

Different programming languages support different styles of programming (called programming paradigms). Computer programmers are those who write computer software. 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. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code. The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code. While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se. Whatever the approach to development may be, the final program must satisfy some fundamental properties. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. 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. 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. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. Unreadable code often leads to bugs, inefficiencies, and duplicated code. 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. However, readability is more than just programming style. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly. 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. Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code. The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code.