Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation..  
There exist a lot of different approaches for each of those tasks.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
 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).  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
Integrated development environments (IDEs) aim to integrate all such help.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
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.  
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.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.