For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash..  
There exist a lot of different approaches for each of those tasks.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
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.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
 Programmable devices have existed for centuries.  
Scripting and breakpointing is also part of this process.  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 Different programming languages support different styles of programming (called programming paradigms).  
 Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
However, readability is more than just programming style.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.