Programming languages are essential for software development.  
Ideally, the programming language best suited for the task at hand will be selected.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
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.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Ideally, the programming language best suited for the task at hand will be selected.  
For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash.  
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.  
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.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
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.  
Programming languages are essential for software development.  
Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.