New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation)..  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
One approach popular for requirements analysis is Use Case analysis.  
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.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 Computer programmers are those who write computer software.  
Programming languages are essential for software development.