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..  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
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.  
There are many approaches to the Software development process.  
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.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
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.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
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.  
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.  
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.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.