Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards..  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
Many applications use a mix of several languages in their construction and use.  
There are many approaches to the Software development process.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 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).  
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.  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
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.  
 The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems.  
Ideally, the programming language best suited for the task at hand will be selected.  
 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.  
Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers.