Rajalakshmi Engineering College

Name: Brindha B
Email: 241501035@rajalakshmi.edu.in
Roll no: 241501035
Phone: 6369668750
Branch: REC
Department: AI & ML - Section 3
Batch: 2028
Degree: B.E - AI & ML

2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 6_Q2

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Alice is managing an online store and wants to implement a program using inheritance to calculate the selling price of products after applying discounts.

Guide her by following the instructions:

Create a base class called Product with a public double attribute price.Create a subclass called DiscountedProduct, which extends Product and includes a private double attribute discount rate. This subclass has a method called calculateSellingPrice() to determine the final selling price after applying the discount.

Formula: Discounted selling price = price * (1 - discount rate)

Input Format

The first line of input consists of a double value p, the initial price of the product.

The second line consists of a double value d, the discount rate.

Output Format

The output prints "Rs. X", where X is a double value, representing the calculated discounted selling price, rounded off to two decimal places.

If the discount rate is greater than 1, print "Not applicable".

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 50.00
0.20
Output: Rs. 40.00

Answer

```java
import java.util.Scanner;

class Product {
    public double price;
    public Product(double price) {
        this.price = price;
    }
}
class DiscountedProduct extends Product {
    private double discountRate;
    public DiscountedProduct(double price, double discountRate) {
        super(price);
        this.discountRate = discountRate;
    }
    public double calculateSellingPrice() {
        if (discountRate > 1) {
            return -1;
        }
        return price * (1 - discountRate);
    }
}
```

```java
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        double p = sc.nextDouble();
        double d = sc.nextDouble();
        DiscountedProduct dp = new DiscountedProduct(p, d);
        double result = dp.calculateSellingPrice();
        if (result == -1) {
            System.out.println("Not applicable");
        } else {
            System.out.printf("Rs. %.2f", result);
        }
    }
}
class ProductPricing {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        double initialPrice = scanner.nextDouble();
        double discountRate = scanner.nextDouble();
        DiscountedProduct discountedProduct = new
DiscountedProduct(initialPrice, discountRate);
        double sellingPrice = discountedProduct.calculateSellingPrice();

        if (sellingPrice >= 0) {
            System.out.printf("Rs. %.2f%n", sellingPrice);
        } else {
            System.out.println("Not applicable");
        }
        scanner.close();
    }
}
```

Status : Correct   *Marks : 10/10*