

Techniques like Code refactoring can enhance readability. 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. Unreadable code often leads to bugs, inefficiencies, and duplicated code. There are many approaches to the Software development process. Integrated development environments (IDEs) aim to integrate all such help. 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. 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. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. 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. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit. Many applications use a mix of several languages in their construction and use. For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. Ideally, the programming language best suited for the task at hand will be selected. Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit. Whatever the approach to development may be, the final program must satisfy some fundamental properties. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.