Normally the first step in debugging is to attempt to reproduce the problem.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
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.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Normally the first step in debugging is to attempt to reproduce the problem.  
Programming languages are essential for software development.  
To produce machine code, the source code must either be compiled or transpiled.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
 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.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
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.  
 Different programming languages support different styles of programming (called programming paradigms).  
Scripting and breakpointing is also part of this process.  
 Computer programmers are those who write computer software.