For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Allen Downey, in his book How To Think Like A Computer Scientist, writes: Many computer languages provide a mechanism to call functions provided by shared libraries. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. Integrated development environments (IDEs) aim to integrate all such help. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. 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. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. 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. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. 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. 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 choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference. 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. 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. Computer programmers are those who write computer software. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. 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. 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. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. Following a consistent programming style often helps readability.