Lab programme 4

```
import java.util.Scanner;
abstract class Shape {
    int dimension1;
    int dimension2;
    public Shape(int dim1, int dim2) {
        this.dimension1 = dim1;
        this.dimension2 = dim2;
    }
    abstract void printArea();
}
class Rectangle extends Shape {
    public Rectangle(int length, int width) {
        super(length, width);
    }
    @Override
    void printArea() {
        int area = dimension1 * dimension2;
        System.out.println("Rectangle Area: " + area);
    }
}
class Triangle extends Shape {
    public Triangle(int base, int height) {
        super(base, height);
    }
    @Override
    void printArea() {
        double area = 0.5 * dimension1 * dimension2;
        System.out.println("Triangle Area: " + area);
    }
}
class Circle extends Shape {
    public Circle(int radius) {
        super(radius, 0);
```

Lab programme 4

```
}
    @Override
    void printArea() {
        double area = Math.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.println("Choose a shape to calculate area:");
        System.out.println("1. Rectangle");
        System.out.println("2. Triangle");
        System.out.println("3. Circle");
        int choice = scanner.nextInt();
        switch (choice) {
            case 1:
                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();
                break;
            case 2:
                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();
                break;
            case 3:
                System.out.print("Enter radius of Circle: ");
                int radius = scanner.nextInt();
                Circle circle = new Circle(radius);
                circle.printArea();
                break;
```

Lab programme 4 2

OUTPUT

Choose a shape to calculate area:

- 1. Rectangle
- 2. Triangle
- 3. Circle

1

Enter length of Rectangle: 10 Enter width of Rectangle: 20

Rectangle Area: 200

Choose a shape to calculate area:

- 1. Rectangle
- 2. Triangle
- 3. Circle

2

Enter base of Triangle: 10 Enter height of Triangle: 15

Triangle Area: 75.0

Choose a shape to calculate area:

- 1. Rectangle
- 2. Triangle
- 3. Circle

3

Enter radius of Circle: 7

Circle Area: 153.93804002589985 Choose a shape to calculate area:

- 1. Rectangle
- 2. Triangle

Lab programme 4

3. Circle

4

Invalid choice. Please choose 1, 2, or 3.

Lab programme 4

	LAB PROGRAMME-4
	Develop Java Programme to create an abstract
	class named shape contains two integers and
	empty method Provide 3 classes extend shape
	impost java util Scapner ?
	abstract class Shape &
	Scanner sc = new Scanner (System.in);
	double dim1;
	double dim2; Promiting him
	abstract void print Area ();
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	3 Chalden Transcon to the
illen	System out printed (Bases & J. C. 2) 2) 1 1 1 1 1
	Class Rectangle extends Shape
	4
	void print Area ()
	System. out. println ("Enter the length & breadth");
	dim 1 = sc. next Double ();
	dim 2 = sc. next Double ()
1	System . out println ("Area is : + (dim 1 * dim 2));
	3 (01.00 mg?) 400 mg - 22 monos?
	3 (mark distance of the
	class Triangle extends Shape
- A	& revoided print Area (c) a way and I all noting
44.1	& System. out. println ("Enter base and height");
1 1	dim 1 = sc. next Double ();
11.5	dim2= sc, next Double();
- E-1	

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	on other method Provide & classes every alange
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-	Class Circle extends Shape
	E mile aldunk
	void print Area ()
	of Charmoning how 4 as today
	System . out . point ln (" Enter radius:);
	dim 1 = sc. next Double ();
	System. out. println("Area: +(22/7)*dim1 * dim1);
	Class Rollingill areast shape &
	2
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1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	d il vidio Tirva a - I mile
	Public static void main (String [] args) of
Martica de	System out print en ("Enter your choice");
	Scanner Sc - new Scanner (System.in);
-	l1: while (true)
-	System. out. Print In ("Choose lone of the
	aption in 1. Rectangle in 2. Triangle 10 2 Contains
1 2 40 6 - 2	exit the programme).
	int chaice = scanext Int ();
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	break;	2105171
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	break "	0110
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/	d. print Assa.()	
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	choose your option	0	111
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	3. circle	Yd	
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	enter length and breadth of rectangle	,	1
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	Area is 15006.0		
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	choose one of the option is said		
		caro de	
	1. Rectangle	A	
	2. Triangle in 3" I abstrag the motion		
	3 Circle	-1 - * _ / /	
	4. exit		
	Area for circle: 14652.0	7. 7	11.7
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	choose one of the option	1	
			44
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