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..  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
 Programs were mostly entered using punched cards or paper tape.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
 Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
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.  
 Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems.  
 Different programming languages support different styles of programming (called programming paradigms).  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.