In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them..  
 Code-breaking algorithms have also existed for centuries.  
There exist a lot of different approaches for each of those tasks.  
Programming languages are essential for software development.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Scripting and breakpointing is also part of this process.  
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.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
 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.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
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.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.