# WEEK 6-7: Producer-Consumer Problem

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PROGRAM 1: Write a C Program to simulate race condition in Producer-Consumer Problem

```
siddharth@SIDS-LAPTOP:/mnt/d/sem5/operatingsysytem/lab$ gcc -o a.out p1.c -pthread
siddharth@SIDS-LAPTOP:/mnt/d/sem5/operatingsysytem/lab$ ./a.out
Producer: Produced item 1
Producer: Produced item 2
Producer: Produced item 3
Producer: Produced item 4
Producer: Produced item 5
Producer: Produced item 6
Producer: Produced item 7
Producer: Produced item 8
Producer: Produced item 9
Producer: Produced item 10
Producer: Produced item 11
Consumer: Consumed item 2
Consumer: Consumed item 3
Consumer: Consumed item 4
Consumer: Consumed item 5
Consumer: Consumed item 6
Consumer: Consumed item 7
Consumer: Consumed item 8
Consumer: Consumed item 9
Consumer: Consumed item 10
Consumer: Consumed item 11
Consumer: Consumed item 12
Producer: Produced item 12
Producer: Produced item 13
Producer: Produced item 14
Producer: Produced item 15
Producer: Produced item 16
Producer: Produced item 17
Producer: Produced item 18
Producer: Produced item 19
Producer: Produced item 20
Producer: Produced item 21
Producer: Produced item 22
Consumer: Consumed item 13
Consumer: Consumed item 14
Consumer: Consumed item 15
Consumer: Consumed item 16
Consumer: Consumed item 17
Consumer: Consumed item 18
Consumer: Consumed item 19
```

PROGRAM 2: Write a C program to implement Producer-Consumer problem using Mutex (prevent race condition)

```
siddharth@SIDS-LAPTOP:/mnt/d/sem5/operatingsysytem/lab$ gcc -o a.out p2.c -pthread
siddharth@SIDS-LAPTOP:/mnt/d/sem5/operatingsysytem/lab$ ./a.out
Producer : Produced item 1
Consumer : Consumed item 1
Producer : Produced item 2
Consumer : Consumed item 2
Producer : Produced item 3
Consumer : Consumed item 3
Producer : Produced item 4
Producer : Produced item 5
Producer : Produced item 6
Consumer : Consumed item 4
Consumer : Consumed item 5
Producer : Produced item 7
^Z
[4]+  Stopped                 ./a.out
```