He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. 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. Different programming languages support different styles of programming (called programming paradigms). 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. 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). Scripting and breakpointing is also part of this process. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Different programming languages support different styles of programming (called programming paradigms). Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). 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. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. Some of these factors include: The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills. Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display. There exist a lot of different approaches for each of those tasks. Use of a static code analysis tool can help detect some possible problems. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Many applications use a mix of several languages in their construction and use. Computer programmers are those who write computer software. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. 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. 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. It is very difficult to determine what are the most popular modern programming languages.