Also, those involved with software development may at times engage in reverse engineering, which is the practice of seeking to understand an existing program so as to re-implement its function in some way.  
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.  
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.  
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.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
This is interpreted into machine code.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Programming languages are essential for software development.  
Programming languages are essential for software development.  
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.  
This is interpreted into machine code.  
Normally the first step in debugging is to attempt to reproduce the problem.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
Proficient programming thus usually requires expertise in several different subjects, including knowledge of the application domain, specialized algorithms, and formal logic.  
 Programs were mostly entered using punched cards or paper tape.