To produce machine code, the source code must either be compiled or transpiled.  
Scripting and breakpointing is also part of this process.  
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.  
However, readability is more than just programming style.  
One approach popular for requirements analysis is Use Case analysis.  
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.  
However, readability is more than just programming style.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
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).  
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