He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. 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. Also, specific user environment and usage history can make it difficult to reproduce the problem. It is usually easier to code in "high-level" languages than in "low-level" ones. Also, specific user environment and usage history can make it difficult to reproduce the problem. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Programming languages are essential for software development. 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. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. There are many approaches to the Software development process. Integrated development environments (IDEs) aim to integrate all such help. Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA). This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. 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. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. 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. 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. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. It is usually easier to code in "high-level" languages than in "low-level" ones. 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. Techniques like Code refactoring can enhance readability. 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.