

9/12/11

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- ⑦ Develop a Java program to create an abstract class named Shape that contains 2 integers & an empty method 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.*;

abstract class Shape {
    public int x, y;
    public abstract void printArea();
}

class Rectangle extends Shape {
    public void printArea() {
        float area;
        area = x * y;
        System.out.println("Area of Rectangle is " + area);
    }
}

class Triangle extends Shape {
    public void printArea() {
        float area;
        area = (x * y) * 0.5;
        System.out.println("Area of Triangle is " + area);
    }
}

class Circle extends Shape {
    public void printArea() {
        float area;
        area = (3.14 * x * x);
        System.out.println("Area of Circle is " + area);
    }
}

```



```
class Main {  
    public static void main (String [] args) {  
        int choice;  
        Scanner sc = new Scanner (System.in);  
        System.out.println("Menu in 1- Area of Rectangle in  
        2- Area of Triangle in 3- Area of circle");  
        System.out.println("Enter your choice:");  
        choice = sc.nextInt();  
        switch (choice) {  
            case 1: System.out.println("Enter length & breadth:");  
                    Rectangle r = new Rectangle();  
                    r.x = sc.nextInt();  
                    r.y = sc.nextInt();  
                    r.printArea();  
                    break;  
            case 2: System.out.println("Enter breadth & height:");  
                    Triangle t = new Triangle();  
                    t.x = sc.nextInt();  
                    t.y = sc.nextInt();  
                    t.printArea();  
                    break;  
            case 3: System.out.println("Enter radius:");  
                    Circle c = new Circle();  
                    c.x = sc.nextInt();  
                    c.printArea();  
                    break;  
            default: System.out.println("Enter correct choice");  
                    }  
        }  
    }
```


C:\Program Files\Java\jdk1.8.0_231\bin>javac shape.java

C:\Program Files\Java\jdk1.8.0_231\bin>java Main

Menu

- 1.Area of Rectangle
- 2.Area of Traingle
- 3.Area of Circle

Enter your choice : 1

Enter length and breadth for area of rectangle :

1 2

Area of Rectangle is 2.0

C:\Program Files\Java\jdk1.8.0_231\bin>java Main

Menu

- 1.Area of Rectangle
- 2.Area of Traingle
- 3.Area of Circle

Enter your choice : 2

Enter bredth and height for area of traingle :

2 4

Area of Triangle is 4.0

C:\Program Files\Java\jdk1.8.0_231\bin>3

'3' is not recognized as an internal or external command,
operable program or batch file.

C:\Program Files\Java\jdk1.8.0_231\bin>java Main

Menu

- 1.Area of Rectangle
- 2.Area of Traingle
- 3.Area of Circle

Enter your choice : 3

Enter radius for area of circle :

4

Area of Circle is 50.285713

C:\Program Files\Java\jdk1.8.0_231\bin>_