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LAB: 7
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1. Modify the above Producer-Consumer program so that, a producer can produce at the most 10 items more than what the consumer has consumed.

```
mca@computinglab24-14:~/240962518/Lab7$ gcc producer_consumer_limit.c -o pc -lpthread
./pc
Produced: 0
Consumed: 0
Produced: 1
Consumed: 1
Produced: 2
Produced: 3
Consumed: 2
Produced: 4
Produced: 5
Consumed: 3
Produced: 6
Produced: 7
Consumed: 4
Produced: 8
Produced: 9
Consumed: 5
Produced: 10
Consumed: 6
Produced: 11
Consumed: 7
Produced: 12
Consumed: 8
Produced: 13
Consumed: 9
Produced: 14
Consumed: 10
Produced: 15
Consumed: 11
Produced: 16
Consumed: 12
Produced: 17
Consumed: 13
Produced: 18
Consumed: 14
Produced: 19
Consumed: 15
Produced: 16
Consumed: 17
Produced: 18
Consumed: 19
Produced: 19
mca@computinglab24-14:~/240962518/Lab7$
```

2. Write a C/C++ program for first readers-writers problem using semaphores.

```
mca@computinglab24-14:~/240962518/Lab7$ gcc readers_writers.c -o rw -lpthread
./rw
Reader 2: read data = 0
Reader 1: read data = 0
Reader 3: read data = 0
Writer 1: wrote data = 1
Writer 2: wrote data = 2
mca@computinglab24-14:~/240962518/Lab7$
```