Compiling takes the source code from a low-level programming language and converts it into machine code.  
The source code of a program is written in one or more languages that are intelligible to programmers, rather than machine code, which is directly executed by the central processing unit.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
To produce machine code, the source code must either be compiled or transpiled.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
Many applications use a mix of several languages in their construction and use.  
One approach popular for requirements analysis is Use Case analysis.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
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.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
Relatedly, software engineering combines engineering techniques and principles with software development.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
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.  
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.