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.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
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.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Programming languages are essential for software development.  
 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.  
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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
 Code-breaking algorithms have also existed for centuries.  
 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.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.