This can be a non-trivial task, for example as with parallel processes or some unusual software bugs..  
The following properties are among the most important:  
  
 In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 It is very difficult to determine what are the most popular modern programming languages.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
There are many approaches to the Software development process.  
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.  
 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.  
 Programs were mostly entered using punched cards or paper tape.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
 New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation).  
  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.