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.  
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In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
However, readability is more than just programming style.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
There exist a lot of different approaches for each of those tasks.  
There exist a lot of different approaches for each of those tasks.  
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.  
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.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
 These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
 The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems.  
 It is very difficult to determine what are the most popular modern programming languages.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.