## CMSC 312 Spring 2021 Assignment #2

## Due Date: Monday 3/22/2021

1) Implement the counting semaphores using binary semaphores. Pseudo-code for the implementation is given in the attached notes on BB: 10x-countingSemUsingBinarySem.pdf
   Use the bounded-buffer producer-consumer problem as uploaded on BB (first code at https://jlmedina123.wordpress.com/2014/04/08/255/). Show the output of this code for BOTH the incorrect and correct implementations. Also, attach your codes (two versions: for incorrect and correct solutions) on BB. (25 points)

2) Consider the sample code for the reader-writer problem on BB. Change this code using **counting semaphores** to implement the scenario where the number of active readers is upper-bounded by N. Use the correct/incorrect implementations of counting semaphores from (1) in this modified code. Upload two versions of your code, one with the incorrect solution and the other one with the correct solution. (25 points)

## Late Policy:

5 points will be deducted for each day the assignment is late upto a maximum of 2 days (10 point deduction).