One approach popular for requirements analysis is Use Case analysis.  
To produce machine code, the source code must either be compiled or transpiled.  
Ideally, the programming language best suited for the task at hand will be selected.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
Use of a static code analysis tool can help detect some possible problems.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
To produce machine code, the source code must either be compiled or transpiled.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
 Allen Downey, in his book How To Think Like A Computer Scientist, writes:  
 Many computer languages provide a mechanism to call functions provided by shared libraries.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
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.