

Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Programming languages are essential for software development. By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. Scripting and breakpointing is also part of this process. 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. Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display. However, readability is more than just programming style. 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. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. 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. 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. 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. While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se. 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. 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. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Many applications use a mix of several languages in their construction and use. 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. Use of a static code analysis tool can help detect some possible problems. 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 languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages. 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. There exist a lot of different approaches for each of those tasks. There are many approaches to the Software development process.