

Following a consistent programming style often helps readability. Programs were mostly entered using punched cards or paper tape. 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 exist a lot of different approaches for each of those tasks. Techniques like Code refactoring can enhance readability. For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash. 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. Also, specific user environment and usage history can make it difficult to reproduce the problem. By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages. It is very difficult to determine what are the most popular modern programming languages. 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. There are many approaches to the Software development process. It affects the aspects of quality above, including portability, usability and most importantly maintainability. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. 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. 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. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. Programmable devices have existed for centuries. It is very difficult to determine what are the most popular modern programming languages. For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash. 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. 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. Normally the first step in debugging is to attempt to reproduce the problem. Different programming languages support different styles of programming (called programming paradigms).