

**Aim:**

Lab Assignment No 3: Implement C++/Java/Python 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 the area of figures. Make classes to suit their requirements. Using these three classes, design a program that will accept dimension of a triangle or a rectangle interactively, and display the area. Remember the two values given as input will be treated as lengths of two sides in the case of rectangles, and as base and height in the case of triangles, and used as follows:

Area of rectangle=  $x*y$  Area of triangle =  $1/2*x*y$

**Oop Concepts Used:****1) Function Overloading:**

Function overloading is a feature in C++ where two or more functions can have the same name but different parameters.

Function overloading can be considered as an example of polymorphism feature in C++.

**Function Overloading and Ambiguity**

When the compiler is unable to decide which function is to be invoked among the overloaded function, this situation is known as **function overloading**.

When the compiler shows the ambiguity error, the compiler does not run the program.

**Example:**

```
int overloaded() { }
int overloaded (int g){ }
int overloaded (float g){ }
int overloaded (int g, double s){ }
int overloaded (float s, int g, double k){ }
```

## Output:

```
Activities  Terminal  Fri 4:35 PM  akshay@akshay-HP-Pavilion-Laptop-15-cc1xx: /media/akshay/Study/VIII_Study/Vlit/OOP
File Edit View Search Terminal Help
akshay@akshay-HP-Pavilion-Laptop-15-cc1xx:/media/akshay/Study/VIII_Study/Vlit/OOP$ g++ Ass3_21930090.cpp
akshay@akshay-HP-Pavilion-Laptop-15-cc1xx:/media/akshay/Study/VIII_Study/Vlit/OOP$ ./a.out
bash: ./a.out: No such file or directory
akshay@akshay-HP-Pavilion-Laptop-15-cc1xx:/media/akshay/Study/VIII_Study/Vlit/OOP$ ./a.out
bash: ./a.out: No such file or directory
akshay@akshay-HP-Pavilion-Laptop-15-cc1xx:/media/akshay/Study/VIII_Study/Vlit/OOP$ ./a.out
1.Area of Rectangle
2.Area of Triangle
1
Enter Breadth and Length of Rectangle
5.6
7.9
-----
Area of Rectangle is:44.24
-----
Enter 1 to continue...
1
1.Area of Rectangle
2.Area of Triangle
2
Enter Base and Height of Triangle:
4.7
8.6
-----
Area of Triangle is: 60.63
-----
Enter 1 to continue...
>
```