

Lab Program 4

```
import java.util.Scanner;

abstract class Shape {

    protected int dim1;

    protected int dim2;

    public abstract void printArea();

}

class Rectangle extends Shape {

    public Rectangle(int length, int width) {

        this.dim1 = length;

        this.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) {

        this.dim1 = base;

        this.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) {  
    this.dim1 = radius;  
}  
public void printArea() {  
    double area = Math.PI * dim1 * dim1;  
    System.out.printf("Area of Circle: %.2f\n", area);  
}  
}  
public class ShapeDemo {  
    public static void main(String[] args) {  
        Scanner sc= new Scanner(System.in);  
        System.out.println("Enter length and width of rectangle: ");  
        int l = sc.nextInt();  
        int w = sc.nextInt();  
        Shape rect = new Rectangle(l, w);  
        System.out.println("Enter base and height of triangle:");  
        int b=sc.nextInt();  
        int h=sc.nextInt();  
        Shape tri= new Triangle(b,h);  
        System.out.println("Enter radius of circle:");  
        int r=sc.nextInt();  
        Shape circ=new Circle(r);  
        rect.printArea();  
        tri.printArea();  
        circ.printArea();  
    }  
}
```

The screenshot shows a terminal window within a code editor interface. The terminal tab is selected at the top. The command line shows the user navigating to a directory, compiling a Java file, and running the resulting class. The output displays the areas calculated for a rectangle, triangle, and circle based on user input.

```
PS C:\Users\Saanvi\OneDrive\Desktop\oops_1BF424CS260> javac ShapeDemo.java
PS C:\Users\Saanvi\OneDrive\Desktop\oops_1BF424CS260> java ShapeDemo
Enter length and width of rectangle:
4 5
Enter base and height of triangle:
8 9
Enter radius of circle:
3
Area of Rectangle: 20
Area of Triangle: 36.0
Area of Circle: 28.27
PS C:\Users\Saanvi\OneDrive\Desktop\oops_1BF424CS260>
```

The right side of the interface features a "SUGGESTED ACTIONS" panel with options like "Build Workspace" and "Show Config". Below it is a "Describe what to build next" input field and some agent settings.