

02/01/24

Lab program-4

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Exe

- Q) Develop a Java program to create an abstract class named Shape that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method printArea() that prints the area of the given shape.

import java.util.Scanner;

```
class InputScanner {  
    public static Scanner scanner = new  
        Scanner (System.in);
```

```
    public static int getTextInput (String  
        message) {
```

```
        System.out.println (message);  
        return scanner.nextInt();
```

}

```
}  
  
abstract class Shape extends InputScanner {  
    int side1;  
    int side2;
```

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

}

class Rectangle extends Shape {

 printArea() {

 Side1 = getTextInput("Enter length of
 the rectangle:");

 Side2 = getTextInput("Enter width of
 the rectangle:");

 int area = Side1 * Side2;

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

}

class Triangle extends Shape {

 printArea() {

 Side1 = getTextInput("Enter the
 base of the triangle:");

 Side2 = getTextInput("Enter the
 height of the triangle:");

 double area = 0.5 * Side1 * Side2;

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

}

class Circle extends Shape {

 printArea() {

 Side1 = getTextInput("Enter radius
 of the circle:");

double area = Math.PI * side1 * side2;
System.out.println("Area of the
circle : " + area);

public class Area {
 public static void main(String[] args) {

Rectangle rectangle = new Rectangle();
 Triangle triangle = new Triangle();
 Circle circle = new Circle();

rectangle.printArea();
 System.out.println();

triangle.printArea();

System.out.println();

circle.printArea();

Output:

Enter length of the rectangle: 22

Enter width of the rectangle: 22

Area of the rectangle: 484

Enter the base of the triangle: 22

Enter the height of the triangle: 22

Area of the triangle: 2442.0

~~Culer the radius of the circle 822~~

~~Area of the circle: 0.1520.5308443374597~~

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