

LAB 4 - program

```
import java.util.Scanner;
```

```
abstract class shape {
```

```
    double a;
```

```
    double b;
```

```
    shape (double a, double b)
```

```
    {
```

```
        this.a = a;
```

```
        this.b = b;
```

```
    }
```

```
    abstract double area();
```

```
}
```

```
class Rectangle extends shape
```

```
{
```

```
    Rectangle (double a, double b)
```

```
    {
```

```
        super (a, b);
```

```
    }
```

```
    double area ()
```

```
    {
```

```
        System.out.println("Area of Rectangle-");
```

```
        return a*b;
```

```
    }
```

```
}
```

```
class Triangle extends Shape
```

```
{
```

```
    Triangle (double a, double b)
```

```
    {
```

```
        super (a, b);
```

```
    }
```

```
    double area()
```

```
    {
```

```
        SOP ("Area of Triangle");
```

```
        return (a * b) / 2;
```

```
    }
```

```
}
```

```
class Circle extends Shape {
```

```
    final double pi = 3.14;
```

```
    Circle (double a, double b) {
```

```
        super (a, b);
```

```
    double area()
```

```
    {
```

```
        SOP ("Area of Circle");
```

```
        return pi * Math.pow (a, 2);
```

```
    }
```

```
}
```



```
class ShapeMain
```

```
{
```

```
public static void main (String args[])
```

```
{
```

```
Scanner s = new Scanner (System.in);
```

```
SOP ("Enter length & breadth of  
rectangle");
```

```
double l = s.next Double();
```

```
double b = s.next Double();
```

```
Rectangle rec = new Rectangle (l, b);
```

```
SOP ("Enter height and base of  
triangle");
```

```
double h = s.next Double();
```

```
double ba = s.next Double();
```

```
Triangle tri = new Triangle (h, ba);
```

```
SOP ("Enter radius of circle");
```

```
double r = s.next Double();
```

```
Circle c = new Circle (r, 2 * r);
```

```
Shape sh;
```

```
sh = rec;
```

SOP (sh.area());

sh = ri;

SOP (sh.area());

sh = c;

SOP (sh.area());

}

}