**PROGRAM**

#include<stdio.h>

#include<sys/types.h>

#include<unistd.h>

#include<stdlib.h>

#define max 3

int i=0,j=0,a[max],s=0,k;

void producer();

void consumer();

void main()

{

int c;

char y[10];

while(1)

{

printf("\nMENULIST\n\n");

printf("1.Producer\n");

printf("2.Consumer\n");

printf("3.Exit\n\n");

printf("Enter The Choice\n");

scanf("%d",&c);

switch(c)

{

case 1:producer();

break;

case 2:consumer();

break;

case 3:exit(1);

}

}

}

void producer()

{

if(s==max)

{

printf("\nBuffer Is Full\n");

sleep(1);

}

else

{

printf("Enter The Element To Be Produced\n");

scanf("%d",&a[i]);

printf("\n%d Is Produced\n",a[i]);

i=(i+1)%max;

s++;

}

}

void consumer()

{

if(s==0)

{

printf("\nBuffer Is Empty\n");

sleep(1);

}

else

{

printf("\n%d Is Consumed\n",a[j]);

j=(j+1)%max;

s--;

}

}

**OUTPUT**

**student30@student30-Vostro-270s:~/Desktop/VANISHA46$ gcc prod.c**

**student30@student30-Vostro-270s:~/Desktop/VANISHA46$ ./a.out**

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

1

Enter The Element To Be Produced

10

10 Is Produced

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

1

Enter The Element To Be Produced

20

20 Is Produced

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

1

Enter The Element To Be Produced

30

30 Is Produced

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

1

Buffer Is Full

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

2

10 Is Consumed

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

2

20 Is Consumed

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

2

30 Is Consumed

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

2

Buffer Is Empty

MENULIST

1.Producer

2.Consumer

3.Exit

Enter The Choice

3