CSE2005-Operating Systems Lab

Assessment-3 Questions

Process Synchronization

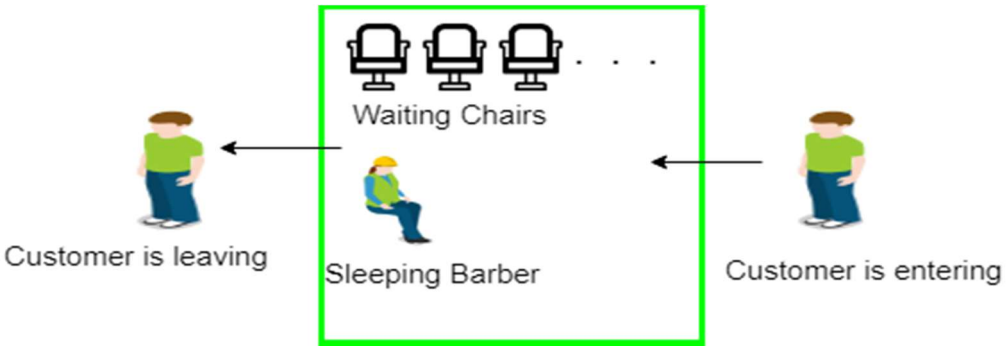
(a) Implement the solution for reader – writer's problem. **(Easy)**

(b) Implement the solution for dining philosopher's problem. **(Easy)**

(c) Implement the solution for producer consumer problem **(Easy)**

(d) The analogy is based upon a hypothetical barber shop with one barber. There is a barber shop which has one barber, one barber chair, and n chairs for waiting for customers if there are any to sit on the chair.

- If there is no customer, then the barber sleeps in his own chair.
- When a customer arrives, he has to wake up the barber.
- If there are many customers and the barber is cutting a customer's hair, then the remaining customers either wait if there are empty chairs in the waiting room or they leave if no chairs are empty.



(Medium)

(e) A pair of processes involved in exchanging a sequence of integers. The number of integers that can be produced and consumed at a time is limited to 100. Write a Program to implement the producer and consumer problem using POSIX semaphore for the above scenario. **(Medium)**