

# Perl

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**Perl** is a high-level, general-purpose, interpreted, dynamic programming language.

Though Perl is not officially an acronym, there are various backronyms in usage, such as: *Practical Extraction and Reporting Language*. Perl was originally developed by Larry Wall in 1987 as a general-purpose Unix scripting language to make report processing easier. Since then, it has undergone many changes and revisions. The latest major stable revision is 5.16, released in May 2012. Perl 6 is a complete redesign of the language, announced in 2000 and still under active development as of 2012.

Perl borrows features from other programming languages including C,

Wall began work on Perl in 1987, while working as a programmer at Unisys, and released version 1.0 to the comp.sources.misc newsgroup on December 18, 1987. The language expanded rapidly over the next few years.

Perl 2, released in 1988, featured a better regular expression engine. Perl 3, released in 1989, added support for binary data streams.

Originally the only documentation for Perl was a single (increasingly lengthy)

shell scripting (sh), AWK, and sed. The language provides powerful text processing facilities without the arbitrary data length limits of many contemporary Unix tools, facilitating easy manipulation of text files. Perl gained widespread popularity in the late 1990s as a CGI scripting language, in part due to its parsing abilities.

In addition to CGI, Perl is used for graphics programming, system administration, network programming, finance, bioinformatics, and other applications. Perl is nicknamed "the Swiss Army chainsaw of scripting languages" because of its flexibility and power, and possibly also because of its perceived "ugliness". In 1998, it was also referred to as the "duct tape that holds the Internet together", in reference to its ubiquity and perceived inelegance. man page. In 1991, *Programming Perl*, known to many Perl programmers as the "Camel Book" because of its cover, was published and became the *de facto* reference for the language. At the same time, the Perl version number was bumped to 4, not to mark a major change in the language but to identify the version that's documented by the book.



Perl was originally named "Pearl". Wall wanted to give the language a short name with positive connotations; he claims that he considered (and rejected) every three- and four-letter word in the dictionary. He also considered naming it after his wife Gloria. Wall discovered the existing PEARL programming language before Perl's official release and changed the spelling of the name.

When referring to the language, the name is normally capitalized (*Perl*) as a proper noun. When referring to the interpreter program itself, the name is often uncapitalized (*perl*) because most Unix-like file systems are case-sensitive. Before the release of the first edition of *Programming Perl*, it was common to refer to the language as *perl*; Randal L. Schwartz, however, capitalized the language's name in the book to make it stand out better when typeset. This case distinction was subsequently documented as canonical.

*Programming Perl*, published by O'Reilly Media, features a picture of a camel on the cover and is commonly referred to as the "Camel Book". This image of a camel has become an unofficial symbol of Perl as well as a general hacker emblem, appearing on T-shirts and other clothing items. The Perl Foundation owns an alternative symbol, an onion, which it licenses to its subsidiaries, Perl Mongers, PerlMonks, Perl.org, and others. The symbol is a visual pun on pearl onion.

There is some contention about the all-caps spelling "PERL", which the documentation declares incorrect and which some core community members consider a sign of outsiders. The name is occasionally backronymed as *Practical Extraction and Report Language*, which appears at the top of the documentation and in some printed literature. Several backronyms have been suggested as equally canonical, including Wall's own humorous *Pathologically Eclectic Rubbish Lister*. Indeed, Wall claims that the name was intended to inspire many different expansions. O'Reilly owns the image as a trademark but licenses it for non-commercial use, requiring only an acknowledgement and a link to [www.perl.com](http://www.perl.com). Licensing for commercial use is decided on a case by case basis. O'Reilly also provides "Programming Republic of Perl" logos for non-commercial sites and "Powered by Perl" buttons for any site that uses Perl



The overall structure of Perl derives broadly from C. Perl is procedural in nature, with variables, expressions, assignment statements, brace-delimited blocks, control structures, and subroutines.

Perl also takes features from shell programming. All variables are marked with leading sigils, which unambiguously identify the data type (for example, scalar, array, hash) of the variable in context. Importantly, sigils allow variables to be interpolated directly into strings. Perl has many built-in functions that provide tools often used in shell programming (although many of these tools are implemented by programs external to the shell) such as sorting, and calling on system facilities.

Perl takes lists from Lisp, hashes ("associative arrays") from AWK, and regular expressions from sed. These simplify and facilitate many parsing, text-handling, and data-management tasks.

Perl 5 added features that support complex data structures, first-class functions (that is, closures as values), and an object-oriented programming model. These include references, packages, class-based method dispatch, and lexically scoped variables, along with compiler directives (for example, the `strict` pragma). A major additional feature introduced with Perl 5 was the ability to package code as reusable modules. Wall later stated that "The whole intent of Perl 5's module system was to encourage the growth of Perl culture rather than the Perl core.

All versions of Perl do automatic data-typing and automatic memory-

management. The interpreter knows the type and storage requirements of every data object in the program; it allocates and frees storage for them as necessary using reference counting (so it cannot deallocate circular data structures without manual intervention). Legal type-conversions — for example, conversions from number to string — are done automatically at run time; illegal type conversions are fatal errors.

Perl is a general-purpose programming language originally developed for text manipulation, but as of 2010 is used for a wide range of tasks including system administration, web development, network programming, games, bioinformatics, and GUI development.

The language is intended to be practical (easy to use, efficient, complete) rather than beautiful (tiny, elegant, minimal). Its major features include support for multiple programming paradigms (procedural, object-oriented, and functional styles), reference counting memory management (without a cycle-detecting garbage collector), built-in support for text processing, and a large collection of third-party modules. According to Wall, Perl has two slogans. The first is "**There's more than one way to do it**", commonly known as TMTOWTDI. The second slogan is "**Easy things should be easy and hard things should be possible**".



