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. Ideally, the programming language best suited for the task at hand will be selected. 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. 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. Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute. 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. Computer programmers are those who write computer software. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. 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. 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, readability is more than just programming style. 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. 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. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. Computer programmers are those who write computer software. Whatever the approach to development may be, the final program must satisfy some fundamental properties. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. 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. 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. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. However, readability is more than just programming style. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. Different programming languages support different styles of programming (called programming paradigms).