

## CSCI 2330 – GDB Exercises

1. What GDB command (just one) should you use for each of the following situations when debugging an assembly program (without the source code)? Assume that you are already paused mid-execution in GDB.

- (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**.