Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA). Programming languages are essential for software development. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. Their jobs usually involve: Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language. For this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input. Code-breaking algorithms have also existed for centuries. Scripting and breakpointing is also part of this process. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. There are many approaches to the Software development process. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Ideally, the programming language best suited for the task at hand will be selected. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL). One approach popular for requirements analysis is Use Case analysis. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. 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. Programmable devices have existed for centuries. 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. One approach popular for requirements analysis is Use Case analysis. Scripting and breakpointing is also part of this process.