**ASSIGNMENT NO-3**

**Problem statement:**

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 function get\_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

{

public: double a,b;

void get\_data ()

{

cin>>a>>b;

}

virtual void display\_area () = 0;

};

class Triangle:public Shape

{

public: void display\_area ()

{

cout<<"Area of triangle "<<0.5\*a\*b<<endl;

}

};

class Rectangle:public Shape

{

public: void display\_area ()

{

cout<<"Area of rectangle "<<a\*b<<endl;

}

};

int main()

{

Triangle t;

Shape \*st = &t;

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

st->get\_data();

st->display\_area();

Rectangle r;

Shape \*sr = &r;

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

sr->get\_data();

sr->display\_area();

return 0;

}

**Output:-**

