

## CSI 333 – Systems Fundamentals

### Lab 8 – Processes and Pipes

#### Your assignment:

Write a program where:

- a. Main:
  - i. Creates two pipes and makes them global.
  - ii. Creates (fork) two processes. Each process should call a function defined in (b) and (c) below.
  - iii. Wait() for a process to end, then send the SIGUSR1 signal to the (c) process before ending.
- b. One function should have an integer variable that starts at 0. It should print “ping – {value}” then increment the value. It should write that value to a pipe and read the value back from the other pipe until the value is greater than or equal to 100. It should call exit() when complete.
- c. The other function should set up a signal handler for SIGUSR1 to call a function (defined in (d) below) when it receives that signal. It should then loop forever: read from a pipe, print “pong-{value}”, increment the value and write the value to the other pipe. These pipes must be opposite from the function in (b) – the pipe you write to in (b) must be the pipe that you read from in (c) and vice versa.
- d. Create a function for the signal handler that should print “pong quitting” and exit().