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..  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 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.  
 The first computer program is generally dated to 1843, when mathematician Ada Lovelace published an algorithm to calculate a sequence of Bernoulli numbers, intended to be carried out by Charles Babbage's Analytical Engine.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
 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.  
 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.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
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.  
Integrated development environments (IDEs) aim to integrate all such help.  
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.