He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm..  
Programming languages are essential for software development.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
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.  
Scripting and breakpointing is also part of this process.  
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.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
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.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
Many applications use a mix of several languages in their construction and use.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 Different programming languages support different styles of programming (called programming paradigms).