This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. 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. Also, specific user environment and usage history can make it difficult to reproduce the problem. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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. Many applications use a mix of several languages in their construction and use. Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers. 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. Scripting and breakpointing is also part of this process. 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. 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. 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. Computer programmers are those who write computer software. However, readability is more than just programming style. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash. 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. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Integrated development environments (IDEs) aim to integrate all such help. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. 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.