He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm..  
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.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Programming languages are essential for software development.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.  
Techniques like Code refactoring can enhance readability.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
 It is very difficult to determine what are the most popular modern programming languages.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
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.  
Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.  
  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.