Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. 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. It is very difficult to determine what are the most popular modern programming languages. 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. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. 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 often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line. Following a consistent programming style often helps readability. Normally the first step in debugging is to attempt to reproduce the problem. 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. Programming languages are essential for software development. Integrated development environments (IDEs) aim to integrate all such help. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. 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. 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. Many applications use a mix of several languages in their construction and use. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. Also, specific user environment and usage history can make it difficult to reproduce the problem. 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. Many applications use a mix of several languages in their construction and use. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). Also, specific user environment and usage history can make it difficult to reproduce the problem. 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.