Lab-04 KA 2-1-24 Date 02/01/24
Page

Develop a java program to create an abstract class named shape that contains two integer & an empty method named printArea(). Provide 3 classes named Rectangle, Triangle, circle such that each one of the classes extends the class shape. Each one of classes contain only the method printArea() that prints the area of given shape

→
```
import java.util.Scanner;
class inputScanner {
  Scanner s;
  inputScanner() {
    s = new Scanner(System.in); }
  }

abstract class Shape extends inputScanner {
    double a;
    double b;
abstract void getInput();
abstract void displayArea();
};

class Rectangle extends Shape {
   void getInput() {
     System.out.println("Enter the dimensions of
          rectangle (length, breadth)");
     a = s.nextDouble();
     b = s.nextDouble();
   }
   void displayArea() {
     System.out.println("Area of Rectangle: "+(a*b));
} }
```

Date __/__/__
Page ____

```
class Triangle extends Shape {
    void getInput() {
        System.out.println("Enter dimension of
            Triangle (length, breadth)");
        a = s.nextDouble();
        b = s.nextDouble();
    }
    void displayArea() {
        System.out.println("Area of Triangle: " +
                (a*b*0.5));
    }
}
class Circle extends Shape {
    void getInput() {
        System.out.println("Enter dimension of Circle
                (radius)");
        a = s.nextDouble();
    }
    void displayArea() {
        System.out.println("Area of circle: " + (3.14*a
                *a));
    }
}

class Main {
    public static void main(String[], args) {
        Rectangle rectangle = new Triangle();
        Triangle triangle = new Circle();
        Circle circle = new Circle();
        rectangle.getInput();
        rectangle.displayArea();
        triangle.getInput();
        triangle.displayArea();
```

Date __/__/____
Page _____

```
        Circle.getInput();
        Circle.displayArea();
    }
}
```

Output

```
Enter the dimension of the rectangle (length & breadth):
2,3
Enter the dimension of the triangle (base & height):
2,4
Enter the dimension of the circle (radius):
3
Area of Rectangle : 6.0
Area of Triangle : 4.0
Area of Circle : 28.25499
```