Programming languages are essential for software development..  
One approach popular for requirements analysis is Use Case analysis.  
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.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
 Code-breaking algorithms have also existed for centuries.  
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.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
Ideally, the programming language best suited for the task at hand will be selected.  
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.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
 Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.