It affects the aspects of quality above, including portability, usability and most importantly maintainability. 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. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. 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. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. There are many approaches to the Software development process. Programmable devices have existed for centuries. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.

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. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. One approach popular for requirements analysis is Use Case analysis. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. 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. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. Computer programmers are those who write computer software. 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.

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