The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'..  
 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.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 Code-breaking algorithms have also existed for centuries.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
Techniques like Code refactoring can enhance readability.  
 It is very difficult to determine what are the most popular modern programming languages.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
 Computer programmers are those who write computer software.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
 These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
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.