**Name:-Bindiya Chaudhari**

**Roll no:- 30**

**Pratical no:- 1.4.4**

**Pratical Name:-Implementation of program based on Priority Queue.**

#include "iostream.h" #include "conio.h" class ELE

{

public:

int data; int prio;

};

class PQUE

{

// data

int \*A,\*P,size, front,rear; // 2 sep arry

//int A[0][50]; // 2D array

//ELE A[50]; // array of obj

public:

// operations PQUE(int);

void ADD(int,int); int DEL();

void LIST(); int IS\_EMPTY();

};

PQUE::PQUE(int par)

{

// def of function size = par;

P= new int[size+1]; A= new int[size+1]; front =0;

rear = 0;

}

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

{

// def of function if(rear == size)

{

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

}

if(front==0) // if empty

{

front= 1;

rear = 1; A[rear]=ele; P[rear]=prio;

}

else // not empty

{

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 i = front; while(i<=rear)

{

if(A[i] > ele)

break; i=i+1;

}

//break if(i<=rear)

{

for( int j=rear;j>=i;j--)

{

A[j+1] = A[j];

}

}

A[i]=ele ; // A[i]=ele; rear=rear+1;

\*/

//A[rear]=ele;

}

}

int PQUE::IS\_EMPTY()

{

if(front==0) // if empty

{

}

else

}

cout<<endl<<"Queue is empty"; return 1;

return 0;

int PQUE::DEL()

{

// def of function int ele = A[front]; if(front == rear)

front = rear = 0;

else

front = front + 1;

return ele;

}

void PQUE::LIST()

{

// def of function if( ! IS\_EMPTY())

{

cout<<endl<<"List elements are : \n"; for(int i=front;i<=rear;i++)

cout<<A[i]<<" "; cout<<endl; for(i=front;i<=rear;i++)

cout<<P[i]<<" ";

}

}

/////////////////////////////////////////////////////// void MENU()

{

int ele,prio,n,opt;

cout<<endl<<"Enter the size of : "; cin>>n;

PQUE obj(n);

do

{

cout<<endl<<"1 ADD"; cout<<endl<<"2 DEL"; cout<<endl<<"3 LIST"; cout<<endl<<"4 EXIT"; cin>>opt; switch(opt)

{

case 1:

cout<<endl<<"Enter ele"; cin>>ele;

cout<<endl<<"Enter priority"; cin>>prio; obj.ADD(ele,prio); obj.LIST();

break; case 2:

if( ! obj.IS\_EMPTY())

{

ele = obj.DEL(); cout<<endl<<"Delted ele = "<<ele;

}

}

}while(1);

}

break; case 3:

obj.LIST();

break; case 4:

return; default:

cout<<endl<<"invalid input";

void main()

{

clrscr();

MENU();

getch();

}