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 <http://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
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

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
        perlgit             Using git with the Perl repository
```

Miscellaneous
```
        perlbook            Perl book information
        perlcommunity       Perl community information

        perldoc             Look up Perl documentation in Pod format

        perlhist            Perl history records
        perldelta           Perl changes since previous version
        perl5300delta       Perl changes in version 5.30.0
        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


        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 EUC-CN)
        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
        perlce               Perl notes for WinCE
        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
        perlsymbian          Perl notes for Symbian
        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 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

```
http://www.perl.org/        the Perl homepage
http://www.perl.com/        Perl articles (O'Reilly)
http://www.cpan.org/        the Comprehensive Perl Archive
http://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 mail 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 perlbug@perl.org . If you've succeeded in compiling perl, the perlbug script in the *utils/* subdirectory can be used to help mail in a bug report.

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.