Proficient programming thus usually requires expertise in several different subjects, including knowledge of the application domain, specialized algorithms, and formal logic.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
This is interpreted into machine code.  
Techniques like Code refactoring can enhance readability.  
Ideally, the programming language best suited for the task at hand will be selected.  
Normally the first step in debugging is to attempt to reproduce the problem.  
Programming languages are essential for software development.  
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.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
Scripting and breakpointing is also part of this process.  
Some of these factors include:  
 The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
 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.