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..  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
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.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
There exist a lot of different approaches for each of those tasks.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
Many applications use a mix of several languages in their construction and use.  
Techniques like Code refactoring can enhance readability.  
Programming languages are essential for software development.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
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.  
 Different programming languages support different styles of programming (called programming paradigms).