However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
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.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
Proficient programming thus usually requires expertise in several different subjects, including knowledge of the application domain, specialized algorithms, and formal logic.  
To produce machine code, the source code must either be compiled or transpiled.  
There are many approaches to the Software development process.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
Techniques like Code refactoring can enhance readability.  
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).  
To produce machine code, the source code must either be compiled or transpiled.  
To produce machine code, the source code must either be compiled or transpiled.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
Many applications use a mix of several languages in their construction and use.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 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.