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)..  
 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).  
 Programs were mostly entered using punched cards or paper tape.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 Programmable devices have existed for centuries.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
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.  
In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams.  
Use of a static code analysis tool can help detect some possible problems.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.