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Computer Programming

Computer programming is the process of designing, writing, testing, debugging or troubleshooting, and maintaining the source code of computer programs. The purpose of programming is to create a program that exhibits a certain desired behavior. The process of writing source code often requires expertise in many different subjects, including knowledge of the application domain, specialized algorithms and formal logic. It should be noted: "Programming is the craft of transforming requirements into something that a computer can execute."Within software engineering, programming (the implementation) is regarded as one phase in a software development process. There is an ongoing debate on the extent to which the writing of programs is an art, a craft or an engineering discipline. The discipline differs from many other technical professions in that programmers, in general, do not need to be licensed or pass any standardized (or governmentally regulated) certification tests in order to call themselves "programmers" or even "software engineers."

However, representing oneself as a "Professional Software Engineer" without a license from an accredited institution is illegal in many parts of the world. In fact, throughout the second half of the twentieth century, programming was an attractive career in most developed countries! Whatever the approach to software development may be, the final program must satisfy some fundamental properties. The following properties are among the most relevant: efficiency/performance (the amount of system resources a program consumes (processor time, memory space, slow devices such as disks);reliability (how often the results of a program are correct);robustness (how well a program anticipates problems not due to programmer error);usability (the ergonomics of a program: the ease with which a person can use the program for its intended purpose, or in some cases even unanticipated purposes);portability (the range of computer hardware and operating system platforms on which the source code of a program can be compiled/interpreted and run);maintainability (the ease with which a program can be modified by its present or future developers in order).

Computer programmers are those who write computer software. Their jobs usually involve: coding; compilation; debugging; documentation; integration; maintenance; requirements analysis; software architecture; software testing; specification.