High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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 step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). 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. 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 this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input. 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. Programmable devices have existed for centuries. When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. 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. 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. 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. It is very difficult to determine what are the most popular modern programming languages. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Integrated development environments (IDEs) aim to integrate all such help. Many applications use a mix of several languages in their construction and use. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years. Techniques like Code refactoring can enhance readability. Also, specific user environment and usage history can make it difficult to reproduce the problem. Their jobs usually involve: Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.