

# Rajalakshmi Engineering College

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 6\_Q1

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### **Section 1 : Coding**

##### **1. Problem Statement**

Elsa subscribes to a premium service with a base monthly cost, a service tax and an extra feature cost. Assist her in writing an inheritance program that takes input for these values and calculates the total monthly cost.

Refer to the below class diagram:

##### ***Input Format***

The first line of input consists of a double value, representing the base monthly cost.

The second line consists of a double value, representing the service tax.

The third line consists of a double value, representing the extra feature cost.

### ***Output Format***

The output prints "Rs. X" where X is a double value, rounded off to two decimal places.

Refer to the sample output for formatting specifications.

### ***Sample Test Case***

Input: 10.0

2.5

5.0

Output: Rs. 17.50

### ***Answer***

```
import java.util.Scanner;

class Subscription {
    protected double baseMonthlyCost;

    public Subscription(double baseMonthlyCost) {
        this.baseMonthlyCost = baseMonthlyCost;
    }

    public double calculateMonthlyCost() {
        return baseMonthlyCost;
    }
}

// Derived class
class PremiumSubscription extends Subscription {
    private double serviceTax;
    private double extraFeatureCost;

    public PremiumSubscription(double baseMonthlyCost, double serviceTax,
double extraFeatureCost) {
        super(baseMonthlyCost);
        this.serviceTax = serviceTax;
        this.extraFeatureCost = extraFeatureCost;
    }
}
```

```
@Override  
public double calculateMonthlyCost() {  
    return baseMonthlyCost + serviceTax + extraFeatureCost;  
}  
}  
  
public class Main {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
  
        double baseMonthlyCost = scanner.nextDouble();  
        double serviceTax = scanner.nextDouble();  
        double extraFeatureCost = scanner.nextDouble();  
  
        PremiumSubscription premiumSubscription = new  
        PremiumSubscription(baseMonthlyCost, serviceTax, extraFeatureCost);  
  
        double totalMonthlyCost = premiumSubscription.calculateMonthlyCost();  
  
        System.out.printf("Rs. %.2f%n", totalMonthlyCost);  
  
        scanner.close();  
    }  
}
```

**Status :** Correct

**Marks :** 10/10