

In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. 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. 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. Programmable devices have existed for centuries. 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. 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. In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams. One approach popular for requirements analysis is Use Case analysis. Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code. Computer programmers are those who write computer software. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. Ideally, the programming language best suited for the task at hand will be selected. Techniques like Code refactoring can enhance readability. Scripting and breakpointing is also part of this process. In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams. 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. Many applications use a mix of several languages in their construction and use. 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. Scripting and breakpointing is also part of this process. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.