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..  
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.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
 Code-breaking algorithms have also existed for centuries.  
 Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.  
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.  
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.  
One approach popular for requirements analysis is Use Case analysis.  
Scripting and breakpointing is also part of this process.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 Computer programmers are those who write computer software.  
There are many approaches to the Software development process.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.