

2/1/2024

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Develop a Java program to create an abstract class name 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.*;
class InputScanner {
    Scanner s;

    public InputScanner()
    {
        s = new Scanner(System.in);
    }

    public double getDoubleInput(String message)
    {
        System.out.println(message);
        return s.nextDouble();
    }

    public void closeScanner()
    {
        s.close();
    }
}

abstract class Shape extends InputScanner
{
    double dim1;
    double dim2;

    Shape()
    {
        super();
    }
}
```



```
}  
    public abstract void printArea();  
}  
  
class Rectangle extends Shape  
{  
    public Rectangle()  
    {  
        super();  
    }  
  
    public void printArea()  
    {  
        dim1 = getDoubleInput("enter length of rectangle");  
        dim2 = getDoubleInput("enter breadth of rectangle");  
        double area = dim1 * dim2;  
        System.out.println("area of rectangle: " + area);  
    }  
}  
  
class Triangle extends Shape  
{  
    public Triangle()  
    {  
        super();  
    }  
  
    public void printArea()  
    {  
        dim1 = getDoubleInput("enter base of triangle");  
        dim2 = getDoubleInput("enter height of triangle");  
        double area = 0.5 * dim1 * dim2;  
        System.out.println("area of triangle: " + area);  
    }  
}  
  
class Circle extends Shape
```



```

public Circle()
{
    super();
}

public void printArea()
{
    dim = getDoubleInput("enter radius of circle");
    double area = Math.PI * dim * dim;
    System.out.println("area of circle: " + area);
}

public class AreaDemo
{
    public static void main (String[] args)
    {
        Rectangle r = new Rectangle();
        Triangle t = new Triangle();
        Circle c = new Circle();
        r.printArea();
        t.printArea();
        c.printArea();
        r.closeScanner();
    }
}

```

Output :-

enter length of rectangle : 4

enter breadth of rectangle : 5

area of rectangle : 20.0

enter base of triangle : 2

enter height of triangle : 3

area of triangle : 3.0

enter radius of circle : 3

area of circle : 28.274333882308138