Code:

Producer_consumer.c

```c
#include<stdio.h>
#include<stdlib.h>
int count=0, in=0, out=0;
int buffer[5];

void producer()
{
        in++;
        printf("\nProducer produces item %d\n", in);
        buffer[in]=in;
        count++;
}

void consumer ()
{
        printf("\nConsumer consumes item %d\n", in);
        buffer[in]=0;
        in--;
        count--;
}

int main()
{
        int n=5, choice, flag=1;

        printf("\nThe buffer size is 5");
        printf("\n0. Exit \n1. Producer \n2. Consumer");

        while(flag)
        {
                printf("\Enter your choice: ");
                scanf("%d", &choice);
                switch(choice)
                {
                case 0:
                        flag=0;
                        return 0;
                        break;
                case 1:
                        if (count!=n)
```

```c
                    producer();
                else
                    printf("\nBuffer is full!!\n");
                break;
            case 2:
                if (count!=0)
                    consumer();
                else
                    printf("\nBuffer is empty!!\n");
                break;


        }
      }
      return 0;
}
```

OUTPUT:

```
The buffer size is 5
0. Exit
1. Producer
2. Consumer
Enter your choice: 1

Producer produces item 1
Enter your choice: 2

Consumer consumes item 1
Enter your choice: 0


...Program finished with exit code 0
Press ENTER to exit console.
```