

## Practical NO:5

```
#include <stdio.h>
#include <stdlib.h>
int mutex = 1;
int full = 0;
int empty = 10, x = 0;
void producer()
{
    --mutex;
    ++full;
    --empty;
    x++;
    printf("\nProducer produces ""item %d",x);
    ++mutex;
}
void consumer()
{
    --mutex;
    --full;
    ++empty;
    printf("\nConsumer consumes ""item %d",x);
    x--;
    ++mutex;
}
int main()
{
    int n, i;
    printf("\n1. Press 1 for Producer""\n2. Press 2 for Consumer""\n3. Press 3 for Exit");
#pragma omp critical
    for (i = 1; i > 0; i++) {

        printf("\nEnter your choice:");
        scanf("%d", &n);
        switch (n) {
            case 1: if ((mutex == 1)&& (empty != 0))
                {
                    producer();
                }
            else
                {
                    printf("Buffer is full!");
                }
            break;

            case 2: if ((mutex == 1)&& (full != 0))
                {
                    consumer();
                }
            else
                {
                    printf("Buffer is empty!");
                }
            break;

            case 3:
```

```
        exit(0);  
        break;  
    }  
}  
}
```

Output:

1. Press 1 for Producer
2. Press 2 for Consumer
3. Press 3 for Exit

Enter your choice:1  
Producer produces item 1

Enter your choice:1  
Producer produces item 2

Enter your choice:2  
Consumer consumes item 2

Enter your choice:2  
Consumer consumes item 1

Enter your choice:2  
Buffer is empty!

Enter your choice:1  
Producer produces item 1

Enter your choice:1  
Producer produces item 2

Enter your choice:1  
Buffer is full!

Enter your choice:3