**San Jose State University**

**Computer Engineering Department**

**CMPE180C: Operating Systems**

**Spring 2024 Programming Project 7**

Full Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ GID\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In this project you will create a program called producer-consumer.c that will do the following:

1.-when the -p command line argument is passed, it will act as a producer

2.-when the -c command line argument is passed, it will act as a consumer

3.-the message produced by the producer will be given by the command line argument -m "string"

4.-the depth of the queue used by your producer consumer solution will be given by the -q integer command line argument combination.

5.-Your program will either use unix socket (-u) or shared memory (-s) depending on user input in the command line argument

6.-Your program must use linux semaphores to protect critical sections.

7.-when given the -e option, your program should print the string being produced or consumed followed by a new line each time the string is produced or consumed.

Violation of any of the requirements above may result in zero credit.

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