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.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Ideally, the programming language best suited for the task at hand will be selected.  
FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
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.  
Many applications use a mix of several languages in their construction and use.  
One approach popular for requirements analysis is Use Case analysis.  
 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.  
To produce machine code, the source code must either be compiled or transpiled.  
The purpose of programming is to find a sequence of instructions that will automate the performance of a task (which can be as complex as an operating system) on a computer, often for solving a given problem.  
 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).  
 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, 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.