This can be a non-trivial task, for example as with parallel processes or some unusual software bugs..  
Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.  
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.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
Programming languages are essential for software development.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
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.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
 Code-breaking algorithms have also existed for centuries.