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```
#include<iostream>
using namespace std;
# define max 20
class stud
{
int mks[max];
public:
    stud()
    {
        for(int i=0;i<max;i++)
            mks[i]=0;
    }
    void insertheap(int tot);
    void displayheap(int tot);
    void showmax(int tot);
    void showmin();
};

void stud::insertheap(int tot)
{
    for(int i=1;i<=tot;i++)
    {
        cout<<"enter marks";
        cin>>mks[i];
        int j=i;
        int par=j/2;
        while(mks[j]<=mks[par] && j!=0)
        {
            int tmp = mks[j];
            mks[j]=mks[par];
            mks[par]=tmp;
            j=par;
            par=j/2;
        }
    }
}
```

```

void stud::displayheap(int tot)
{
    int i=1,space=6;
    cout<<endl;
    while(i<=tot)
    {
        if(i==1 || i==2 || i==4 || i==8 || i==16)
        {
            cout<<endl<<endl;
            for(int j=0;j<space;j++)
                cout<<" ";
            space-=2;
        }
        cout<<" "<<mks[i];i++;
    }
}

```

```

void stud::showmax(int tot)
{
    int max1=mks[1];
    for(int i=2;i<=tot;i++)
    {
        if(max1<mks[i])
            max1= mks[i];
    }
    cout<<"Max marks:"<<max1;
}

```

```

void stud::showmin()
{
    cout<<"Min marks:"<<mks[1];
}

```

```

int main()
{
    int ch,cont,total,tmp;
    int n;
    stud s1;
}

```

```

do
{
cout<<endl<<"Menu";
cout<<endl<<"1.Read marks of the student ";
cout<<endl<<"2.Display  Min heap";
cout<<endl<<"3.Find Max Marks";
cout<<endl<<"4.Find Min Marks";
cout<<endl<<"Enter Choice";
cin>>ch;
switch(ch)
{
case 1:
    cout<<"how many students";
    cin>>total;
    s1.insertheap(total);
    break;
case 2:
    s1.displayheap(total);
    break;
case 3:  s1.showmax(total);
    break;
case 4:
    s1.showmin();
    break;
}
cout<<endl<<"do u want to continue?(1 for continue)";
cin>>cont;
}
while(cont==1);
return 0;
}

```

