

Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. 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. 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. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. 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. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. Programs were mostly entered using punched cards or paper tape. Following a consistent programming style often helps readability. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. 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. The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems. As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices. However, readability is more than just programming style. Integrated development environments (IDEs) aim to integrate all such help. Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. It is usually easier to code in "high-level" languages than in "low-level" ones.