One approach popular for requirements analysis is Use Case analysis..  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
 Programs were mostly entered using punched cards or paper tape.  
 The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems.  
 Programmable devices have existed for centuries.  
 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.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.  
 Different programming languages support different styles of programming (called programming paradigms).  
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.  
Many applications use a mix of several languages in their construction and use.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.