Cycle 4
Process Synchronization and Deadlock

Experiment No. 4.1
Aim : Implementation of Producer Consumer problem

(1) Write a program to implement producer - consumer (Bounded buffer) problem using semaphore.

Experiment No. 4.2
Aim : Implementation of Dining Philosopher's problem.

(2) Write a program to implement dining philosopher's problem using semaphores and threads

Experiment No. 4.3
Aim : Implementation of Deadlock Avoidance algorithm.

(3) Write a program to implement Banker's algorithm. User can read the no: of processes, their instances, *Max* and *Allocation* matrices from keyboard. Based on the input value the program should calculate the *available* vector, print the *Need* matrix and the *safe sequence* if exist. Also run *resource request algorithm* to find whether a new request from any of the processes is granted or not based on the current state of the system.