PRACTICAL NO -11

Code:

#include<iostream>

using namespace std;

class Heap

{

int n;

int \*minheap,\*maxheap;

public:

void get();

void displayMin()

{

cout<<"Minimum mark are: "<<minheap[0]<<endl;

cout<<" FULL ARRAY: "<<endl;

for(int i=0;i<n;i++)

{

cout<<minheap[i]<<endl;

}

}

void displayMax()

{

cout<<"Maximum marks are: "<<maxheap[0,n-1]<<endl;

cout<<" FULL ARRAY: "<<endl;

for(int i=0;i<n;i++)

{

cout<<maxheap[i]<<endl;

}

}

void upAdjust(bool,int);

};

void Heap::get()

{

cout<<"Enter number of student: "<<endl;

cin>>n;

int k,l;

minheap=new int[n];

maxheap=new int[n];

cout<<"Enter marks of student: "<<endl;

for(int i=0;i<n;i++)

{

cin>>k;

minheap[i]=k;

upAdjust(0,i);

maxheap[i]=k;

upAdjust(1,i);

}

}

void Heap::upAdjust(bool m,int l)

{

int s;

if(!m)

{

while(minheap[(l-1)/2]>minheap[l])

{

s=minheap[l];

minheap[l]=minheap[(l-1)/2];

minheap[(l-1)/2]=s;

l=(l-1)/2;

if(l==-1)

break;

}

}

else

{

while(maxheap[(l-1)/2]<maxheap[l])

{

s=maxheap[l];

maxheap[l]=maxheap[(l-1)/2];

maxheap[(l-1)/2]=s;

l=(l-1)/2;

if(l==-1)

break;

}

}

}

int main()

{

Heap H;

H.get();

H.displayMin();

H.displayMax();

return 0;

}

OUTPUT:

Enter number of student:

5

Enter marks of student:

100

98

56

89

94

Minimum mark are: 56

FULL ARRAY:

56

89

98

100

94

Maximum marks are: 94

FULL ARRAY:

100

98

56

89

94