

In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Different programming languages support different styles of programming (called programming paradigms). Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. It affects the aspects of quality above, including portability, usability and most importantly maintainability. 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. Ideally, the programming language best suited for the task at hand will be selected. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. Following a consistent programming style often helps readability. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Also, specific user environment and usage history can make it difficult to reproduce the problem. One approach popular for requirements analysis is Use Case analysis. 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. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. Following a consistent programming style often helps readability. 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. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.