

## Experiment No. 3

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### Problem Statement

Write Java program to calculate area of triangle, square & circle using function overloading. Function parameter accept from user (Use function Overloading concepts and Inheritance).

### Code:

```
import java.util.Scanner;
class Shape
{
    protected int radius,base,height,side;
    void setArea(float radius)
    {
        double circle = Math.PI*radius*radius;
        System.out.println("Area of Circle= "+circle);
    }
    void setArea(int side)
    {
        int square = side*side;
        System.out.println("Area of Square= "+square);
    }
    void setArea(int base,int height)
    {
        double triangle = (base*height)/2;
        System.out.println("Area of Triangle= "+triangle);
    }
}
class Circle extends Shape
{
    void getInput()
    {
        System.out.println("Enter the radius: ");
        Scanner sc = new Scanner(System.in);
```

```

        float radius = sc.nextInt();
        setArea(radius);
    }
}
class Triangle extends Shape
{
    void getInput()
    {
        System.out.println("Enter the base: ");
        Scanner sc = new Scanner(System.in);
        int base = sc.nextInt();
        System.out.println("Enter the height: ");
        int height = sc.nextInt();
        setArea(base,height);
    }

}
class Square extends Shape
{
    void getInput()
    {
        System.out.println("Enter the side: ");
        Scanner sc = new Scanner(System.in);
        int side = sc.nextInt();
        setArea(side);
    }
}
class Tester
{
    public static void main(String[]args)
    {
        Circle c = new Circle();
        c.getInput();
        Triangle t = new Triangle();
        t.getInput();
        Square s = new Square();
        s.getInput();
    }
}

```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.318]
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D:\SY B.Tech\Java programs>javac Tester.java

D:\SY B.Tech\Java programs>java Tester
Enter the radius:
4
Area of Circle= 50.26548245743669
Enter the base:
2
Enter the height:
4
Area of Triangle= 4.0
Enter the side:
5
Area of Square= 25

D:\SY B.Tech\Java programs>_
```