

Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. 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. 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. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code. 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. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. 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. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. 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. Code-breaking algorithms have also existed for centuries. 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. Scripting and breakpointing is also part of this process. 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. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. However, readability is more than just programming style. 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. 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. Techniques like Code refactoring can enhance readability. 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. By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.