Scripting and breakpointing is also part of this process..  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
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.  
 Programmable devices have existed for centuries.  
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.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
There exist a lot of different approaches for each of those tasks.  
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.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
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.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.