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..  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
There are many approaches to the Software development process.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 Computer programmers are those who write computer software.  
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.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
Integrated development environments (IDEs) aim to integrate all such help.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
Programming languages are essential for software development.  
 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.  
Normally the first step in debugging is to attempt to reproduce the problem.