They are the building blocks for all software, from the simplest applications to the most sophisticated ones. 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. 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. Techniques like Code refactoring can enhance readability. New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation). Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. However, readability is more than just programming style. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Normally the first step in debugging is to attempt to reproduce the problem. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams. Following a consistent programming style often helps readability. 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. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. 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. Whatever the approach to development may be, the final program must satisfy some fundamental properties. These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics. 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. 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. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. However, readability is more than just programming style. Computer programmers are those who write computer software.