It is very difficult to determine what are the most popular modern programming languages..  
 Programmable devices have existed for centuries.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
For this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input.  
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.  
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.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
Integrated development environments (IDEs) aim to integrate all such help.  
There exist a lot of different approaches for each of those tasks.