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.  
  
Use of a static code analysis tool can help detect some possible problems.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
Many applications use a mix of several languages in their construction and use.  
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.  
 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).  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.