

## Lab 4 – Consumer-Producer Problem Using Semaphores

In this lab you will solve the consumer-producer problem using shared memory and semaphores. You should use the POSIX semaphores. See the manual pages for `sem_init`, `sem_open`, `sem_post`, and `sem_wait`.

Your shared memory should contain a circular queue having three members. You may use the following data structure:

```
struct {  
    int load; //load pointer  
    int unload; //unload pointer  
    char [3][100]; //three buffers big enough to hold a string 100 chars long  
} ram;
```

You should be able to demonstrate a one-to-one correspondence between what you type into the producer's window and what you see appear in the consumer's window. These can be just terminal windows.

Your submission should include a report, in PDF, explaining what you did, what you tried, what you learned, and any comments you have. You should also submit your makefile, both programs, and a description of your output.