While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se. Use of a static code analysis tool can help detect some possible problems. 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. Code-breaking algorithms have also existed for centuries. Programming languages are essential for software development. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language. Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. 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. 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. There are many approaches to the Software development process. 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. 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). Ideally, the programming language best suited for the task at hand will be selected. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Integrated development environments (IDEs) aim to integrate all such help. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. There are many approaches to the Software development process. 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. 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. Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.