| <where> |  |  |  |
| :---: | :---: | :---: | :---: |
| line_num | Line number in current src file. | file:line_num | Line number in the named src file. |
| func_name | Named function. | file:func_name | Function defined in named file. |
| <what> |  |  |  |
| expression | Almost any C expr. | <file>::<var> | var value defined in the file (static) |
| <func>::<var> | var val defined in the func (on stack). | \{type\}address | Content at addr, as C type. |
| \$register | Content of named register. |  |  |
| run |  |  |  |
| gdb binary [core] | Start GDB (with optional core dump). | (gdb)file binry | Start GDB, and then load binary. |
| gdb --pid <pid> or (gdb) attach PID | Start GDB and attach to process. Whenever GDB attaches to a running process, the process is paused, so you can get a handle on what the call stack look like and change variable values. When detached from GDB, the process will continue along its merry way. |  |  |
| set args <args...> | Set args to pass to program. If no paras, then run stop automatically passing arguments. |  |  |
| run [args] | Run will always use the arguments u just used, until u tell it to use different arguments. |  |  |
| kill | Kill the running program |  |  |
| sources |  |  |  |
| directory <dir> | Add dir to the list of dirs for search | set listsize n | Set how many lines to show in "list" |
| list | Next 10 lines (1 $1^{\text {st }}$ :centered on main()) | list - | Previous 10 lines |
| list <file> : <line> | List 10 lines centered on <line> | list <f ${ }^{\text {: < }}$ fun> | List 10 lines centered on <fun> |
| list <first>, <last> List a range of lines. [5,]:start line 5; [,28]:end line 28 |  |  |  |
|  |  |  |  |
| backtrace/bt [full] |  | Where [full] | Show call stack, full: local vars |
| frame <\#> |  |  |  |
| breakpoints/watchpoints |  |  |  |
| break <where> | Set a new break point. | watch <whre> | Set a new watchpoint. |
| delete <\#> | Remove a point. | clear <where> | Clear points at <where> (no wh, all) |
| enable <\#> | Enable a disabled point. | disable <\#> | Disable a point. |
| stepping |  |  |  |
| step/s [count] | Go to next source line, diving into function at that line. |  |  |
| next/n [count] | Go to next source line, but don't dive into functions. |  |  |
| finish | Continue until the current func rtns. | continue | Continue normal execution. |
| format |  |  |  |
| a | pointer | c | Read as integer, print as char |
| d/u | Integer, signed/unsigned decimal | f | Floating point number. |
| o/x/t | Integer, print as octal / hex / binary. | S | Try to treat as C string. |
| variables and memory |  |  |  |
| print/fmt <what> | Print content of var/addr/register. p (double)var; p myIntArr; p myIntArr[3]; p myIntArr[3]@5; p myStruct; p myStruct.name. |  |  |
| display/fmt <what> | Frequently print variables can be added to automatic display list so that GDB prints their values each time the program stops. |  |  |
| undisplay <\#> | Remove "display" with the given \# | ptype var | Print variable type. |
| enable display <\#> | Enable display. | disable display <\#> | Disable display. |
| x/nfu <addr> | Print memory. n: how many units to print (default 1); f: format character; u: unit. Unit is one of: b-Byte, h-halfword (two bytes), w-word(four bytes), g-giant word(8 bytes) |  |  |
| manipulating the program |  |  |  |
| set var name=val | Change variable to the given value. |  |  |
| return expr | You can cancel execution of a function call with the return command. If you give an expression argument, its value is used as the function's return value. |  |  |
| informations |  |  |  |
| disassemble [<where>] | Disassemble the current function or given location. | info args | Print the arguments to the function of the current stack frame. |
| info breakpoints | Print info of break- and watchpoints | info display | Print info of "displays" |
| info locals | Print local variables in current frame | info sharedLibrary | List loaded shared libraries. |
| info signals | List all signals and how are handled | info threads | List all threads |
| show directories | Print all dirs where GDB searches | show listsize | Print how many are shown in "list" |
| whatis var_name | Print type of named variable |  |  |
| other |  |  |  |
| shell cmd / !cmd | Execute shell cmds in GDB | make args | Execute make (i.e. shell make args) |
| <RET> | Repeat the previous cmd ('run' not) |  |  |
|  |  |  |  |

