Relatedly, software engineering combines engineering techniques and principles with software development.  
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.  
Normally the first step in debugging is to attempt to reproduce the problem.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
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.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Integrated development environments (IDEs) aim to integrate all such help.  
Techniques like Code refactoring can enhance readability.  
For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
There exist a lot of different approaches for each of those tasks.  
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.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
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.  
 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.