Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. 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. Normally the first step in debugging is to attempt to reproduce the problem. Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute. Many applications use a mix of several languages in their construction and use. Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA). Use of a static code analysis tool can help detect some possible problems. 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). 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). However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory. 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. 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. Code-breaking algorithms have also existed for centuries. It is very difficult to determine what are the most popular modern programming languages. Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic. 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. In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams. Different programming languages support different styles of programming (called programming paradigms). They are the building blocks for all software, from the simplest applications to the most sophisticated ones. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). 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. Different programming languages support different styles of programming (called programming paradigms). However, readability is more than just programming style. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.