

It is usually easier to code in "high-level" languages than in "low-level" ones. 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. Use of a static code analysis tool can help detect some possible problems. Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. It is very difficult to determine what are the most popular modern programming languages. The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA). Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly. 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. Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances. Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly. For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software. Techniques like Code refactoring can enhance readability. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. 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. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Different programming languages support different styles of programming (called programming paradigms). They are the building blocks for all software, from the simplest applications to the most sophisticated ones. Scripting and breakpointing is also part of this process. However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.