Also, specific user environment and usage history can make it difficult to reproduce the problem..  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
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.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
For this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input.  
Programming languages are essential for software development.  
Techniques like Code refactoring can enhance readability.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
 It is very difficult to determine what are the most popular modern programming languages.  
 Following a consistent programming style often helps readability.