

## Week 8 lab 4

```
import java.util.*;  
abstract class Shape
```

```
{
```

```
    double a, b;
```

```
    abstract void printArea();
```

```
}
```

```
class Triangle extends Shape
```

```
{
```

```
    Triangle (Double x, Double y)
```

```
{
```

```
    a = x;
```

```
    b = y;
```

```
}
```

```
    void printArea();
```

```
{
```

```
    double area;
```

```
    area = 0.5 * a * b;
```

```
    System.out.println("Area of triangle: " + area);
```

```
}
```

```
}
```

```
class Circle extends Shape
```

```
{
```

```
    Circle (Double r)
```

```
{
```

```
    a = r;
```

```
}
```

```
    void printArea()
```

```
{
```

```
    double area;
```

```
    area = 3.14 * a * a;
```

```
    System.out.println("Area of Circle: " + area);
```

```
}
```

```
}
```

```
class Rectangle extends Shape
```

```
{
```

```
    Rectangle (Double x, Double y)
```

```
{
```

```
    a = x;
```

```
    b = y;
```

```
}
```

```
    void printArea()
```

```
{
```

```
    double area;
```

```
    area = a * b;
```

```
    System.out.println("Area of Rectangle:" + area);
```

```
}
```

```
}
```

```
class ShapeMain
```

```
{
```

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

```
{
```

```
        double l, h, b, br, r1;
```

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

```
        System.out.println("Enter base & height of triangle");
```

```
        b = sc.nextDouble();
```

```
        h = sc.nextDouble();
```

```
        Triangle t = new Triangle (b, h)
```

```
        t.printArea();
```

```
        System.out.println("Enter length & breadth of  
rectangle");
```

```
        l = sc.nextDouble();
```

```
        br = sc.nextDouble();
```

```
        Rectangle r = new Rectangle (l, br);
```

```
        r.printArea();
```

```
        System.out.println("Enter radius of circle");
```

```
        r1 = sc.nextDouble();
```

```
        Circle c = new Circle (r1);
```

```
        c.printArea();
```

```
}
```