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 this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input.  
 Different programming languages support different styles of programming (called programming paradigms).  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Many applications use a mix of several languages in their construction and use.  
Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.  
One approach popular for requirements analysis is Use Case analysis.  
 It is very difficult to determine what are the most popular modern programming languages.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
Techniques like Code refactoring can enhance readability.  
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.