

LAB 4

→ Develop a java program to create an abstract class named shape that contains 2 integers and an empty method named printArea(). Provide 3 classes named Rectangle, Triangle and Circle such that each one of the classes contain only the method printArea() that prints the area of the ~~figer~~ given shape.

⇒
import java.util.Scanner;
abstract class Shape {
 double d1, d2;
 Shape (double d1, double d2) {
 this.d1 = ~~this~~.d1;
 this.d2 = d2;
 }
}

```
abstract double printarea();
```

```
}
```

```
class Rectangle extends Shape {
```

```
Rectangle(double a, double b) {
```

```
super(a, b);
```

```
}
```

```
double printarea() {
```

```
System.out.println("Area of rectangle is: ");
```

```
return d1 * d2;
```

```
}
```

```
}
```

```
class Triangle extends Shape {
```

```
Triangle(double a, double b) {
```

```
super(a, b);
```

```
}
```

```
double printarea() {
```

```
System.out.println("Area of the triangle is: ");
```

```
return d1 * d2 / 2;
```

```
}
```

```
}
```

```
class Circle extends Shape {
```

```
Circle(double a) {
```

```
super(a, 1);
```

```
}
```

```
double printarea() {
```

```
lop("Area of circle is: ");
```

```
return 3.14 * d1 * d1;
```

```
}
```

```
}
```

```
class areas {
```

```
public static void main (String args[]) {  
double d1, d2;
```

Ex. 3x0373

```
Scanner s = new Scanner(System.in);  
System.out.println("Enter dims of rectangle:");  
d1 = s.nextInt();  
d2 = s.nextInt();  
Rectangle r = new Rectangle(d1, d2);  
sop("Area is: " + r.printarea());  
sop("Triangle dimensions: ");  
d1 = s.nextInt();  
d2 = s.nextInt();  
Triangle t = new Triangle(d1, d2);  
sop("Area is " + t.printarea());  
sop("dim of circle");  
d1 = s.nextInt();  
Circle c = new Circle(d1);  
System.out.println("Area is: " + c.printarea());  
}  
}
```

Output

Enter the dimensions of rectangle: 11 22

Area of rectangle is

Area is: 242.0

Enter the dimensions of triangle: 3 4

Area of triangle is

Area is 6.0

~~Area~~ Enter dimensions of circle:

3

Area of circle is

Area is 28.259999998

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