**Assignment No : 1.6**

**Title : Implementation of program based on queue using Linked list.**

**Name : Patil Leena Arun**

**Roll No :82**

#include<iostream.h>

#include<conio.h>

class NODE

{

public:

int data;

NODE \*next;

};

class QUEUE

{

private:

NODE \*front,\*rear;

public:

QUEUE();

void ADD\_QUEUE(int ele);

int DELETE\_QUEUE();

void LIST\_ALL();

};

void QUEUE :: QUEUE()

{

front=rear=NULL;

}

void QUEUE :: ADD\_QUEUE(int ele)

{

NODE \*NEW=new NODE();

NEW -> data = ele;

NEW -> next = NULL;

if(NEW==NULL)

{

cout<<"Queue is full";

return;

}

if(front==NULL)

{

front=NEW;

rear=NEW;

}

else

rear -> next=NEW;

rear=NEW;

}

int QUEUE :: DELETE\_QUEUE()

{

if(front==NULL)

{

cout<<"QUEUE is Empty.";

return NULL;

}

int ele = front -> data;

NODE \*TEMP = front;

if(front==rear)

front=rear=NULL;

else

front=front->next;

delete TEMP;

return ele;

}

void QUEUE :: LIST\_ALL()

{

if(front==NULL)

{

cout<<"Queue is Empty.";

}

NODE \*ptr;

ptr=front;

while(ptr!=NULL)

{

cout<<ptr->data<<" ";

ptr=ptr->next;

}

}

void MENU()

{

int ch,ele;

QUEUE obj;

do

{

cout<<"\n1.ADD QUEUE";

cout<<"\n2.DELETE QUEUE";

cout<<"\n3.LIST ALL";

cout<<"\n4.EXIT";

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

cin>>ch;

switch(ch)

{

case 1:

cout<<"Enter Element to Add: ";

cin>>ele;

obj.ADD\_QUEUE(ele);

break;

case 2:

ele=obj.DELETE\_QUEUE();

if(ele!=NULL)

{

cout<<ele<<" is deleted";

}

break;

case 3:

obj.LIST\_ALL();

break;

case 4:

return;

default:

cout<<"\n Invalid choice";

}

}

while(1);

}

void main()

{

clrscr();

MENU();

getch();

}