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CLASS: SE COMPUTER

DIV: A

BATCH: B3

ASSIGNMENT NO:10

CODE:-

```cpp
#include<iostream>
using namespace std;
class Heap
{
    int n;
    int *minheap,*maxheap;
    public:
    void get();
    void displayMin(){cout<<"Minimum marks are :"<<minheap[0]<<endl;}
    void displayMax(){cout<<"Maximum marks are :"<<maxheap[0]<<endl;}
    void upAdjust(bool,int);
};
void Heap::get()
{
    cout<<"Enter number of students."<<endl;
    cin>>n;
    int k;
    minheap=new int[n];
    maxheap=new int[n];
    cout<<"Enter marks of students."<<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;
                }
        }
}
main()
{
        Heap H;
        H.get();
        H.displayMin();
        H.displayMax();
        return(0);
}
```

OUTPUT:-

Enter number of students.
5
Enter marks of students.

89
76
65
54
92
Minimum marks are :92
Maximum marks are :54

=== Code Execution Successful ===