H6: Debugging Code with GDB

Answer Sheet

Name:

Compiling

1. Write the size (in bytes) of the executable
   17928 bytes
2. Write the size (in bytes) of the new executable
   20968 bytes

Starting GDB

3. Copy the first line that is printed when you run gdb:
   GNU gdb (GDB) Red Hat Enterprise Linux 8.2-16.el8
4. Now, copy the portion in the quotes on the line that states "This GDB was configured as"
   For instance, in the example above, you would copy **i686-linux-gnu**:
   x86_64-redhat-linux-gnu

Getting Help

5. Write the number of topics/classes:
   12
6. Write the first line printed after the executing the command here
   Set breakpoint at specified location.

Running a Program

7. Try it now. What happened?
   The command output:
   Starting program: /home/ryuan/CS262/lab6/lab6_ryuan_203/lab6
   Usage: /home/ryuan/CS262/lab6/lab6_ryuan_203/lab6 [1 2]
   1 = Mode 1
   2 = Mode 2
   [Inferior 1 (process 1172607) exited normally]
8. Try the run command again, this time adding "1" (without quotes) to the command line. What happened this time?
   The command output:
   Starting program: /home/ryuan/CS262/lab6/lab6_ryuan_203/lab6 1
   Here we are in DebugOption1()
   The sum of integers from 0 to 10 is: 1013
   [Inferior 1 (process 1179182) exited normally]

Setting Breakpoints

9. At what line number does execution pause?
   Line 55

A Brief Digression

10. Write what you see as a result:

$1 = 1

Stepping Through Code

11. Use the print statement mentioned above to print the current value of sum. What is its current value?

$2 = 0

12. Now, use the step command to step over the current line. At what line does the execution pause?

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13. Print the value of sum again. What is its value now?

$3 = 0

14. Print the value of sum:

0

Displaying Variables

15. What is the value of the variable '`i`' at this point?

i = 6 at this point

16. Once you see what the bug(s) is/are, describe it/them below:

When the program does the summary, it put the “sum” as a variable and add it to the result. The correct function should be sum = sum + i which is sum += i; But the program write it sum += sum + i which equals to sum = sum + sum + i.