

Techniques like Code refactoring can enhance readability. Whatever the approach to development may be, the final program must satisfy some fundamental properties. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. Following a consistent programming style often helps readability. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. 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. 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. 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. One approach popular for requirements analysis is Use Case analysis. Unreadable code often leads to bugs, inefficiencies, and duplicated code. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. It is very difficult to determine what are the most popular modern programming languages. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems. Programming languages are essential for software development. However, readability is more than just programming style. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Programming languages are essential for software development. It is usually easier to code in "high-level" languages than in "low-level" ones. However, readability is more than just programming style. Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. The first computer program is generally dated to 1843, when mathematician Ada Lovelace published an algorithm to calculate a sequence of Bernoulli numbers, intended to be carried out by Charles Babbage's Analytical Engine.