

There exist a lot of different approaches for each of those tasks. Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language. The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code. Some of these factors include: The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills. Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages. Following a consistent programming style often helps readability. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line. FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research. However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages. Programming languages are essential for software development. Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit. Allen Downey, in his book *How To Think Like A Computer Scientist*, writes: Many computer languages provide a mechanism to call functions provided by shared libraries. Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages. The first computer program is generally dated to 1843, when mathematician Ada Lovelace published an algorithm to calculate a sequence of Bernoulli numbers, intended to be carried out by Charles Babbage's Analytical Engine. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. Programming languages are essential for software development. Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.