Whatever the approach to development may be, the final program must satisfy some fundamental properties..  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
 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.  
Many applications use a mix of several languages in their construction and use.  
 New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation).  
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.  
 Different programming languages support different styles of programming (called programming paradigms).  
Techniques like Code refactoring can enhance readability.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
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.  
 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.  
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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.