

In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. Techniques like Code refactoring can enhance readability. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. There are many approaches to the Software development process. For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash. 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. By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Normally the first step in debugging is to attempt to reproduce the problem. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Computer programmers are those who write computer software. Whatever the approach to development may be, the final program must satisfy some fundamental properties. 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. For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash. Techniques like Code refactoring can enhance readability. However, readability is more than just programming style. Many applications use a mix of several languages in their construction and use. 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. There are many approaches to the Software development process. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. Scripting and breakpointing is also part of this process. Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses. It is very difficult to determine what are the most popular modern programming languages.