

Compiling and `gdb` Primer

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Makefiles

A prototype `Makefile` is shown below. I am assuming that your source code is in a file called `sourcefile.s`, and you want the resulting executable file to be called `exefilename`.

```
all:
    gcc -o exefilename sourcefile.s
```

`gdb`

```
pi@raspberrypi ~ $ gdb exefilename
... Bunch of lines of text ...
(gdb)
```

Inside of `gdb` there are a few important commands that you can use:

Command	Details
<code>quit</code>	Quit <code>gdb</code>
<code>layout asm</code>	Show the assembly user interface
<code>layout reg</code>	Show the value of the registers
<code>b func</code>	Set a breakpoint at <code>func</code>
<code>b asm.s:100</code>	Set a breakpoint in source file <code>asm.s</code> at line 100
<code>r</code>	Start running the program
<code>c</code>	Continue execution (after hitting a breakpoint)
<code>si</code>	Step one assembly instruction. If the instruction is a function call, step INTO the function
<code>ni</code>	Step one assembly instruction. If the instruction is a function call, step OVER the function