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..  
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.  
Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
There are many approaches to the Software development process.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
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.  
Techniques like Code refactoring can enhance readability.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.