Integrated development environments (IDEs) aim to integrate all such help.  
To produce machine code, the source code must either be compiled or transpiled.  
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.  
The following properties are among the most important:  
  
 In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code.  
Integrated development environments (IDEs) aim to integrate all such help.  
One approach popular for requirements analysis is Use Case analysis.  
There are many approaches to the Software development process.  
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.  
Techniques like Code refactoring can enhance readability.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
 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).  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Relatedly, software engineering combines engineering techniques and principles with software development.  
 Tasks accompanying and related to programming include testing, debugging, source code maintenance, implementation of build systems, and management of derived artifacts, such as the machine code of computer programs.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.