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. 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. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. 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). High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. 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. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. It affects the aspects of quality above, including portability, usability and most importantly maintainability. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. Programmable devices have existed for centuries. 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. Their jobs usually involve: Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm. Programming languages are essential for software development. It is usually easier to code in "high-level" languages than in "low-level" ones. Following a consistent programming style often helps readability. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.