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).  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
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.  
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 choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.  
There are many approaches to the Software development process.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
Ideally, the programming language best suited for the task at hand will be selected.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).