Use of a static code analysis tool can help detect some possible problems. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. Programmable devices have existed for centuries. 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). By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. There exist a lot of different approaches for each of those tasks. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. 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). The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Programs were mostly entered using punched cards or paper tape. Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Allen Downey, in his book How To Think Like A Computer Scientist, writes: Many computer languages provide a mechanism to call functions provided by shared libraries. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. Normally the first step in debugging is to attempt to reproduce the problem. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. 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. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. 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. They are the building blocks for all software, from the simplest applications to the most sophisticated ones.