Different programming languages support different styles of programming (called programming paradigms)..  
 These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.  
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.  
One approach popular for requirements analysis is Use Case analysis.  
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.  
 Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code.  
 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.  
Programming languages are essential for software development.  
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.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Normally the first step in debugging is to attempt to reproduce the problem.  
However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages.