Normally the first step in debugging is to attempt to reproduce the problem. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. Use of a static code analysis tool can help detect some possible problems. 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. 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. Integrated development environments (IDEs) aim to integrate all such help. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. It is very difficult to determine what are the most popular modern programming languages. Code-breaking algorithms have also existed for centuries. Ideally, the programming language best suited for the task at hand will be selected. Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA). 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. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform 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 choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. 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. As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. Programming languages are essential for software development. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. 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. These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.