

Rajalakshmi Engineering College

Name: SK PRATHOSH

Email: 241801211@rajalakshmi.edu.in

Roll no: 241801211

Phone: 7695899138

Branch: REC

Department: AI & DS - Section 3

Batch: 2028

Degree: B.E - AI & DS

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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;
```

```
// You are using Java
```

```
import java.util.Scanner;
```

```
class Subscription {
```

```
    double baseMonthlyCost;
```

```
    Subscription(double baseMonthlyCost) {
```

```
        this.baseMonthlyCost = baseMonthlyCost;
```

```
    }
```

```
    double getBaseMonthlyCost() {
```

```
        return baseMonthlyCost;
```

```
    }
```

```
}
```

```
class PremiumService extends Subscription {
```

```
    double serviceTax;
```

```
    PremiumService(double baseMonthlyCost, double serviceTax) {
```

```
        super(baseMonthlyCost);
```

```
        this.serviceTax = serviceTax;
```

```
    }
```

```
    double getServiceTax() {
```

```
        return serviceTax;
```

```

    }
}

class PremiumSubscription extends PremiumService {
    double extraFeatureCost;

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

    double getExtraFeatureCost() {
        return extraFeatureCost;
    }

    double calculateMonthlyCost() {
        return getBaseMonthlyCost() + getServiceTax() + getExtraFeatureCost();
    }
}

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