Rajalakshmi Engineering College

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 5_Q5

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Ram is working as a developer for BrightEdu Coaching Center, which wants to build a student fee management system.

Each student's enrollment has:

An Enrollment ID (integer)A Student Name (string)The Number of Subjects (integer)

The fee calculation rules are:

Registration Fee = 1000 units (flat for every student).Per Subject Fee = 800 units.If the student enrolls in more than 5 subjects, a 20% scholarship (discount) is applied on the total fee.

Ram has been asked to implement this system using:

A class with attributes for student details.A constructor to initialize student details.Setter methods to update details if needed.Getter methods to retrieve details.Objects of the class to represent student enrollments.

Finally, display each student's details and final fee.

Input Format

The first line of input contains an integer N, representing the number of students.

For each student:

- The next line contains the Enrollment ID (integer).
- The following line contains the student's name (string).
- The next line contains the Number of subjects (integer).

Output Format

For each student, print the details in the following format:

- Enrollment ID: <enrollment_id>
- Student Name: <student_name>
- Final Fee: <final_fee> (rounded to one decimal place)

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 1
1234
Ravi Kumar
3
Output: Enrollment ID: 1234
Student Name: Ravi Kumar
Final Fee: 3400.0

Answer

```
// You are using Java
import java.util.Scanner;

class FeeManagementSystem {
```

```
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int N = Integer.parseInt(scanner.nextLine());

        for(int i = 0; i < N; i++) {
            int enrollmentId = Integer.parseInt(scanner.nextLine());
            String studentName = scanner.nextLine();
            int numSubjects = Integer.parseInt(scanner.nextLine());

            StudentEnrollment enrollment = new StudentEnrollment(enrollmentId,
studentName, numSubjects);
            double finalFee = enrollment.calculateFee();

            System.out.println("Enrollment ID: " + enrollment.getEnrollmentId());
            System.out.println("Student Name: " + enrollment.getStudentName());
            System.out.printf("Final Fee: %.1f%n", finalFee);
        }
        scanner.close();
    }
}

class StudentEnrollment {
    private int enrollmentId;
    private String studentName;
    private int numSubjects;

    public StudentEnrollment(int id, String name, int subjects) {
        this.enrollmentId = id;
        this.studentName = name;
        this.numSubjects = subjects;
    }

    public double calculateFee() {
        double registrationFee = 1000.0;
        double perSubjectFee = 800.0;
        double totalFee = registrationFee + (numSubjects * perSubjectFee);

        if(numSubjects > 5) {
            totalFee *= 0.80; // Apply 20% discount
        }

        return totalFee;
```

```
    }

    // Getters
    public int getEnrollmentId() { return enrollmentId; }
    public String getStudentName() { return studentName; }
    public int getNumSubjects() { return numSubjects; }

    // Setters
    public void setEnrollmentId(int id) { enrollmentId = id; }
    public void setStudentName(String name) { studentName = name; }
    public void setNumSubjects(int subjects) { numSubjects = subjects; }
}
```

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