

LAB-PROGRAM (4) - Shape

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

```
class InputScanner
```

```
{
```

```
    protected Scanner s;
```

```
    public InputScanner()
```

```
{
```

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

```
}
```

```
    public int getInput(String message)
```

```
{
```

```
        System.out.println(message);
```

```
        return s.nextInt();
```

```
}
```

```
}
```

```
abstract class Shape extends InputScanner
```

```
{
```

```
    protected int a, b;
```

```
    public Shape()
```

```
{
```

```
        super();
```

```
}
```

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

```
}
```

```
class Rectangle extends Shape
```

```
{
```

```
    protected int a, b;
```

```
    public Rectangle()
```

```
{
```

```
        super();
```

```
}
```

```
    public void printArea()
```

```
{
```

```
        a = getInput("Enter the length:");
```

```
        b = getInput("Enter the breadth:");
```

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

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

```
}
```



```
class Triangle extends Shape {
```

```
    protected int a, b;
```

```
    public Triangle() {
```

```
        super();
```

```
    }
```

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

```
        a = getInput("Enter the side 1:");
```

```
        b = getInput("Enter the side 2:");
```

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

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

```
    }
```

```
}
```

```
class Circle extends Shape {
```

```
    protected int a;
```

```
    public Circle() {
```

```
        super();
```

```
    }
```

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

```
        a = getInput("Enter the radius:");
```

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

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

```
    }
```

```
}
```

```
public class MainShape {
```

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

```
        Rectangle r = new Rectangle();
```

```
        Triangle t = new Triangle();
```

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



```
r = printArea();  
t. printArea();  
c. printArea();  
}  
}
```

Output: (S Gaganan nayak IBM22CS227)

Enter the length:

2

Enter the breadth:

4

Area of the Rectangle: 8

Enter the side 1:

2

Enter the side 2:


2

Area of the Triangle: 2.0

Enter the radius:

5

Area of the Circle: 78.5


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