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.  
There exist a lot of different approaches for each of those tasks.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
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 the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages.  
Normally the first step in debugging is to attempt to reproduce the problem.  
Scripting and breakpointing is also part of this process.  
 Programmable devices have existed for centuries.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation).  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.