

Use of a static code analysis tool can help detect some possible problems. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. Also, specific user environment and usage history can make it difficult to reproduce the problem. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. There exist a lot of different approaches for each of those tasks. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. 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. Ideally, the programming language best suited for the task at hand will be selected. For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. 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. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. 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. Normally the first step in debugging is to attempt to reproduce the problem. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. Following a consistent programming style often helps readability. Ideally, the programming language best suited for the task at hand will be selected. 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. Normally the first step in debugging is to attempt to reproduce the problem. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.