

This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Use of a static code analysis tool can help detect some possible problems. 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. The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference. Some of these factors include: The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills. Programs were mostly entered using punched cards or paper tape. However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory. Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code. Their jobs usually involve: Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language. 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. 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. Code-breaking algorithms have also existed for centuries. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display. Code-breaking algorithms have also existed for centuries. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code. 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. 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. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Unreadable code often leads to bugs, inefficiencies, and duplicated code.