High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware..  
 New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation).  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.  
 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.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
 Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 Different programming languages support different styles of programming (called programming paradigms).  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
It is usually easier to code in "high-level" languages than in "low-level" ones.