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..  
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.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
Normally the first step in debugging is to attempt to reproduce the problem.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
 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).  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
The following properties are among the most important:  
  
 In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
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.  
 Allen Downey, in his book How To Think Like A Computer Scientist, writes:  
 Many computer languages provide a mechanism to call functions provided by shared libraries.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
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.