Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA)..  
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.  
Use of a static code analysis tool can help detect some possible problems.  
Techniques like Code refactoring can enhance readability.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
 Programmable devices have existed for centuries.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
 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).  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
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.  
Many applications use a mix of several languages in their construction and use.  
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.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
 Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line.