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..  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
 Different programming languages support different styles of programming (called programming paradigms).  
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.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
 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.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly.  
Some of these factors include:  
 The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Integrated development environments (IDEs) aim to integrate all such help.  
In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams.