

Computer programmers are those who write computer software. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. Many applications use a mix of several languages in their construction and use. Scripting and breakpointing is also part of this process. The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems. Integrated development environments (IDEs) aim to integrate all such help. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. Normally the first step in debugging is to attempt to reproduce the problem. Whatever the approach to development may be, the final program must satisfy some fundamental properties. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems. Use of a static code analysis tool can help detect some possible problems. 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. 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. 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. Ideally, the programming language best suited for the task at hand will be selected. Programs were mostly entered using punched cards or paper tape. Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code. Programs were mostly entered using punched cards or paper tape. 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. 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. It affects the aspects of quality above, including portability, usability and most importantly maintainability. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.