

GDB

Category: Program Development Tools

The GNU Debugger, GDB, is available on both Pleiades and Columbia under `/usr/bin`. It can be used to debug programs written in C, C++, Fortran, and Modula-a.

GDB can do four main kinds of things (plus other things in support of these) to help you catch bugs in the act:

- Start your program, specifying anything that might affect its behavior
- Make your program stop on specified conditions
- Examine what has happened, when your program has stopped
- Change things in your program, so you can experiment with correcting the effects of one bug and go on to learn about another

Be sure to compile your code with `-g` for symbolic debugging.

GDB is typically used in the following ways:

- Start the debugger by itself
`%gdb`
`(gdb)`
- Start the debugger and specify the executable
`%gdb your_executable`
`(gdb)`
- Start the debugger, and specify the executable and core file
`%gdb your_executable core-file`
`(gdb)`
- Attach **gdb** to a running process
`%gdb your_executable pid`
`(gdb)`

At the prompt (**gdb**), type in commands such as **break** for setting a breakpoint, **run** for starting to run your executable, **step** for stepping into next line, etc. Read **man gdb** to learn more on using **gdb**.

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