**Experiment-7**

**Producer Consumer Problem**

**Code:**

#include <stdio.h>

#include<stdlib.h>

int mutex=1, pos=-1,x;

int items[3];

int wait(int s){

return(--s);

}

int signal(int s){

return (++s);

}

void producer(){

mutex=wait(mutex);

pos=signal(pos);

if(pos<3){

printf("\nEnter item");

scanf("%d",&x);

printf("\nproducer produces the item %d",x);

items[pos]=x;

}

mutex=signal(mutex);

}

void consumer(){

mutex=wait(mutex);

pos=wait(pos);

if(pos>=-1){

x=items[pos+1];

printf("\n Consumer consume the item %d",x);

}

mutex=signal(mutex);

}

void disp(){

int i;

for(i=0;i<=2;i++){

printf("%d\t",items[i]);

}

}

int main(){

int n;

printf("\n 1. producer \n 2. Consumer \n 3. Exit \n 4. Display");

while(1){

printf("\n Enter your choice");

scanf("%d",&n);

switch(n) {

case 1:

if((mutex==1) && (pos<3))

producer();

else

printf("Buffer is full!!");

break;

case 2:

if((mutex==1) && (pos>=0))

consumer();

else

printf("Buffer is empty!!");

break;

case 3:

exit(0);

case 4:

disp();

break;

}

}

return 0;

}

**Output:**

