

OOP Assignment 5

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***PROBLEM STATEMENT: Geometrical Shapes Area calculator**

Define the base class Shape with two data members of any numeric type that are employed to compute the area of respective shape. Add member functions to input the data members values and display the area in base class only. Derive two classes from base class namely, Triangle & Rectangle. Take the display function as virtual in base class and redefine it in the derived classes. Using above classes , write a program to accept parameters for triangle or rectangle and display the area Using Virtual Functions.*

Program

```
#include<iostream>
using namespace std;

class Shape{
    public:
        long long num1;
        long long num2;
    void get_info(){
        cout<<"Enter base and height: ";
        cin>>num1;

        cout<<"Enter lenght and breadth: ";
        cin>>num2;
    }
    virtual void display_area () = 0;
};

class Triangle: public Shape{
```

```

        void display_area(){
            cout<<"Area is : "<<(num1*num2)/2<<endl;
        }
};

class Rectangle:public Shape{
    void display_area(){
        cout<<"Area is : "<<num1*num2;
    }
};

int main(){
    Triangle t;
    Rectangle r;

    Shape *st=&t;

    cout<<"Enter heigth and base of triangle \n";
    st->get_info();
    st->display_area();

    Shape *sr=&r;
    cout<<"\nEnter length and breadth of Rectangle\n";
    sr->get_info();
    sr->display_area();
    return 0;
}

```

Output :-

```

Enter heigth and base of triangle
Enter base and height: 15
Enter lenght and breadth: 16
Area is : 120

```

```

Enter length and breadth of Rectangle
Enter base and height: 19
Enter lenght and breadth: 25
Area is : 475

```