5.26.2
             perl5261delta       Perl changes in version 5.26.1
             perl5260delta       Perl changes in version 5.26.0
             perl5244delta       Perl changes in version 5.24.4
             perl5243delta       Perl changes in version 5.24.3
             perl5242delta       Perl changes in version 5.24.2
             perl5241delta       Perl changes in version 5.24.1
             perl5240delta       Perl changes in version 5.24.0
             perl5224delta       Perl changes in version 5.22.4
```

```
perl5223delta          Perl changes in version 5.22.3
perl5222delta          Perl changes in version 5.22.2
perl5221delta          Perl changes in version 5.22.1
perl5220delta          Perl changes in version 5.22.0
perl5203delta          Perl changes in version 5.20.3
perl5202delta          Perl changes in version 5.20.2
perl5201delta          Perl changes in version 5.20.1
perl5200delta          Perl changes in version 5.20.0
perl5184delta          Perl changes in version 5.18.4
perl5182delta          Perl changes in version 5.18.2
perl5181delta          Perl changes in version 5.18.1
perl5180delta          Perl changes in version 5.18.0
perl5163delta          Perl changes in version 5.16.3
perl5162delta          Perl changes in version 5.16.2
perl5161delta          Perl changes in version 5.16.1
perl5160delta          Perl changes in version 5.16.0
perl5144delta          Perl changes in version 5.14.4
perl5143delta          Perl changes in version 5.14.3
perl5142delta          Perl changes in version 5.14.2
perl5141delta          Perl changes in version 5.14.1
perl5140delta          Perl changes in version 5.14.0
perl5125delta          Perl changes in version 5.12.5
perl5124delta          Perl changes in version 5.12.4
perl5123delta          Perl changes in version 5.12.3
perl5122delta          Perl changes in version 5.12.2
perl5121delta          Perl changes in version 5.12.1
perl5120delta          Perl changes in version 5.12.0
perl5101delta          Perl changes in version 5.10.1
perl5100delta          Perl changes in version 5.10.0
perl589delta           Perl changes in version 5.8.9
perl588delta           Perl changes in version 5.8.8
perl587delta           Perl changes in version 5.8.7
perl586delta           Perl changes in version 5.8.6
perl585delta           Perl changes in version 5.8.5
perl584delta           Perl changes in version 5.8.4
perl583delta           Perl changes in version 5.8.3
perl582delta           Perl changes in version 5.8.2
perl581delta           Perl changes in version 5.8.1
perl58delta            Perl changes in version 5.8.0
perl561delta           Perl changes in version 5.6.1
perl56delta            Perl changes in version 5.6
perl5005delta          Perl changes in version 5.005
perl5004delta          Perl changes in version 5.004
```

Miscellaneous

```
perlbook               Perl book information
perlcommunity          Perl community information

perldoc                Look up Perl documentation in Pod format

perlexperiment         A listing of experimental features in Perl

perlartistic           Perl Artistic License
perlgpl                GNU General Public License
```

Language-Specific

```
perlcn                  Perl for Simplified Chinese (in UTF-8)
perljp                  Perl for Japanese (in EUC-JP)
perlko                  Perl for Korean (in EUC-KR)
perltw                  Perl for Traditional Chinese (in Big5)
```

Platform-Specific

```
perlaix                 Perl notes for AIX
perlamiga               Perl notes for AmigaOS
perlandroid             Perl notes for Android
perlbs2000              Perl notes for POSIX-BC BS2000
perlcygwin              Perl notes for Cygwin
perldos                 Perl notes for DOS
perlfreebsd             Perl notes for FreeBSD
perlhaiku               Perl notes for Haiku
perlhpux                Perl notes for HP-UX
perlhurd                Perl notes for Hurd
perlirix                Perl notes for Irix
perllinux               Perl notes for Linux
perlmacos               Perl notes for Mac OS (Classic)
perlmacosx              Perl notes for Mac OS X
perlnetware             Perl notes for NetWare
perlopenbsd             Perl notes for OpenBSD
perlos2                 Perl notes for OS/2
perlos390               Perl notes for OS/390
perlos400               Perl notes for OS/400
perlplan9               Perl notes for Plan 9
perlqnx                 Perl notes for QNX
perlriscos              Perl notes for RISC OS
perlsolaris             Perl notes for Solaris
perlsynology            Perl notes for Synology
perltru64               Perl notes for Tru64
perlvms                 Perl notes for VMS
perlvos                 Perl notes for Stratus VOS
perlwin32               Perl notes for Windows
```

Stubs for Deleted Documents

```
perlboot
perlbot
perlrepository
perltodo
perltooc
perltoot
```

On Debian systems, you need to install the **perl-doc** package which contains the majority of the standard Perl documentation and the *perldoc* program.

Extensive additional documentation for Perl modules is available, both those distributed with Perl and third-party modules which are packaged or locally installed.

You should be able to view Perl's documentation with your **man** (1) program or **perldoc** (1).

Some documentation is not available as man pages, so if a cross-reference is not found by man, try it with perldoc. Perldoc can also take you directly to documentation for functions (with the **−f** switch). See `perldoc --help` (or `perldoc perldoc` or `man perldoc`) for other helpful options perldoc has to offer.

In general, if something strange has gone wrong with your program and you're not sure where you should look for help, try making your code comply with **use strict** and **use warnings**. These will often point out

exactly where the trouble is.

DESCRIPTION

Perl officially stands for Practical Extraction and Report Language, except when it doesn't.

Perl was originally a language optimized for scanning arbitrary text files, extracting information from those text files, and printing reports based on that information. It quickly became a good language for many system management tasks. Over the years, Perl has grown into a general-purpose programming language. It's widely used for everything from quick "one-liners" to full-scale application development.

The language is intended to be practical (easy to use, efficient, complete) rather than beautiful (tiny, elegant, minimal). It combines (in the author's opinion, anyway) some of the best features of **sed**, **awk**, and **sh**, making it familiar and easy to use for Unix users to whip up quick solutions to annoying problems. Its general-purpose programming facilities support procedural, functional, and object-oriented programming paradigms, making Perl a comfortable language for the long haul on major projects, whatever your bent.

Perl's roots in text processing haven't been forgotten over the years. It still boasts some of the most powerful regular expressions to be found anywhere, and its support for Unicode text is world-class. It handles all kinds of structured text, too, through an extensive collection of extensions. Those libraries, collected in the CPAN, provide ready-made solutions to an astounding array of problems. When they haven't set the standard themselves, they steal from the best — just like Perl itself.

AVAILABILITY

Perl is available for most operating systems, including virtually all Unix-like platforms. See "Supported Platforms" in perlport for a listing.

ENVIRONMENT

See "ENVIRONMENT" in perlrun.

AUTHOR

Larry Wall <larry@wall.org>, with the help of oodles of other folks.

If your Perl success stories and testimonials may be of help to others who wish to advocate the use of Perl in their applications, or if you wish to simply express your gratitude to Larry and the Perl developers, please write to perl−thanks@perl.org .

FILES

```
"@INC"                   locations of perl libraries
```

"@INC" above is a reference to the built-in variable of the same name; see perlvar for more information.

SEE ALSO

```
https://www.perl.org/        the Perl homepage
https://www.perl.com/        Perl articles
https://www.cpan.org/        the Comprehensive Perl Archive
https://www.pm.org/          the Perl Mongers
```

DIAGNOSTICS

Using the `use strict` pragma ensures that all variables are properly declared and prevents other misuses of legacy Perl features.

The `use warnings` pragma produces some lovely diagnostics. One can also use the **−w** flag, but its use is normally discouraged, because it gets applied to all executed Perl code, including that not under your control.

See perldiag for explanations of all Perl's diagnostics. The `use diagnostics` pragma automatically turns Perl's normally terse warnings and errors into these longer forms.

Compilation errors will tell you the line number of the error, with an indication of the next token or token type that was to be examined. (In a script passed to Perl via **−e** switches, each **−e** is counted as one line.)

Setuid scripts have additional constraints that can produce error messages such as "Insecure dependency". See perlsec.

Did we mention that you should definitely consider using the **use warnings** pragma?

BUGS

The behavior implied by the **use warnings** pragma is not mandatory.

Perl is at the mercy of your machine's definitions of various operations such as type casting, **atof**(), and floating-point output with **sprintf**().

If your stdio requires a seek or eof between reads and writes on a particular stream, so does Perl. (This doesn't apply to **sysread**() and **syswrite**().)

While none of the built-in data types have any arbitrary size limits (apart from memory size), there are still a few arbitrary limits: a given variable name may not be longer than 251 characters. Line numbers displayed by diagnostics are internally stored as short integers, so they are limited to a maximum of 65535 (higher numbers usually being affected by wraparound).

You may submit your bug reports (be sure to include full configuration information as output by the myconfig program in the perl source tree, or by `perl -V`) to <https://github.com/Perl/perl5/issues>.

Perl actually stands for Pathologically Eclectic Rubbish Lister, but don't tell anyone I said that.

NOTES

The Perl motto is ''There's more than one way to do it.'' Divining how many more is left as an exercise to the reader.

The three principal virtues of a programmer are Laziness, Impatience, and Hubris. See the Camel Book for why.