The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). 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. Programs were mostly entered using punched cards or paper tape. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. Programmable devices have existed for centuries. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code. 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 applications use a mix of several languages in their construction and use. Programming languages are essential for software development. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Unreadable code often leads to bugs, inefficiencies, and duplicated code. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. It affects the aspects of quality above, including portability, usability and most importantly maintainability. Programs were mostly entered using punched cards or paper tape. The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference. Many applications use a mix of several languages in their construction and use. 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. Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.