Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation..  
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.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
 Code-breaking algorithms have also existed for centuries.  
 Programmable devices have existed for centuries.  
Scripting and breakpointing is also part of this process.  
 It is very difficult to determine what are the most popular modern programming languages.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
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.  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
 Different programming languages support different styles of programming (called programming paradigms).  
Normally the first step in debugging is to attempt to reproduce the problem.  
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.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
However, readability is more than just programming style.