Use of a static code analysis tool can help detect some possible problems..  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
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.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
Scripting and breakpointing is also part of this process.  
 Computer programmers are those who write computer software.  
Many applications use a mix of several languages in their construction and use.  
 Different programming languages support different styles of programming (called programming paradigms).  
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.