**Assignment No:- 1.6**

**Title:-Implementation of program based on queue using linear link list.**

**----------------------------------------------------------------------------------------------------------------**

#include<iostream.h>

#include<conio.h>

class NODE

{

public:

int data;

NODE \*next;

};

class QUEUE\_

{

private:

NODE \*FRONT;

NODE \*REAR;

public:

void ADD\_QUEUE\_(int ele);

int DEL\_QUEUE\_();

void LIST\_ALL();

QUEUE\_();

};

QUEUE\_::QUEUE\_()

{

FRONT=NULL;

}

void QUEUE\_::ADD\_QUEUE\_(int ele)

{

NODE \*NEW=new NODE();

NEW->data=ele;

NEW->next=NULL;

if(FRONT==NULL)

{

FRONT= NEW;

REAR= NEW;

}

else

{

REAR->next=NEW;

REAR = NEW;

}

}

int QUEUE\_::DEL\_QUEUE\_()

{

if(FRONT==NULL)

{

cout<<"\n Queue is Empty";

return NULL;

}

else

{

int ele=FRONT->data;

if(FRONT==REAR){

FRONT=REAR=NULL;

}

else

{

FRONT=FRONT->next;

}

return ele;

}

}

void QUEUE\_::LIST\_ALL()

{

if(FRONT==NULL)

{

cout<<"\n Queue is Empty";

}

else

{

NODE \*ptr;

ptr=FRONT;

cout<<endl<<" ";

while(ptr!=NULL)

{

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

ptr=ptr->next;

}

}

}

void MENU()

{

int opt,ele;

QUEUE\_ obj;

do

{

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

cout<<"\n 2.DEL\_Queue";

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

cout<<"\n 4.EXIT";

cout<<"\n Enter Your Choice =>";

cin>>opt;

switch(opt)

{

case 1:

cout<<"\n ADD Element in Queue";

cin>>ele;

obj.ADD\_QUEUE\_(ele);

break;

case 2:

ele=obj.DEL\_QUEUE\_();

if(ele!=NULL)

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

break;

case 3:

obj.LIST\_ALL();

break;

case 4:

return;

default:

cout<<"\n Invalid choice";

break;

}

}while(1);

}

void main()

{

clrscr();

MENU();

getch();

};