This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
Their jobs usually involve:  
 Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
The source code of a program is written in one or more languages that are intelligible to programmers, rather than machine code, which is directly executed by the central processing unit.  
Scripting and breakpointing is also part of this process.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
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.  
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.  
Their jobs usually involve:  
 Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
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.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.