

```
Project Classes Debug Untitled1.cpp
1 #include<stdio.h>
2 #include<stdlib.h>
3 int mutex=1,full=0,empty=3,x=0;
4 int main()
5 {
6     int n;
7     void producer();
8     void consumer();
9     int wait(int);
10    int signal(int);
11    printf("\n1.Producer\n2.Consumer\n3.Exit");
12    while(1)
13    {
14        printf("\nEnter your choice:");
15        scanf("%d",&n);
16        switch(n)
17        {
18            case 1: if((mutex==1)&&(empty!=0))
19                    producer();
20                    else
21                        printf("Buffer is full!!");
22                    break;
23            case 2: if((mutex==1)&&(full!=0))
24                    consumer();
25                    else
26                        printf("Buffer is empty!!");
27                    break;
28            case 3: exit(0);
29                    break;
30        }
31    }
32    return 0;
33 }
34
35 int wait(int s)
36 {
37     return (--s);
38 }
39
40 int signal(int s)
41 {
42     return(++s);
43 }
44 void producer()
45 {
46     mutex=wait(mutex);
47     full=signal(full);
48     x++;
49     printf("Producer: %d\n",x);
50 }
```

Compiler Resources Compile Log Debug Find Results

Line: 40 Col: 18 Sel: 0 Lines: 57 Length: 1293 Insert Done parsing in 0.016 seconds

```

18     case 1: if((mutex==1)&&(empty!=0))
19             producer();
20             else
21                 printf("Buffer is full!!");
22             break;
23     case 2: if((mutex==1)&&(full!=0))
24             consumer();
25             else
26                 printf("Buffer is empty!!");
27             break;
28     case 3: exit(0);
29             break;
30 }
31 }
32 }
33 return 0;
34 }
35 int wait(int s)
36 {
37     return (--s);
38 }
39 int signal(int s)
40 {
41     return(++s);
42 }
43 void producer()
44 {
45     mutex=wait(mutex);
46     full=signal(full);
47     empty=wait(empty);
48     x++;
49     printf("\nProducer produces the item %d",x);
50     mutex=signal(mutex);
51 }
52 void consumer()
53 {
54     mutex=wait(mutex);
55     full=wait(full);
56     empty=signal(empty);
57     printf("\nConsumer consumes item %d",x);
58     x--;
59     mutex=signal(mutex);
60 }

```

Compiler Resources Compile Log Debug Find Results

Line: 40 Col: 18 Sel: 0 Lines: 57 Length: 1293 Insert Done parsing in 0.016 seconds



ENG IN 11:04 21-09-2022

Project Classes

C:\Users\sruthi\OneDrive\Documents\Untitled1.exe

```
Producer produces the item 1
Enter your choice:2

Consumer consumes item 1
Enter your choice:2
Buffer is empty!!
Enter your choice:1

Producer produces the item 1
Enter your choice:1

Producer produces the 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:3

-----
Process exited after 235.2 seconds with return value 0
Press any key to continue . . .
```

```
48 void consumer()
49 {
50     mutex=wait(mutex);
51     full=wait(full);
52     empty=signal(empty);
53     printf("\nConsumer consumes item %d",x);
54     x--;
55     mutex=signal(mutex);
56 }
```

```
1.Producer
2.Consumer
3.Exit
Enter your choice:1

Producer produces the item 1
Enter your choice:2

Consumer consumes item 1
Enter your choice:1

Producer produces the item 1
Enter your choice:2

Consumer consumes item 1
Enter your choice:1

Producer produces the item 1
Enter your choice:2

Consumer consumes item 1
Enter your choice:2
Buffer is empty!!
Enter your choice:1

Producer produces the item 1
Enter your choice:1

Producer produces the item 2
```

```
49 void consumer()
50 {
51     mutex=wait(mutex);
52     full=wait(full);
53     empty=signal(empty);
54     printf("\nConsumer consumes item %d",x);
55     x--;
56     mutex=signal(mutex);
57 }
```