Many applications use a mix of several languages in their construction and use..  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
 Following a consistent programming style often helps readability.  
  
Programming languages are essential for software development.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
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.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
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 text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash.  
 The first computer program is generally dated to 1843, when mathematician Ada Lovelace published an algorithm to calculate a sequence of Bernoulli numbers, intended to be carried out by Charles Babbage's Analytical Engine.  
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.  
It is usually easier to code in "high-level" languages than in "low-level" ones.