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.  
Use of a static code analysis tool can help detect some possible problems.  
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.  
Proficient programming thus usually requires expertise in several different subjects, including knowledge of the application domain, specialized algorithms, and formal logic.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Normally the first step in debugging is to attempt to reproduce the problem.  
Some of these factors include:  
 The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
One approach popular for requirements analysis is Use Case analysis.  
Use of a static code analysis tool can help detect some possible problems.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.