The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems..  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
Techniques like Code refactoring can enhance readability.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 Programs were mostly entered using punched cards or paper tape.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
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.  
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.  
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.  
 It is very difficult to determine what are the most popular modern programming languages.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Many applications use a mix of several languages in their construction and use.  
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.