

```

Starting:
gdb
gdb <file>
gdb -h
      (lists command line options)

Exiting:
quit
Ctrl-d
Note: Ctrl-C does not exit from gdb, but halts the current
      gdb command

General commands
run
kill
      (start your program)
      (stop the program)

Breakpoints
break FUNCTION
break *ADDRESS
      (set a breakpoint at the entry to the function)
      (set a breakpoint at the specified address)
disable <NUM>
enable <NUM>
      (disable the breakpoint with that number)
      (enable the breakpoint with that number)
clear FUNCTION
      (clear any breakpoints at the entry to the function)
delete <NUM>
delete
      (deletes the breakpoint with that number)
      (deletes all breakpoints)

Working at breakpoints
stepi
stepli <NUM>
step
      (execute one machine code instruction)
      (execute NUM instructions)
      (execute one C statement)
nexti
nexti <NUM>
next
      (like stepi, but proceed through subroutine calls)

until LOCATION
      (continue running until LOCATION is reached)
continue
continue <NUM>
finish
      (resume execution)
      (continue, ignoring this breakpoint NUM times)
      (run until the current function returns)
backtrace
where
      (print the current address and stack backtrace)
      (print the current address and stack backtrace)

Examining code
print/a $pc
print $sp
disas
disas ADDR
disas ADDR1 ADDR2
      (print the program counter)
      (print the stack pointer)
      (display the function around the current line)
      (display the function around the address)
      (display the function between the addresses)

Examining data
print $eax
print/x $eax
print/a $eax
print/d $eax
print/t $eax
      (print the contents of $eax)
      (print the contents of $eax as hex)
      (print the contents of $eax as an address)
      (print the contents of $eax as decimal)
      (print the contents of $eax as binary)

```

```

print/c $eax
      (print the contents of $eax as a character)
print 0x100
print/x 555
      (print decimal repr. of hex value)
      (print hex repr. of decimal value)

```

```

x ADDR
x/NFU ADDR
      (print the contents of ADDR in memory)
      (print the contents at ADDR in memory:
      N = number of units to display
      F = display format
      U = b (bytes), h (2 bytes), w (4 bytes))

```

## Autodisplaying information

```

display $eax
display
delete display <NUM>
      (print contents of $eax every time the
      program stops)
      (print the auto-displayed items)
      (stop displaying item NUM)

```

## Useful information commands

```

help info
info program
info functions
info stack
info frame
info scope
info variables
info registers
info breakpoints
info address SYMBOL
      (current status of the program)
      (functions in program)
      (backtrace of the stack)
      (information about the current stack frame)
      (variables local to the scope)
      (global and static variables)
      (registers and their contents)
      (status of user-settable breakpoints)
      (use for looking up addresses of functions)

```

## Running gdb in emacs

```

M-x gdb
C-h m
      (use the features of GDB mode)

```