Ideally, the programming language best suited for the task at hand will be selected..  
 Code-breaking algorithms have also existed for centuries.  
 Programs were mostly entered using punched cards or paper tape.  
Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
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.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
 Programmable devices have existed for centuries.  
Programming languages are essential for software development.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
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.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
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.