DATE: 16/11/2023

PROGRAM-18

AIM: create a base class called shape .use this class to store two double type values .derive two specific classes called triangle and rectangle from the baser class . add to base class ,a member funcation getdata to initialize base class data members and another member function display to compute and display the area of figures.make display a virtual function and redefine this function in the derived classes to suit their requirement. Using these three classes design a program that will accept driven of a triangle or rectangle interactively and display the area.

CODE:

```
#include<iostream>
using namespace std;
class shape{
   public:
   double h;
   double b;
   float areatri;
   int arearec;
   void setdata(){
      cout<<"the enter h "<<endl;
      cin>>h;
      cout<<"the enter b"<<endl;
      cin>>b;
   }
   void showtri(){
      cout<<"the area of triangle"<<endl;
      areatri=0.5*b*h;
      cout<<areatri<<endl;
```

```
    }
    void showrec(){
        cout<<"the area of triangle "<<endl;
        arearec=b*h;
        cout<<arearec<<endl;
    }
    void display(){
        cout<<"the value of h and b\n"<<h<<" "<<b<<endl;
    }
};
class triangle:public shape{
    public:
    virtual void showtri(){
        cout<<"the area of triangle"<<endl;
        areatri=0.5*b*h;
        cout<<areatri<<endl;
    }
};
class rectangle:public shape{
    public:
    virtual void showrec(){
        cout<<"the area of triangle "<<endl;
        arearec=b*h;
        cout<<arearec<<endl;
    }

};
```

```
int main(){
    triangle t;
    rectangle r;
    t.setdata();
    r.setdata();
    t.showtri();
    r.showrec();
}
```