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)..  
Many applications use a mix of several languages in their construction and use.  
 Programs were mostly entered using punched cards or paper tape.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 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.  
One approach popular for requirements analysis is Use Case analysis.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 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.  
However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages.