For this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input.  
There exist a lot of different approaches for each of those tasks.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Techniques like Code refactoring can enhance readability.  
One approach popular for requirements analysis is Use Case analysis.  
Many applications use a mix of several languages in their construction and use.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
Integrated development environments (IDEs) aim to integrate all such help.  
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.  
Ideally, the programming language best suited for the task at hand will be selected.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
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.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.