A similar technique used for database design is Entity-Relationship Modeling (ER Modeling)..  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Scripting and breakpointing is also part of this 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.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 Allen Downey, in his book How To Think Like A Computer Scientist, writes:  
 Many computer languages provide a mechanism to call functions provided by shared libraries.  
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.  
Use of a static code analysis tool can help detect some possible problems.  
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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.