Producer Consumer
OS Lab

By 1BM21CS232

```
#include<stdio.h>
#include<stdlib.h>

int mutex=1,full=0,empty=3,x=0;
void producer();
void consumer();
int wait(int);
int signal(int);
int main()
{
	int n;
	printf("\n 1.Producer\n 2.Consumer\n");
	while(1)
	{
	printf("\nEnter your choice");
	scanf("%d",&n);
	switch(n)
		{
		case 1: if((mutex==1)&&(empty==0))
				printf("Buffer is full");
			else
			producer();
			break;
		case 2: if((mutex==1)&&(full!=0))
				consumer();
			else
				printf("Buffer is empty");
```

```
                    break;
                case 3: exit(0);
                    break;
        }
        }
        return 0;
}

int wait(int s)
{
        return(--s);
}

int signal(int s)
{
        return(++s);
}

void producer()
{
    mutex=wait(mutex);
    full=signal(full);
    empty=wait(empty);
    x++;
    printf("\nProducer produces the item %d",x);
    mutex=signal(mutex);
}

void consumer()
{
```

```
        mutex=wait(mutex);
        full=wait(full);
        empty=signal(empty);
        printf("\nConsumer consumes item %d",x);
        x--;
        mutex=signal(mutex);
}
```

OUTPUT: