Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	REC_2028_OOPS using Java_Week 7_MCQ
Course	2024_28_III_OOPS Using Java Lab

IP Address 2409:... Tab Switches -- OS Used Windows Browser Used Ch...

Test Duration 00:... Test Start Time N... Test Submit Time N

Summary Sections Filters

1 MCQ (15)

Question No: 1

Multi Choice Type Question

Which of the following statements is true regarding default methods in Java interfaces?

- A default method must be implemented in all classes that implement the interface.
- A default method can be overridden in a class implementing the interface.
- Default methods must be declared as final.
- Default methods cannot have a body in the interface.

Status **Correct** | Mark obtained **1/1** | Hints used **0** | Level **Easy**

Question type **MCQ Single Correct** | Subject **Programming**

Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	2028_REC_OOPS using Java_Week 7_Q1
Course	2024_28_III_OOPS Using Java Lab

IP Address 115.24... Tab Switches -- OS Used Windows Browser Used Fir...

Test Duration 00:... Test Start Time O... Test Submit Time N Resume Count 2

Summary Sections Filters

1 Coding (1)

Question No: 1

Single File Programming Question

Problem Statement:

Rajiv is analyzing the energy consumption in his household and wants to calculate the total cost based on the daily energy usage. He is given the rate per unit of electricity and the energy consumed for multiple days. To structure this calculation efficiently, he decides to use an interface-based approach.

Implement an interface **CostCalculator** with the necessary methods to retrieve energy details and compute the cost. The calculations should be handled in the **EnergyConsumptionTracker** class, while the **EnergyConsumptionApp** class should only handle input and output.

Formula

Energy Cost for one day = Energy Consumed per day * Rate Per Unit

Input format :

The first line of input consists of the rate per unit as an 'R' (a double value).

Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	2028_REC_OOPS using Java_Week 7_Q2
Course	2024_28_III_OOPS Using Java Lab

IP Address 2409:... Tab Switches -- OS Used Windows Browser Used Ch...

Test Duration 00:... Test Start Time N... Test Submit Time N

Summary Sections Filters

1 Coding (1)

Question No: 1

Single File Programming Question

Problem Statement

Jaheer is working on a health monitoring system to help individuals calculate their Body Mass Index (BMI). He has implemented a basic BMI calculator and an interface called **HealthCalculator.** It should have a method called **calculateBMI.**

You are tasked with creating a program that takes weight and height as input, calculates the BMI using the **BMICalculator** class, and displays the result. If the height or weight is less than or equal to zero, then return -1.

Formula: BMI = weight / (height * height)

Input format :

The first line of input consists of a double value **W,** the person's weight in kilograms.

The second line consists of a double value **H,** the height of the person in meters.

Output format :

Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	2028_REC_OOPS using Java_Week 7_Q3
Course	2024_28_III_OOPS Using Java Lab

IP Address 2409:... Tab Switches -- OS Used Windows Browser Used Ch...

Test Duration 00:... Test Start Time N... Test Submit Time N

Summary Sections Filters

1 Coding (1)

Question No: 1

Single File Programming Question

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 :

Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	2028_REC_OOPS using Java_Week 7_Q4
Course	2024_28_III_OOPS Using Java Lab

IP Address 2409:... Tab Switches -- OS Used Windows Browser Used Ch...

Test Duration 00:... Test Start Time N... Test Submit Time N

Summary Sections Filters

1 Coding (1)

Question No: 1

Single File Programming Question

Problem Statement

Maria, a software developer, is working on an inventory management system project using Java that utilizes an **inventory** interface to manage a store's products.

The interface should define two methods: **addProduct**, which adds a product by accepting its name, price, and quantity, and **calculateTotalValue**, which computes the total value of all products in the inventory. Implement the interface in a class called **SimpleInventory**, which internally manages a list of **Product** objects.

Each **Product** object should encapsulate the product's name, price, and quantity and include a method to calculate its value as **price × quantity**. The system should allow users to dynamically add products to the inventory and calculate the total value of all products stored.

Help Maria achieve the task.

Input format :

Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	2028_REC_OOPS using Java_Week 7_Q5
Course	2024_28_III_OOPS Using Java Lab

IP Address 2409:... Tab Switches -- OS Used Windows Browser Used Ch...

Test Duration 00:... Test Start Time N... Test Submit Time N

Summary Sections Filters

1 Coding (1)

Question No: 1

Single File Programming Question

Problem Statement

Raj is curious about how old he is in the current year.

He has asked you to create a simple program that calculates a person's age based on their birth year. You decide to implement this functionality using the **AgeCalculator** interface and the **HumanAgeCalculator** class.

Note: The current year is 2024. Calculate the current age by using the formula: current year - birth year.

Input format :

The input consists of an integer representing the birth year.

Output format :

The output displays "**You are X years old.**" where X is an integer representing the calculated age based on the entered birth year

Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	REC_2028_OOPS using Java_Week 7_PAH
Course	2024_28_III_OOPS Using Java Lab

IP Address 2409:... Tab Switches -- OS Used Windows Browser Used Ch...

Test Duration 00:... Test Start Time N... Test Submit Time N

Summary Sections Filters

1 Coding (4)

Question No: 1

Single File Programming Question

Problem Statement

Oviya is fascinated by automorphic numbers and wants to create a program to determine whether a given number is an automorphic number or not.

An automorphic number is a number whose square ends with the same digits as the number itself. For example, **25** = $(25)^2$ = 6**25**

Oviya has defined two interfaces: **NumberInput** for taking user input and **AutomorphicChecke**r for checking if a given number is automorphic. The class **AutomorphicNumber** implements both interfaces.

Help her complete the task.

Input format :

The input consists of a single integer **n**.

Output format :

Result & Analysis

Attempt 1 of 01

Student	raghu nandhan
Email id	241001183@rajalakshmi.edu.in
Test	REC_2028_OOPS using Java_Week 7_CY
Course	2024_28_III_OOPS Using Java Lab

IP Address 115.24... Tab Switches -- OS Used Windows Browser Used Fir...

Test Duration 00:1... Test Start Time O... Test Submit Time N Resume Count 1

Summary Sections Filters

1 Coding (4)

Question No: 1

Single File Programming Question

Problem Statement:

Rathish is planning a road trip and needs a program to convert speeds between miles per hour (MPH) and kilometers per hour (KPH).

Create an interface, **SpeedConverter,** with a method convertSpeed(double mph). Implement the interface with **MPHtoKPHConverter** class, allowing Rathish to input MPH and receive the converted speed in KPH, rounded to two decimal points.

Formula: Speed in KPH = 1.60934 * Speed in MPH.

Input format :

The input consists of a single double-point number representing the speed in miles per hour (MPH).

Output format :

The output displays the converted speed (double-point number) in kilometers per hour (KPH) rounded off to two decimal points in the following format: