

Q) Write a C program to simulate producer-consumer

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

```
void main()
```

```
{
    int buffer[10], bufSize, in, out, produce, consume,
    choice = 0;
```

```
    in = 0;
```

```
    out = 0;
```

```
    bufSize = 10;
```

```
    while (choice != 3)
```

```
    {
        printf("\n 1. produce 1 & 2. consume 1 & 3. exit");
```

```
        printf("\n Enter Your choice:");
```

```
        scanf("%d", &choice);
```

```
        switch (choice)
```

```
        {
            case 1: if ((in+1) % bufSize == out)
```

```
                printf("\n buffer is full");
            else
```

```
                printf("\n Enter the value: ");
```

```
                scanf("%d", &produce);
```

```
                buffer[in] = produce;
```

```
                in = (in+1) % bufSize;
```

```
            }
```

```
            break;
```

```
            case 2: if (in == out)
```

```
                {
```

```
                    printf("\n buffer is Empty");
```

```
                }
```

```
            else
```

```
            {
```

```
                consume = buffer[out];
```

```
printf("In the consumed value is %d", consume);  
out = (out + 1) % buf_size;
```

```
break;
```

Output

1. produce 2. consume 3. exit

Enter your choice: 1

Enter the value: 1

1. produce 2. consume 3. exit

Enter your choice: 1

Enter the value: 2

1. produce 2. consume 3. exit

Enter your choice: 2

The consumed value is 1

1. produce 2. consume 3. exit

Enter your choice: 2

The consumed value is 2

1. produce 2. consume 3. exit

Enter your choice: 2

Buffer is empty

1. produce 2. consume 3. exit

Enter your choice: 3