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..  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
 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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
Programming languages are essential for software development.  
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.  
Integrated development environments (IDEs) aim to integrate all such help.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Use of a static code analysis tool can help detect some possible problems.  
There are many approaches to the Software development process.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.