They are the building blocks for all software, from the simplest applications to the most sophisticated ones..  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
Normally the first step in debugging is to attempt to reproduce the problem.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers.  
Programming languages are essential for software development.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
The following properties are among the most important:  
  
 In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).