Ideally, the programming language best suited for the task at hand will be selected.  
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.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
The purpose of programming is to find a sequence of instructions that will automate the performance of a task (which can be as complex as an operating system) on a computer, often for solving a given problem.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
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.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
Many applications use a mix of several languages in their construction and use.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
 It is very difficult to determine what are the most popular modern programming languages.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
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.  
Normally the first step in debugging is to attempt to reproduce the problem.