1. **PRODUCER-CONSUMER :**

#include<stdio.h>

#include<conio.h>

int mutex=1;

int full=0;

int empty=10;

int cnt=0;

int wait(int s)

{

while(s<=0);

s--;

return s;

}

int signal(int s)

{

s++;

return s;

}

void producer()

{

empty=wait(empty);

mutex=wait(mutex);

cnt++;

printf("Producer produces an item %d\n",cnt);

mutex=signal(mutex);

full=signal(full);

}

void consumer()

{

full=wait(full);

mutex=wait(mutex);

printf("Consumer consumes an item %d\n",cnt);

cnt--;

mutex=signal(mutex);

empty=signal(empty);

}

void main()

{

int choice;

printf("1.Produce\n2.Consume\n3.Exit\n");

while(1)

{

printf("Enter your choice:\n");

scanf("%d",&choice);

switch(choice)

{

case 1:if(empty==0)

{

printf("Buffer is full\n");

}

else{

producer();

}

break;

case 2:if(full==0)

{

printf("Buffer is empty\n");

}

else{

consumer();

}

break;

case 3:exit(0);

break;

default:printf("Invalid choice\n");

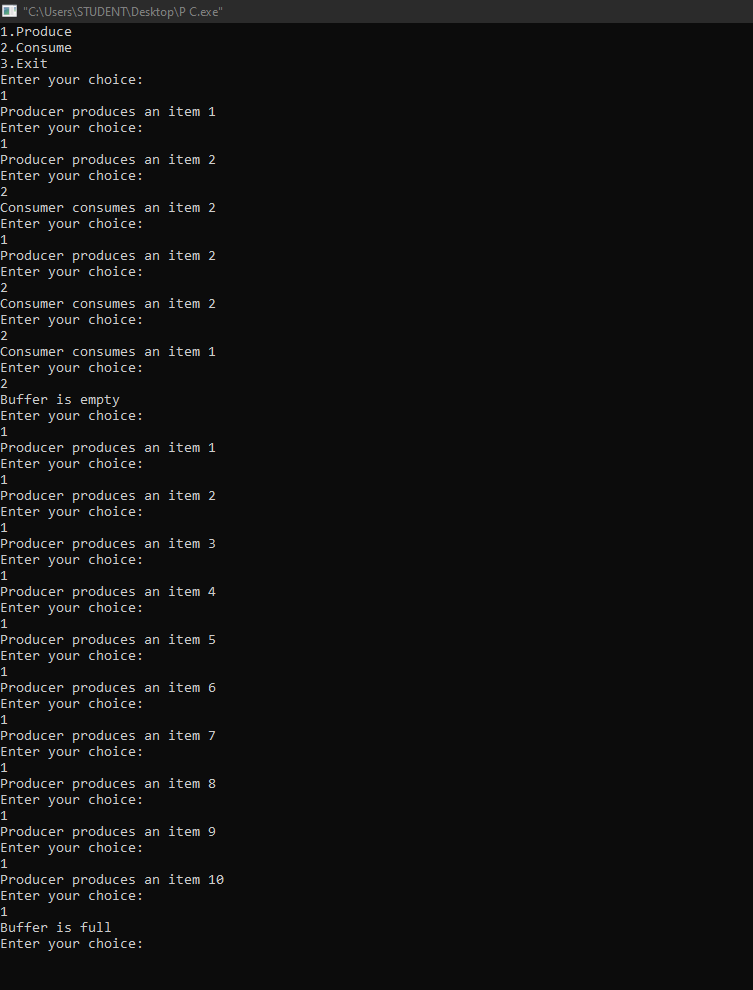
}

}

getch();

}

**OUTPUT:**

****