Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances..  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
 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).  
 Computer programmers are those who write computer software.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Normally the first step in debugging is to attempt to reproduce the problem.  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
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.  
However, readability is more than just programming style.  
Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly.  
 Following a consistent programming style often helps readability.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
Integrated development environments (IDEs) aim to integrate all such help.  
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.