**LAB 9**
**30/12/2021**
**OS, CSE SEM V**

1. Implement the Producer-Consumer problem using condition variable. Here, only one thread will be the producer and 4 threads will be the consumer to consume the item produced by the producer.

2. Implement the semaphore based mutual exclusion to solve the race condition arised due to concurrent access of the shared memory by the parent and child processes.

3. Using the shared memory concept, solve the Question 1 of the Lab 8 (Matrix Multiplication) in multiple processes scenario, i.e., one parent and two child processes.

4. Write a program that creates 4 threads each of the thread prints 10 values, for example if we pass the starting and ending value as 1 and 10 to a thread as an argument, that thread prints values 1 to 10 and no other thread values are printed in between. The start and end values given for other threads are 11 to 20, 21 to 30, 31 to 40 respectively. Use semaphores. Once a thread starts printing the values, until its completion other threads wait for the semaphore signal.