

Programs were mostly entered using punched cards or paper tape. Computer programmers are those who write computer software. Programs were mostly entered using punched cards or paper tape. Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly. These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics. 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. Ideally, the programming language best suited for the task at hand will be selected. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Many applications use a mix of several languages in their construction and use. Programs were mostly entered using punched cards or paper tape. 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. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. There exist a lot of different approaches for each of those tasks. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. Their jobs usually involve: Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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. 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. 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.