In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages..  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
 Following a consistent programming style often helps readability.  
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.  
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.  
FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research.  
 Computer programmers are those who write computer software.  
Programming languages are essential for software development.  
Normally the first step in debugging is to attempt to reproduce the problem.  
However, readability is more than just programming style.  
Many applications use a mix of several languages in their construction and use.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.