Their jobs usually involve:  
 Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Ideally, the programming language best suited for the task at hand will be selected.  
Compiling takes the source code from a low-level programming language and converts it into machine 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.  
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.  
There exist a lot of different approaches for each of those tasks.  
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 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.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.  
 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.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.