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..  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.  
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.  
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.  
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.  
Techniques like Code refactoring can enhance readability.  
 Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code.  
Ideally, the programming language best suited for the task at hand will be selected.  
 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).  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
Many applications use a mix of several languages in their construction and use.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.