Techniques like Code refactoring can enhance readability. 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. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages. 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. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. There exist a lot of different approaches for each of those tasks. Different programming languages support different styles of programming (called programming paradigms). A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years. 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). Techniques like Code refactoring can enhance readability. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. 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. Programming languages are essential for software development. Also, specific user environment and usage history can make it difficult to reproduce the problem. 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. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. 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. 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.