After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug..  
  
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.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
Use of a static code analysis tool can help detect some possible problems.  
 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.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
Programming languages are essential for software development.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
 It is very difficult to determine what are the most popular modern programming languages.  
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.  
 Programmable devices have existed for centuries.  
Ideally, the programming language best suited for the task at hand will be selected.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.