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..  
  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
 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.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
Integrated development environments (IDEs) aim to integrate all such help.  
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 Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
 Following a consistent programming style often helps readability.  
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.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.