Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users..  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 Allen Downey, in his book How To Think Like A Computer Scientist, writes:  
 Many computer languages provide a mechanism to call functions provided by shared libraries.  
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.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
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.  
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).  
 Different programming languages support different styles of programming (called programming paradigms).  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
One approach popular for requirements analysis is Use Case analysis.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
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.  
 It is very difficult to determine what are the most popular modern programming languages.  
Techniques like Code refactoring can enhance readability.