It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages..  
 Different programming languages support different styles of programming (called programming paradigms).  
Also, specific user environment and usage history can make it difficult 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.  
 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.  
 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.  
There exist a lot of different approaches for each of those tasks.  
 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.  
 Computer programmers are those who write computer software.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.