Also, those involved with software development may at times engage in reverse engineering, which is the practice of seeking to understand an existing program so as to re-implement its function in some way.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
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Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
Ideally, the programming language best suited for the task at hand will be selected.  
To produce machine code, the source code must either be compiled or transpiled.  
Also, those involved with software development may at times engage in reverse engineering, which is the practice of seeking to understand an existing program so as to re-implement its function in some way.  
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.  
Relatedly, software engineering combines engineering techniques and principles with software development.  
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.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.