Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications..  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
Many applications use a mix of several languages in their construction and use.  
Programming languages are essential for software development.  
  
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.  
  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
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.