There exist a lot of different approaches for each of those tasks..  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
  
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.  
However, readability is more than just programming style.  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
Normally the first step in debugging is to attempt to reproduce the problem.  
Many applications use a mix of several languages in their construction and use.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
 These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.