A **programming language** is an [artificial language](http://en.wikipedia.org/wiki/Formal_language) designed to communicate [instructions](http://en.wikipedia.org/wiki/Machine_instruction) to a [machine](http://en.wikipedia.org/wiki/Machine), particularly a [computer](http://en.wikipedia.org/wiki/Computer). Programming languages can be used to create [programs](http://en.wikipedia.org/wiki/Program_%28machine%29) that control the behavior of a machine and/or to express [algorithms](http://en.wikipedia.org/wiki/Algorithm).

The earliest programming languages preceded the [invention of the computer](http://en.wikipedia.org/wiki/History_of_computing_hardware), and were used to direct the behavior of machines such as [Jacquard looms](http://en.wikipedia.org/wiki/Jacquard_loom) and [player pianos](http://en.wikipedia.org/wiki/Player_piano).[[1]](http://en.wikipedia.org/wiki/Programming_language#cite_note-1) Thousands of different programming languages have been created, mainly in the computer field, and still many being created every year. Many programming languages require computation to be specified in an [imperative](http://en.wikipedia.org/wiki/Imperative_programming) form (i.e., as a sequence of operations to perform), while other languages utilize other forms of program specification such as the [declarative](http://en.wikipedia.org/wiki/Declarative_programming) form (i.e., the desired result is specified, not how to achieve it).

The description of a programming language is usually split into the two components of [syntax](http://en.wikipedia.org/wiki/Syntax_%28programming_languages%29) (form) and [semantics](http://en.wikipedia.org/wiki/Semantics) (meaning). Some languages are defined by a specification document (for example, the [C](http://en.wikipedia.org/wiki/C_%28programming_language%29) programming language is specified by an [ISO](http://en.wikipedia.org/wiki/International_Organization_for_Standardization) Standard), while other languages (such as [Perl](http://en.wikipedia.org/wiki/Perl)) have a dominant [implementation](http://en.wikipedia.org/wiki/Programming_language_implementation) that is treated as a [reference](http://en.wikipedia.org/wiki/Reference_implementation).