**Assignment No : 1.4**

**Title : Implementation of Program based on Circular Queue.**

**Name : Patil Leena Arun**

**Roll No :82**

#include"iostream.h"

#include"conio.h"

Class CIRCULAR\_QUEUE\_82

{

private:

int \*A,s,front,rear;

public:

CIRCULAR\_QUEUE\_82(int);

void QUEUE\_ADD\_82(int ele);

int QUEUE\_DELETE\_82();

void QUEUE\_LIST\_ALL\_82();

};

CIRCULAR\_QUEUE\_82::CIRCULAR\_QUEUE\_82(int par)

{

front=rear=0;

s=par;

A=new int[s+1];

}

void CIRCULAR\_QUEUE\_82::QUEUE\_ADD\_82(int ele)

{

if((front==1 && rear==s)||(rear+1==front))

{

cout<<" QUEUE is Full"<<endl;

return;

}

if(front==0)

front=1;

if(rear==s)

rear=0;

rear=rear+1;

A[rear]=ele;

}

int CIRCULAR\_QUEUE\_82::QUEUE\_DELETE\_82()

{

if(front==0)

{

cout<<"\n QUEUE is Empty"<<endl;

return NULL;

}

int ele=A[front];

if(front==rear)

front=rear=0;

else

{

if(front==s)

front=0;

front=front+1;

}

return ele;

}

void CIRCULAR\_QUEUE\_82::QUEUE\_LIST\_ALL\_82()

{

if(front==0)

{

cout<<"QUEUE is Empty";

return;

}

if(front<=rear)

{

for(int i=front;i<=rear;i++)

cout<<A[i]<<" ";

}

else

{

for(int i=front;i<=s;i++)

cout<<A[i]<<" ";

for(i=1;i<=rear;i++)

cout<<A[i]<<"\t";

}

}

void MENU()

{

int ele,opt,size;

cout<<"Enter size of Queue ";

cin>>size;

CIRCULAR\_QUEUE\_82 obj(size);

do

{

cout<<"\n 1.ADD Element";

cout<<"\n 2.DELETE Element";

cout<<"\n 3.LIST ALL";

cout<<"\n 4.EXIT";

cout<<"\n Enter your option:";

cin>>opt;

switch(opt)

{

case 1:

cout<<"Enter element to Add in Queue ";

cin>>ele;

obj.QUEUE\_ADD\_82(ele);

break;

case 2:

ele=obj.QUEUE\_DELETE\_82();

cout<<endl<<ele<<"is Deleted";

break;

case 3:

obj.QUEUE\_LIST\_ALL\_82();

break;

case 4:

return;

default:

cout<<"Invalid option";

}

}while(1);

}

void main()

{

clrscr();

MENU();

getch();

}