The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging)..  
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.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
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.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
 Computer programmers are those who write computer software.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
There are many approaches to the Software development process.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Integrated development environments (IDEs) aim to integrate all such help.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.