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ROLL NO:- 18

Practiacal No:- 1.4.4

PRACTICLE NAME:- IMPLEMENTATION OF PROGRAM OF PRIORITY QUEUE USING TWO SEPRATE ARRAY

#include"iostream.h"

#include"conio.h"

class ELE

{

public:

int data;

int prio;

};

class PQUE

{

int \*A,\*P,size,front,rear;

public:

PQUE(int);

void ADD\_QUE(int,int);

int DEL\_QUE();

void VIEW\_QUE();

int IS\_EMPTY();

};

PQUE::PQUE(int par)

{

size=par;

A= new int[size+1];

P= new int[size+1];

front=rear=0;

}

void PQUE::ADD\_QUE(int ele,int prio)

{

if(rear==size)

{

cout<<endl<<"Queue is full";

}

if(front==0)

{

front=1;

rear=1;

A[rear]=ele;

P[rear]=prio;

}

else

{

int i=rear;

while(i>=front && prio>P[i])

{

A[i+1]=A[i];

P[i+1]=P[i];

i=i-1;

}

A[i+1]=ele;

P[i+1]=prio;

rear=rear+1;

}

}

int PQUE::IS\_EMPTY()

{

if(front==0)

{

cout<<endl<<"Queue is empty";

return 1;

}

else

return 0;

}

int PQUE::DEL\_QUE()

{

if(front==0)

{

cout<<endl<<"Queue is empty";

return NULL;

}

else

{

int ele=A[front];

if(front==rear)

{

front=rear=0;

}

else

{

front=front+1;

}

return ele;

}

}

void PQUE::VIEW\_QUE()

{

if(front==0)

{

cout<<endl<<"List is empty";

}

else

{

cout<<endl<<"Queue elements are: ";

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

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

}

}

void MENU()

{

int ele,opt,n,prio;

cout<<endl<<"Enter the size of\_\_\_\_\_:";

cin>>n;

PQUE p(n);

do

{

cout<<endl<<"1 ADD";

cout<<endl<<"2 DEL";

cout<<endl<<"3 LIST";

cout<<endl<<"4 EXIT";

cout<<endl<<"Enter Your Choice: ";

cin>>opt;

switch(opt)

{

case 1:

cout<<endl<<"Enter ele: ";

cin>>ele;

cout<<endl<<"Enter prio: ";

cin>>prio;

p.ADD\_QUE(ele,prio);

p.VIEW\_QUE();

break;

case 2:

ele = p.DEL\_QUE();

if(ele)

cout<<endl<<"Deleted ele: "<<ele;

break;

case 3:

p.VIEW\_QUE();

break;

case 4:

return;

default:

cout<<endl<<"Invalid choice";

}

}while(1);

}

void main()

{

clrscr();

MENU();

getch();

}