FIRST LAST  
CprE 308: Section #  
Project 02  
DUE DATA

**IPCS**

**Unnamed Pipe**

**1pt) Output of pipe\_test.c**

Answer here

**1pt) What do you notice about the timing of the printing?**

Answer here

**2pt) What happens when more than one process tries to write to a pipe at the same time? Be specific: using the number of bytes that each might be trying to write and how that effects what happens.**

Answer here

**1pt) How does the output of pipe\_test.c change if you move the sleep statement from the child process before the fgets of the parent?**

Answer here

**1pt) What is the maximum size of a pipe in linux since kernel 2.6.11?**

Answer here

**Named Pipe (FIFO)**

**1pt) What happens when you run the echo command?**

Answer here

**1pt) What happens when you run the echo first and then the cat?**

Answer here

**2pt) Look at the man page fifo(7). Where is the data that is sent through the FIFO stored?**

Answer here

**2pt) Write a short program that uses named FIFO (mkfifo(3)) to print any line entered into the program on one terminal out on the other terminal.**

Codes here

**Socket**

**2pt) What are the six types of sockets?**

Answer here

**1pt) What are the two domains that can be used for local communications?**

Answer here

**Message Queues**

**1pt) What is the output of mq\_test1?**

Answer here

**1pt) What is the output of mq\_test2?**

Answer here

**2pt) Change mq\_test2.c to send a second message which reads “I am X” where “X” is your favorite companion. Change mq\_test1.c to wait for and print this second message before exiting.**

Answer here

**Shared Memory Space**

**1pt) What is the output if you run both at the same time calling shm\_test1 first?**

Answer here

**1pt) What is the output if you run both at the same time calling shm\_test2 first?**

Answer here

**1pt) What if you run each by themselves?**

Answer here

**2pt) Why is shm\_test2 causing a segfault? How could this be fixed?**

Answer here

**1pt) What happens if the two applications both try to read and set a variable at the same time?**

Answer here

**1pt) How can a shared memory space be deleted from the system?**

Answer here

**2pt) Change the code to share some useful piece of information?**

Code here

**Unnamed Semaphores**

**2pt) What is the function call that would be needed to create an unnamed semaphore in a shared memory space called shared\_mem->my\_sem and assign it an intial value of 5?**

Answer here

**Named Semaphores**

**1pt) How long do semaphores last in the kernel?**

Answer here

**1pt) What causes them to be destroyed?**

Answer here

**2pt) What is the basic process for creating and using named semaphores? (List the functions that would need to be called, and their order).**

Answer here

**Signals**

**1pt) What happens when you try to use CTRL+C to break out of the infinite loop?**

Answer here

**1pt) What is the signal number that CTRL+C sends?**

Answer here

**1pt) When a process forks, does the child still use the same signal handler?**

Answer here

**1pt) How about during a exec call?**

Answer here

**5pt) Write two programs. One which will send a signal of number 42 to the other process. The other program should catch that signal and print out the message “I got the signal!”**

Code here

**Dynamically / Statically Linked Libraries**

**1pt) First output of lib\_test:**

Answer here

**1pt) Second output of lib\_test after exporting the library:**

Answer here

**Project 2**

**If you worked with someone else – who was it?**

Name here

**5pt) Summary**

Answer here

**If you did extra credit – tell us what the functionality and how to use it here:**

Answer here

**How to run Project 2**

**Terminal 1: ./src/printer-server/printer**

rm /drivers/\*

make clean

make

./virt-printer –n printer0

./virt-printer –n printer3

**Terminal 2: ./src/printer-server**

make clean

make

./main -d

**Terminal 3: ./src/libprintserver**

make clean

make

**Terminal 4: ./src/cli-printer**

make clean

make

export LD\_LIBRARY\_PATH="../libprintserver/"

LIST FUNCTUION:

./cli-printer –l file\_name

PRINT FUNCTION

./cli-printer –d driver –s description –o output\_name file\_name

**Notes:**

Any other details needed to run the program