Rajalakshmi Engineering College

Name: RAGHAVAN M.K
Email: 240701408@rajalakshmi.edu.in
Roll no: 240701408
Phone: 7397247776
Branch: REC
Department: CSE - Section 3
Batch: 2028
Degree: B.E - CSE

Scan to verify results

2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 7_Q3

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

A financial analyst, Alex, needs a program to calculate simple interest for various financial transactions. He requires a straightforward tool that takes in the principal amount, interest rate, and time in years and computes the interest.

The formula to be used is: Interest = Principal × Rate × Time / 100

Implement this functionality using the InterestCalculator interface and the SimpleInterestCalculator class.

Input Format

The first line of input consists of the principal amount P as a double value.

The second line of input consists of the annual interest rate r as a double value.

The third line of input consists of the number of years t as a positive integer, which is an integer value.

Output Format

The output displays the calculated simple interest in the following format: "Simple Interest: [interest_value]", Here, [interest_value] should be replaced with the actual interest value calculated by the program.

Refer to the sample output for the formatting specifications.

Sample Test Case

Input: 1000.00
5.00
2
Output: Simple Interest: 100.0

Answer

```
import java.util.Scanner;

// You are using Java
import java.util.*;
interface InterestCalculator{
    double simpleInterest(double Pricipal_Amt, double interest, int numYears);
}
class SimpleInterestCalculator implements InterestCalculator{
    private double Pricipal_Amt;
    private double interest;
    private int numYears;

    @Override
    public double simpleInterest(double Pricipal_Amt, double interest, int
numYears){
        this.Pricipal_Amt = Pricipal_Amt;
        this.interest = interest;
        this.numYears = numYears;
        double simple_Interest = Pricipal_Amt * interest * numYears/100;
        return simple_Interest;
```

```
    }
}
class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        double principal = scanner.nextDouble();

        double rate = scanner.nextDouble();

        int time = scanner.nextInt();

        InterestCalculator calculator = new SimpleInterestCalculator();

        double interest = calculator.simpleInterest(principal, rate, time);

        System.out.println("Simple Interest: " + interest);

    }
}
```

Status : Correct ***Marks : 10/10***