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.  
Their jobs usually involve:  
 Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.  
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.  
Programming languages are essential for software development.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
There exist a lot of different approaches for each of those tasks.  
Programming involves tasks such as analysis, generating algorithms, profiling algorithms' accuracy and resource consumption, and the implementation of algorithms (usually in a particular programming language, commonly referred to as coding).  
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.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.