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.  
One approach popular for requirements analysis is Use Case analysis.  
Scripting and breakpointing is also part of this process.  
Many applications use a mix of several languages in their construction and use.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
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.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
  
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.  
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.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 Code-breaking algorithms have also existed for centuries.