

Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code. However, readability is more than just programming style. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). 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. It affects the aspects of quality above, including portability, usability and most importantly maintainability. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. Programmable devices have existed for centuries. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Ideally, the programming language best suited for the task at hand will be selected. 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. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL). Unreadable code often leads to bugs, inefficiencies, and duplicated code. Programs were mostly entered using punched cards or paper tape. Many applications use a mix of several languages in their construction and use. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. It affects the aspects of quality above, including portability, usability and most importantly maintainability. Programmable devices have existed for centuries. Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. 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.