A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Different programming languages support different styles of programming (called programming paradigms). Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. However, readability is more than just programming style. 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. FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. Programming languages are essential for software development. Integrated development environments (IDEs) aim to integrate all such help. There exist a lot of different approaches for each of those tasks. There exist a lot of different approaches for each of those tasks. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). 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. Ideally, the programming language best suited for the task at hand will be selected. Unreadable code often leads to bugs, inefficiencies, and duplicated code. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA). Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code. By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Ideally, the programming language best suited for the task at hand will be selected.