For this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input. Unreadable code often leads to bugs, inefficiencies, and duplicated code. Following a consistent programming style often helps readability. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. 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. 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. Code-breaking algorithms have also existed for centuries. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. Programming languages are essential for software development. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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. Following a consistent programming style often helps readability. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). It affects the aspects of quality above, including portability, usability and most importantly maintainability. 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. Also, specific user environment and usage history can make it difficult to reproduce the problem. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation). Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear. 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. Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages. For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.