

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  int mutex = 1;
4  int full = 0;
5  int empty = 10, x = 0;
6  void producer()
7  {
8      --mutex;
9      ++full;
10     --empty;
11     x++;
12     printf("\nProducer produces "
13           "item %d",
14           x);
15     ++mutex;
16 }
17 void consumer()
18 {
19     --mutex;
20     --full;
21     ++empty;
22     printf("\nConsumer consumes "
23           "item %d",
24           x);
25     x--;
26     ++mutex;
27 }
28 int main()
29 {
30     int n, i;
```

```
31 printf("\n1. Press 1 for Producer"
32        "\n2. Press 2 for Consumer"
33        "\n3. Press 3 for Exit");
34 for (i = 1; i > 0; i++) {
35     printf("\nEnter your choice:");
36     scanf("%d", &n);
37     switch (n) {
38         case 1:
39             if ((mutex == 1)
40                 && (empty != 0)) {
41                 producer();
42             }
43             else {
44                 printf("Buffer is full!");
45             }
46             break;
47         case 2:
48             if ((mutex == 1)
49                 && (full != 0)) {
50                 consumer();
51             }
52             else {
53                 printf("Buffer is empty!");
54             }
55             break;
56         case 3:
57             exit(0);
58             break;
59     }
60 }
61 }
```

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

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

Producer produces item 3

Enter your choice:2

Consumer consumes item 3

Enter your choice:2

Consumer consumes item 2

Enter your choice:2

Consumer consumes item 1

Enter your choice:3

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Process exited after 19.66 seconds with return value 0

Press any key to continue . . .