Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA)..  
 Programmable devices have existed for centuries.  
 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.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
Integrated development environments (IDEs) aim to integrate all such help.  
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.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.  
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.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
There are many approaches to the Software development process.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
 Code-breaking algorithms have also existed for centuries.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
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.