Computer programmers are those who write computer software..  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
There exist a lot of different approaches for each of those tasks.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
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.  
 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.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Many applications use a mix of several languages in their construction and use.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.