It is usually easier to code in "high-level" languages than in "low-level" ones..  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
Many applications use a mix of several languages in their construction and use.  
There exist a lot of different approaches for each of those tasks.  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
 Code-breaking algorithms have also existed for centuries.  
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.  
Scripting and breakpointing is also part of this process.  
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.  
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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.