

Lab 4:String to string method:

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

```
abstract class Shape {
```

```
    int dim1;
```

```
    int dim2;
```

```
    public Shape() {
```

```
        this.dim1 = 0;
```

```
        this.dim2 = 0;
```

```
    }
```

```
    public Shape(int dim1, int dim2) {
```

```
        this.dim1 = dim1;
```

```
        this.dim2 = dim2;
```

```
    }
```

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

```
}
```

```
class Rectangle extends Shape {
```

```
    public Rectangle(int length, int width) {
```

```
        dim1 = length;
```

```
        dim2 = width;
```

```
    }
```

```
    public void printArea() {
```

```
        int area = dim1 * dim2;

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

    }
}
```

```
class Triangle extends Shape {

    public Triangle(int base, int height) {

        dim1 = base;

        dim2 = height;

    }

    public void printArea() {

        double area = 0.5 * dim1 * dim2;

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

    }

}
```

```
class Circle extends Shape {

    public Circle(int radius) {

        dim1 = radius;

        dim2 = 0;

    }

    public void printArea() {

        double area = Math.PI * dim1 * dim1;

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

    }

}
```

```
}  
}
```

```
public class shapes {
```

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

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

```
        System.out.println("Enter length and width for Rectangle:");
```

```
        int length = in.nextInt();
```

```
        int width = in.nextInt();
```

```
        Shape rectangle = new Rectangle(length, width);
```

```
        rectangle.printArea();
```

```
        System.out.println("Enter base and height for Triangle:");
```

```
        int base = in.nextInt();
```

```
        int height = in.nextInt();
```

```
        Shape triangle = new Triangle(base, height);
```

```
        triangle.printArea();
```

```
        System.out.println("Enter radius for Circle:");
```

```
        int radius = in.nextInt();
```

```
        Shape circle = new Circle(radius);
```

```
        circle.printArea();
```

```
        in.close();
```

```
        System.out.println("enter your name:AARUSHA GP");
```

```
        System.out.println("enter your usn:1BM23CS005");
```

```
}  
}
```

Output:

```
C:\Users\Admin\Desktop>javac shapes.java  
  
C:\Users\Admin\Desktop>java shapes  
Enter length and width for Rectangle:  
20  
40  
Area of Rectangle: 800  
Enter base and height for Triangle:  
30  
60  
Area of Triangle: 900.0  
Enter radius for Circle:  
30  
Area of Circle: 2827.4333882308138  
enter your name:AARUSHA GP  
enter your usn:1BM23CS005
```