**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY**

**WAKNAGHAT**

**Operating Systems Lab**

**Lab Assignment dated 11.02.2022**

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**Batch -** CS 48

**Task:**

**WAP to implement the Producer-Consumer problem using shared buffer of size 3 with sample output. Create user-defined functions separately for producer & consumer processes with appropriate logic.**

**Code –**

#include<stdio.h>

#include<stdlib.h>

#define buffersize 3

int buffer[buffersize];

int in,out;

void producer(int a)

{

if((in+1)%buffersize==out)

{

printf("Buffer is Full!\n");

return;

}

buffer[in]=a;

in=in+1;

}

void display()

{

printf("\nBuffer:");

for(int i=0;i<buffersize;i++)

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

printf("\nin: %d\n",in);

printf("out: %d\n",out);

}

void consumer()

{

if(in==out)

{

printf("Buffer is Empty!\n");

return;

}

buffer[out]=0;

out=out+1;

}

int main()

{

int a,option;

printf("MENU-\n1.Producer\n2.Consumer\n3.Exit\n");

display();

do

{

printf("\nEnter your choice:");

scanf("%d",&option);

switch(option)

{

case 1:

printf("Produce an integer:");

scanf("%d",&a);

producer(a);

display();

break;

case 2:

consumer();

display();

break;

default:

printf("Thank You!\n");

break;

}

}while(option!=3);

return 0;

}

**Output –**





