Implementation of Synchronization problems using Semaphores, and Shared Memory

1. Producer-consumer problem - The problem occurs when concurrently Mr. X and Mr. Y tries to access the same account such a way that Mr. X deposit Rs.5000 and Mr.Y wants to withdraw Rs. 2000. Write a C Program to solve the problem with two processes using semaphores.

2. Producer-consumer problem - The problem occurs when concurrently producer and consumer tries to fill the data and pick the data when it is full or empty. Write a C Program to solve the producer consumer problem with two processes using semaphores.

3. Create 2 processes (parent and child process) and Shared memory. Child process read the value of 'N' parent process read it from shared memory and find whether the given number is ODD or EVEN.

4. Write a program to save data (like roll number, name, marks in five different courses) to shared memory in one process and try to print that data with total and average through other process.