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..  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
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.  
 Programmable devices have existed for centuries.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
Programming languages are essential for software development.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Techniques like Code refactoring can enhance readability.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
 Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.