

**Practical: 18** Create a base class called 'SHAPE' having

- Two data members of type double
- Member function *get-data* ( ) to initialize base class data members- pure virtual member function *display-area*( ) to compute and display the area of the geometrical object.

Derive two specific classes 'TRIANGLE' and 'RECTANGLE' from the base class. Using these three classes design a program that will accept dimension of a triangle / rectangle interactively and display the area.

```
#include<iostream>

using namespace std;

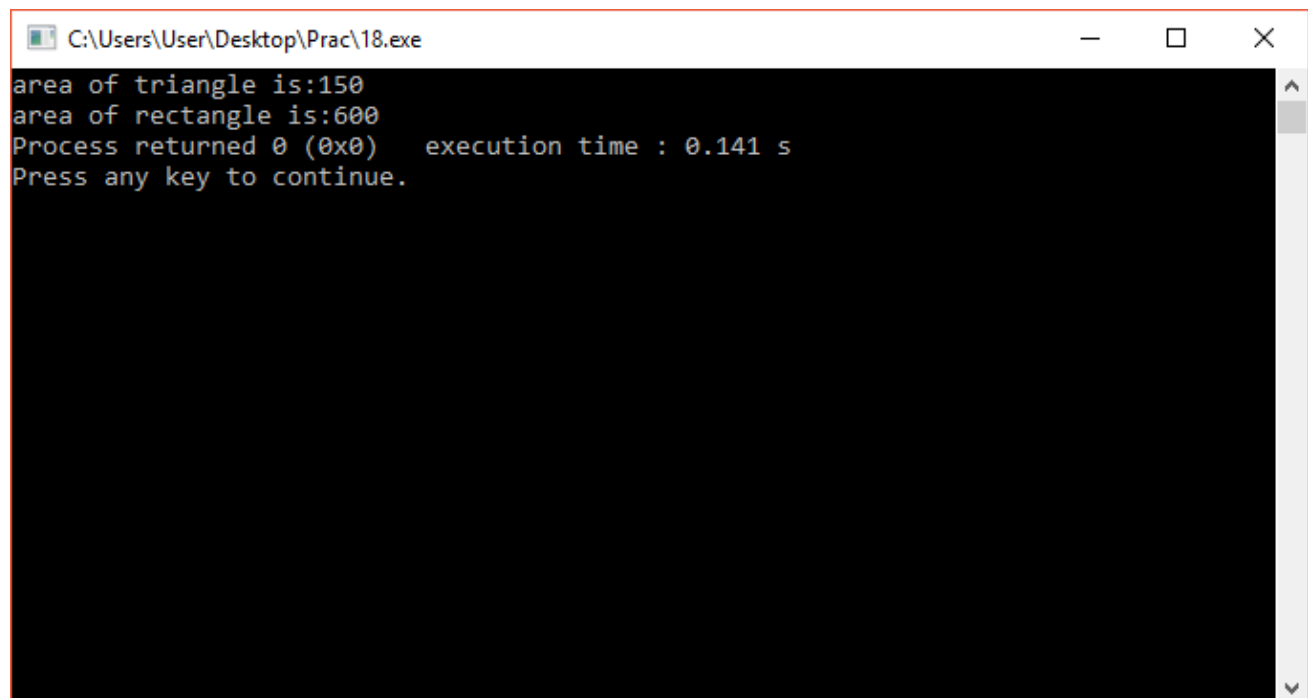
class shape
{
protected:
    double x, y;
public:
    void getdata(double a, double b)
    {
        x=a;
        y=b;
    }
    virtual void display_area()=0;
};

class triangle:public shape
{
    double triangle_area; void display_area()
    {
        triangle_area=(1*x*y)/2;
        cout<<"area of triangle is:"<<triangle_area<<endl;
    }
};
```

```
class rectangle:public shape
{
    double rectangle_area; void display_area()
    {
        rectangle_area=x*y;
        cout<<"area of rectangle is:"<<rectangle_area;
    }
};

int main()
{
    shape *p; triangle t; rectangle r; p=&t;
    p->getdata(10,30);
    p->display_area();
    p=&r;
    p->getdata(20,30);
    p->display_area();
    return 0;
}
```

### Output 18



```
C:\Users\User\Desktop\Prac\18.exe
area of triangle is:150
area of rectangle is:600
Process returned 0 (0x0)   execution time : 0.141 s
Press any key to continue.
```