

Different programming languages support different styles of programming (called programming paradigms). In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. Techniques like Code refactoring can enhance readability. Normally the first step in debugging is to attempt to reproduce the problem. 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. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. One approach popular for requirements analysis is Use Case analysis. Different programming languages support different styles of programming (called programming paradigms). 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. Programming languages are essential for software development. Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. One approach popular for requirements analysis is Use Case analysis. There are many approaches to the Software development process. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. 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. Scripting and breakpointing is also part of this process. However, readability is more than just programming style. Ideally, the programming language best suited for the task at hand will be selected. 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. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. Ideally, the programming language best suited for the task at hand will be selected. Following a consistent programming style often helps readability. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.