

Q) Develop a Java program to create an abstract class named Shape that contains 2 integers & 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 the classes contain only the method print Area() that prints area of the given Shape.

```
import java.util.Scanner;  
class InputScanner {  
    Scanner s;  
    Input Scanner()  
    {  
        s = new Scanner(System.in);  
    }  
}  
abstract class Shape extends InputScanner {  
    double a;  
    double b;  
    abstract void printArea();  
    abstract void getInput();  
}
```

```
class Triangle extends Shape {  
    void getInput() {  
        System.out.println("Enter Dimensions of the  
triangle: ");  
        a = s.nextDouble();  
        b = s.nextDouble();  
    }  
    void printArea() {  
        System.out.println("Area = Enter the  
dimensions of the triangle: ");  
        a = s.nextDouble();  
        b = s.nextDouble();  
    }  
}
```

```
{(1) steps point) now by state side  
class Rectangle extends Shape {  
    void getInput() {  
        System.out.println("Enter the  
Dimensions of the rectangle: ");  
        a = s.nextDouble();  
        b = s.nextDouble();  
    }  
    void printArea() {  
        System.out.println("Area of Rectangle  
= " + (double)(a*b));  
    }  
}
```

```
class Circle extends Shape {  
    void getInput() {  
        System.out.println("Enter the Dimension  
        of the circle : ");  
        a = s.nextDouble();  
    }
```

```
Void printArea() {
```

```
    System.out.println("Area of Circle = "+  
        (double)(3.14 * a * a));
```

```
class AreaMain{
```

```
    public static void main (String args []) {
```

```
        Triangle t = new Triangle();
```

```
        Circle c = new Circle();
```

```
        Rectangle r = new Rectangle();
```

```
        t.getInput();
```

```
        r.getInput();
```

```
        c.getInput();
```

```
        t.printArea();
```

```
        r.printArea();
```

```
        c.printArea();
```

```
}
```

OUTPUT

Enter the dimensions of the rectangle:

2  
3

Enter the dimensions of the triangle:

2  
4

Enter the dimensions of the circle:

3

Area of Rectangle = 6.0

Area of Triangle = 4.0

Area of Circle = 28.2599

Wab  
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