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..  
 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.  
Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
 It is very difficult to determine what are the most popular modern programming languages.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
Scripting and breakpointing is also part of this process.  
Programming languages are essential for software development.  
There exist a lot of different approaches for each of those tasks.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.