After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug..  
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.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
One approach popular for requirements analysis is Use Case analysis.  
However, readability is more than just programming style.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.