

Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. 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. There are many approaches to the Software development process. Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language. Following a consistent programming style often helps readability. Programming languages are essential for software development. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. 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. By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. Many applications use a mix of several languages in their construction and use. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. 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. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. 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. 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). Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.