

Lab 4: Using gdb

Objectives:

- To gain experience using gdb
- To practice reasoning about source code without looking at it.

In this lab, you'll debug a simple application. Download the executable file at <http://bc-cisc3110-s17.github.io/lab4/adder> to your vagrant machine. This is a simple implementation of the `stringcalc.add()` method from the reading. It is also a flawed implementation. Go through the following steps to identify the nature of the bug. You'll be emailing me your answers to these questions, so record your work!

1. Run `adder`. Try several input strings. What is the first input string which yielded incorrect output? (What output did you expect; what output did you get?) Based on this first incorrect behavior, do you have an initial hypothesis about what the fault might be?
2. Provide several more input strings, and try to elicit more incorrect output. Continue until you feel fairly confident you understand the nature of the bug. What is your hypothesis about the nature of the fault?
3. Now use `gdb` to study the program. What sequence of `gdb` commands did you issue to find the fault? What is the line number where the fault lies? Briefly describe the nature of the fault.