The purpose of programming is to find a sequence of instructions that will automate the performance of a task (which can be as complex as an operating system) on a computer, often for solving a given problem.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
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.  
Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.  
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.  
This is interpreted into machine code.  
There are many approaches to the Software development process.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
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.  
The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.  
To produce machine code, the source code must either be compiled or transpiled.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 Code-breaking algorithms have also existed for centuries.  
To produce machine code, the source code must either be compiled or transpiled.