Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation..  
FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research.  
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.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Techniques like Code refactoring can enhance readability.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
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.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
Normally the first step in debugging is to attempt to reproduce the problem.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
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.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.