**ASSIGNMENT NO-3**

**Problemstatement:**

Implement c++ program to create a base class called shape . Use this class to store two double type values that could be used to compute the area of figures.Derive two specific classes called functionget\_data() to initialize base

Class data members and another member function display\_area() to compute and display area of figures. Make classes to suit their requirements.Using these three classes , design a program that will accept dimmesion of a triangle or a rectangle interactively and display the area. Remember the two treated as lengths of two sides in the case of rectangle and as base and height in the case of triangles and used as follows:

Area of rectangle=x\*y;

Area of triangle=1/2\*X\*Y;

**Aim of Assignment:**

To understand concept of inheritance.

**Description:**

In that problem statement , there is used concept of inheritance .here shape is base class and rectangle , triangle are two classes are derived class . Using that classes , calculate area of rectangle as well as area of triangle.

**OOP concept used :**

Inheritance ,switch case.

**Program:**

#include<iostream>

using namespace std;

class Shape //base class

{

public:

double a,b;

void get\_data () //Accepting Values

{

cin>>a>>b;

}

virtual void display\_area () = 0;

};

class Triangle:public Shape // calculating & Displaying area

{

public:

void display\_area ()

{

cout<<"Area of ▲ "<<0.5\*a\*b<<endl;

}

};

class Rectangle:public Shape // calculating & Displaying area

{

public:

void display\_area ()

{

cout<<"Area of ━ "<<a\*b<<endl;

}

};

int main()

{

Triangle t;

Shape \*st = &t;

cout<<"Enter base and height of ▲ : ";

st->get\_data();

st->display\_area();

Rectangle r;

Shape \*sr = &r;

cout<<"Enter length and breadth of ━: ";

sr->get\_data();

sr->display\_area();

return 0;

}

**Output:-**