The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference..  
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.  
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.  
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.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
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.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.  
 Programmable devices have existed for centuries.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
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.