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LAB 4: develop a Java Program to create an abstract class named Shape that contains two integers and an empty method ~~is~~ 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 {  
    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.print("Enter length & width of rec: ");  
        a = s.nextDouble();  
        b = s.nextDouble();  
    }  
    void displayArea() {  
        System.out.println("Area of Rec: " + (a * b));  
    }  
}
```

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```

class Triangle extends Shape() {
    void getInput() {
        System.out.print("Enter base & height of tri:");
        a = s.nextDouble();
        b = s.nextDouble();
    }
    void displayArea() {
        System.out.println("Area of tri: 4 (0.5 * a * b)");
    }
}

```

```

class Circle extends Shape() {
    void getInput() {
        System.out.print("Enter radius of circle:");
        a = s.nextDouble();
    }
    void displayArea() {
        System.out.println("Area of Circle: " +
            (Math.PI * a * a));
    }
}

```

```

public class Main {
    public static void main(String[] args) {
        Rectangle rectangle = new Rectangle();
        Triangle triangle = new Triangle();
        Circle circle = new Circle();
    }
}

```

```

        rectangle.getInput();
        rectangle.displayArea();
        triangle.getInput();
        triangle.displayArea();
        circle.getInput();
        circle.displayArea();
    }
}

```


O/P

Enter length and width of rectangle : 10 20

Area of Rectangle : 200

Enter base and height of triangle : 10 30

Area of Triangle : 150

Enter radius of circle : 15

Area of Circle : 706.8583

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