Computer programmers are those who write computer software..  
Normally the first step in debugging is to attempt to reproduce the problem.  
 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.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
Integrated development environments (IDEs) aim to integrate all such help.  
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.  
Programming languages are essential for software development.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
Many applications use a mix of several languages in their construction and use.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
It is usually easier to code in "high-level" languages than in "low-level" ones.