However, Charles Babbage had already written his first program for the Analytical Engine in 1837..  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
  
 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).  
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.  
Use of a static code analysis tool can help detect some possible problems.  
 Programs were mostly entered using punched cards or paper tape.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.