The first computer program is generally dated to 1843, when mathematician Ada Lovelace published an algorithm to calculate a sequence of Bernoulli numbers, intended to be carried out by Charles Babbage's Analytical Engine..  
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.  
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.  
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.  
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.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
 Code-breaking algorithms have also existed for centuries.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 Programs were mostly entered using punched cards or paper tape.  
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.  
There exist a lot of different approaches for each of those tasks.