In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.  
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.  
This is interpreted into machine code.  
Use of a static code analysis tool can help detect some possible problems.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Programming languages are essential for software development.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
The purpose of programming is to find a sequence of instructions that will automate the performance of a task (which can be as complex as an operating system) on a computer, often for solving a given problem.  
However, readability is more than just programming style.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
 Following a consistent programming style often helps 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.