

# Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - IT

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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 {  
    double baseCost;  
  
    Subscription(double baseCost) {  
        this.baseCost = baseCost;  
    }  
}
```

```
// Derived class for service tax  
class Service extends Subscription {  
    double serviceTax;
```

```
    Service(double baseCost, double serviceTax) {  
        super(baseCost);  
        this.serviceTax = serviceTax;  
    }  
}
```

```
// Derived class for premium service including extra feature cost  
class PremiumSubscription extends Service {  
    double extraFeatureCost;
```

```
    PremiumSubscription(double baseCost, double serviceTax, double
```

```
extraFeatureCost) {
    super(baseCost, serviceTax);
    this.extraFeatureCost = extraFeatureCost;
}

double calculateMonthlyCost() {
    return baseCost + 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