

Normally the first step in debugging is to attempt to reproduce the problem. Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. 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). Normally the first step in debugging is to attempt to reproduce the problem. Programming languages are essential for software development. There are many approaches to the Software development process. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. One approach popular for requirements analysis is Use Case analysis. Programmable devices have existed for centuries. 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. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). Ideally, the programming language best suited for the task at hand will be selected. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. Many applications use a mix of several languages in their construction and use. 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. Following a consistent programming style often helps readability. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. 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. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. However, readability is more than just programming style.