They are the building blocks for all software, from the simplest applications to the most sophisticated ones..  
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.  
 Programmable devices have existed for centuries.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
Many applications use a mix of several languages in their construction and use.  
FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Normally the first step in debugging is to attempt 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.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
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.  
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.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.