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Lab 6

Ques: Implement the producer consumer problem using mutex.

Source Code

```c
#include<stdio.h>
#include<stdlib.h>
int mutex = 1;
int full = 0;
int empty = 10, x = 0;
void producer()
{
    --mutex;
    ++full;
    --empty;
    x++;
    printf("producer produces item :%d\n",x);
    ++mutex;
}
void consumer()
{
    --mutex;
    --full;
    ++empty;
    printf("consumer consumes item :%d\n",x);
    x--;
    ++mutex;
}
int main()
{
    int n,i;
    printf("press 1 for producer \npress 2 for consumer \npress 3 for exit\n");
    for(i = 1 ; i > 0 ; i++){
        scanf("%d",&n);
        switch(n)
        {
        case 1:
            if((mutex == 1) && (empty != 0)){
                producer();
            }
            else{
                printf("full");
            }
            break;
        case 2:
            if((mutex == 1) && (full != 0)){
                consumer();
            }
            else{
                printf("Empty");
            }
            break;
        case 3:
            exit(0);
            break;
        }
    }
}
```

Output

```
press 1 for producer
press 2 for consumer
press 3 for exit
1
producer produces item :1
2
consumer consumes item :1
3
```