Rajalakshmi Engineering College

Name: Siddharth KP
Email: 241501203@rajalakshmi.edu.in
Roll no: 2116241501203
Phone: 9944675311
Branch: REC
Department: AI & ML - Section 1
Batch: 2028
Degree: B.E - AI & ML

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

```java
import java.util.Scanner;

import java.util.Scanner;

// Base class
class Subscription {
    protected double baseMonthlyCost;

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

// Intermediate class
class Service extends Subscription {
    protected double serviceTax;

    public Service(double baseMonthlyCost, double serviceTax) {
        super(baseMonthlyCost);
        this.serviceTax = serviceTax;
    }
}

// Derived class
class PremiumSubscription extends Service {
    private double extraFeatureCost;
```

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

    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*