

Rajalakshmi Engineering College

Name: HARSHAN M

Email: 241801089@rajalakshmi.edu.in

Roll no:

Phone: 9994423223

Branch: REC

Department: AI & DS - Section 1

Batch: 2028

Degree: B.E - AI & DS

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 7_Q3

Attempt : 1

Total Mark : 10

Marks Obtained : 0

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
interface InterestCalculator
{
    double SimpleInterest(double principal,double rate,int time);
}

class SimpleInterestCalculator implements InterestCalculator
{
    public double SimpleInterest(double principal,double rate,int time)
    {
        return (principal * rate * time )/ 100;
    }
}

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 : Wrong

Marks : 0/10