Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation..  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code.  
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.  
  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
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.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
 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.