

CSCI 2330 – GDB Exercises

1. What GDB command (just one) should you use for each of the following situations when debugging an assembly program? Assume that you are already mid-program in GDB and execution is currently paused.

- (a) You are about to call a function **foo**, and you want to execute the entire function and then pause execution again after returning.
- (b) You are about to call a function **foo**, and you want to step into the function and then pause execution again.
- (c) You are in function **foo** and accidentally stepped into a call to **malloc**, and you want to get back into **foo**.
- (d) You want to know what **foo(20)** will return (but the program isn't about to make that call).
- (e) You are at a breakpoint within a loop and want to run the next loop iteration (you can assume there is only the one breakpoint set).

2. Write a single GDB "**x**" command ("examine memory") to do each of the following (you must use the **x** command, not **print**):

- (a) Print a 4-byte int stored in memory at address **%rax**, in decimal.
- (b) Print an 8-byte int stored in memory at address **%rax**, in hex.
- (c) Print a string stored in memory at address **%rax**.
- (d) Print a string stored in memory at address 0x123456.
- (e) Print an array of 5 chars starting at address **%rax**, showing their decimal values.
- (f) Print an array of 5 chars starting at address **%rax**, showing their character (textual) values.
- (g) Print an array of 5 pointers starting at address **%rax**.