**GDB Tutorial**

A debugger is a tool that allows users to control and inspect programs during execution, helping identify and resolve issues. Specifically, it provides the following capabilities:

* **Program Control**: It enables the user to manage the execution flow of a program, such as pausing, resuming, or stepping through code.
* **Variable Inspection**: It allows for examining the values of variables at any point during execution to understand the program's state and behavior.

The GNU Debugger (GDB) is a widely-used debugger for UNIX systems, particularly effective for debugging C and C++ programs. GDB helps with:

* **Core Dumps**: If a program crashes, GDB can pinpoint the statement or expression where the crash occurred.
* **Function Errors**: When a function call fails, GDB reveals the line of code that called the function and the function's parameters.
* **Variable Values**: It provides the ability to check the values of variables at specific points during program execution.
* **Expression Results**: It evaluates and shows the result of expressions within the program.