

Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA). In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in *A Manuscript on Deciphering Cryptographic Messages*. 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. There exist a lot of different approaches for each of those tasks. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. 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. FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research. 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. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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. 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. 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. Also, specific user environment and usage history can make it difficult to reproduce the problem. However, readability is more than just programming style. Scripting and breakpointing is also part of this process. 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*. 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. 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. Use of a static code analysis tool can help detect some possible problems. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. Integrated development environments (IDEs) aim to integrate all such help. In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. 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.