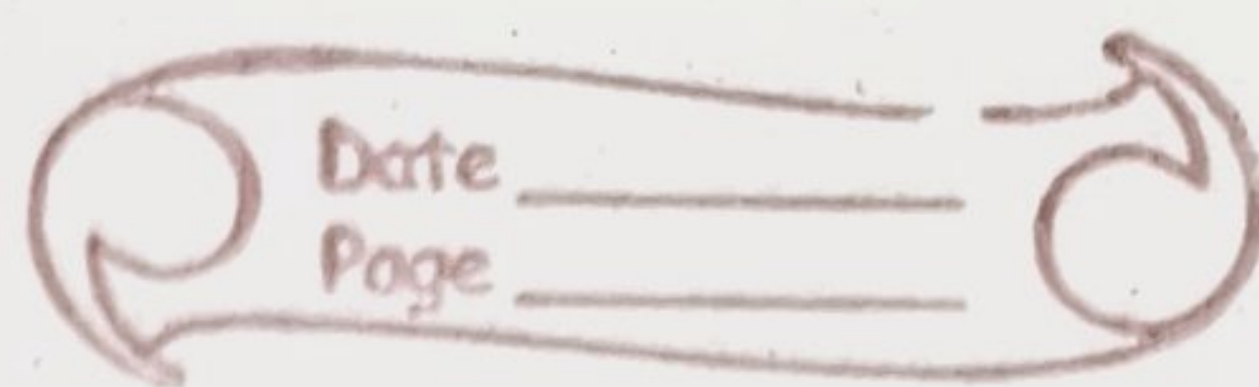


2/1/24



Qn: 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 printArea() that prints the area of the given shape.

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

```
abstract class Shape extends InputScanner {  
    double a, b;  
    abstract void getInput();  
    abstract void displayarea();  
}
```

```
class Rectangle extends Shape {  
    void getInput()  
    {
```

```
        InputScanner sc = new InputScanner();  
        System.out.println("Enter the dimensions of  
        Rectangle: ");  
        a = sc.nextDouble();  
        b = sc.nextDouble();  
    }
```



```
void displayarea() {  
    System.out.println("Area of Rectangle is : " +  
        (a * b));  
}
```

```
class Triangle extends Shape {
```

```
    void getinput() {
```

```
        InputScanner sc = new InputScanner();
```

```
        a = sc.s.nextDouble();
```

```
        b = sc.s.nextDouble();
```

```
    }
```

```
    void displayarea() {
```

```
        System.out.println("area of Triangle is : " +  
            (0.5 * a * b));
```

```
    }
```

```
}
```

```
class Circle extends Shape {
```

```
    void getinput() {
```

```
        InputScanner sc = new InputScanner();
```

```
        System.out.println("Enter the Radius of circle");
```

```
        a = sc.s.nextDouble();
```

```
    }
```



```
void displayarea()
```

```
{
    double pi = 3.14;
```

```
    System.out.println("Area of circle : " + (pi * r * r));
}
```

```
}
```

```
public class AreaMain
```

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

```
{
    Rectangle r = new Rectangle();
    r.getInput();
    r.displayarea();
```

```
    Triangle t = new Triangle();
    t.getInput();
    t.displayarea();
```

```
    Circle c = new Circle();
    c.getInput();
    c.displayarea();
```

```
    System.out.println("NAME: Shivaraj. K. Pyari");
    System.out.println("USN: 1BM22CS259");
```

```
}
```

```
}
```


Output:-

Enter the dimensions of rectangle

2

3

Area of Rectangle : 6.0

Enter the dimensions of Triangle

4

5

Area of Triangle : 20.0

Enter the ~~the~~ Radius of circle

4

Area of circle : 50.24

NAME : Shivaraj K. Pujari

USN : IBM 2205 259

2/1/2024