```
import java.util.Scanner;

abstract class Shape {
    int dimension1;
    int dimension2;
    abstract void printArea();
}
class Rectangle extends Shape {
 public Rectangle(int length, int width) {
        this.dimension1 = length;
        this.dimension2 = width;
    }
    void printArea() {
    int area = dimension1 * dimension2;
    System.out.println("Rectangle Area: " + area);
    }
}
class Triangle extends Shape {
 public Triangle(int base, int height) {
        this.dimension1 = base;
        this.dimension2 = height;
    }
    void printArea() {
        double area = 0.5 * dimension1 * dimension2;
        System.out.println("Triangle Area: " + area);
    }
}
class Circle extends Shape {
    private final double pi = 3.14159;
    public Circle(int radius) {
    this.dimension1 = radius;
    this.dimension2 = 0;
    }
    void printArea() {
    double area = pi * dimension1 * dimension1;
    System.out.println("Circle Area: " + area);
    }
}
```

```
public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter length of rectangle: ");
        int length = scanner.nextInt();
        System.out.print("Enter width of rectangle: ");
        int width = scanner.nextInt();
        Rectangle rectangle = new Rectangle(length, width);
        rectangle.printArea();

        System.out.print("Enter base of triangle: ");
        int base = scanner.nextInt();
        System.out.print("Enter height of triangle: ");
        int height = scanner.nextInt();
        Triangle triangle = new Triangle(base, height);
        triangle.printArea();

        System.out.print("Enter radius of circle: ");
        int radius = scanner.nextInt();
        Circle circle = new Circle(radius);
        circle.printArea();

        scanner.close();
    }
}
```

```
Microsoft Windows [Version 10.0.19045.3570]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ADMIN>D:

D:\>cd Srushti.BMS

D:\Srushti.BMS>javac main.java

D:\Srushti.BMS>java Main
Enter length of rectangle: 3
Enter width of rectangle: 2
Rectangle Area: 6
Enter base of triangle: 6
Enter height of triangle: 5
Triangle Area: 15.0
Enter radius of circle: 2
Circle Area: 12.56636

D:\Srushti.BMS>s
```

24/10/24

Lab program-4

```
import java.util.Scanner;

abstract class Shape{
    int dimension1;
    int dimension2;

    abstract void printArea();
}
class Rectangle extends Shape {
    public Rectangle(int length, int width){
        this.dimension1 = length;
        this.dimension2 = width;
    }
    @Override
    void printArea(){
        int area = dimension1 * dimension2;
        System.out.println("Rectangle Area : "+area);
    }
}
class Triangle extends Shape{
    public Triangle(int base, int height) {
        this.dimension1 = base;
        this.dimension2 = height;
    }
    @Override
    void printArea(){
        double area = 0.5 * dimension1 * dimension2;
        System.out.println("Traiangle Area :" + area);
    }
}
```

```
class Circle extends Shape{
    private final double pi = 3.14159;
    public Circle(int radius){
        this.dimension1 = radius;
        this.dimension2 = 0;
    }
    @Override
    void printArea(){
        double Area = pi * dimension1 * dimension1;
        System.out.println("Circle Area :"+area);
    }
}
Public class Main{
    public static void main(String[]args)
    Scanner scanner = new Scanner(System.in);

    System.out.print("Enter length of rectangle:");
    int length = scanner.nextInt();
    System.out.print("Enter width of rectangle:");
    int width = scanner.nextInt();
    Rectangle rectangle = new Rectangle(length, width);
    rectangle.printArea();

    System.out.print("Enter base of triangle:");
    int base = scanner.nextInt();
    System.out.println("Enter height of triangle:");
    int height = scanner.nextInt();
    Triangle triangle = new Triangle(base, height);
    triangle.printArea();

    System.out.print("Enter radius of circle:");
    int radius = scanner.nextInt();
    Circle circle = new Circle(radius);
```

```
        Circle.printArea();
        Scanner.close();
    }
}
```

Olp:

```
Enter length of rectangle : 3
Enter width of rectangle: 2
Rectangle Area: 6
Enter base of triangle: 4
Enter height of triangle : 5
Triangle Area : 10.0
Enter radius of Circle : 2
Circle Area : 12.56636
```