The purpose of programming is to find a sequence of instructions that will automate the performance of a task (which can be as complex as an operating system) on a computer, often for solving a given problem.  
Programming involves tasks such as analysis, generating algorithms, profiling algorithms' accuracy and resource consumption, and the implementation of algorithms (usually in a particular programming language, commonly referred to as coding).  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
The source code of a program is written in one or more languages that are intelligible to programmers, rather than machine code, which is directly executed by the central processing unit.  
Techniques like Code refactoring can enhance readability.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
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.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
Normally the first step in debugging is to attempt to reproduce the problem.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
Techniques like Code refactoring can enhance readability.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.