A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
Relatedly, software engineering combines engineering techniques and principles with software development.  
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.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
There exist a lot of different approaches for each of those tasks.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
However, while these might be considered part of the programming process, often the term software development is more likely used for this larger overall process – whereas the terms programming, implementation, and coding tend to be focused on the actual writing of code.  
One approach popular for requirements analysis is Use Case analysis.  
Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.  
One approach popular for requirements analysis is Use Case analysis.  
Compiling takes the source code from a low-level programming language and converts it into machine code.