**Module 1 - Design Patterns and Principles**

**Exercise 10: Implementing the MVC Pattern**

**Aim:**

To develope a simple web application for managing student records using the MVC pattern.

**Code:**

class Student {

    private String name;

    private String id;

    private String grade;

    public Student(String name, String id, String grade) {

        this.name = name;

        this.id = id;

        this.grade = grade;

    }

    public String getName() { return name; }

    public String getId() { return id; }

    public String getGrade() { return grade; }

    public void setName(String name) { this.name = name; }

    public void setGrade(String grade) { this.grade = grade; }

}

class StudentView {

    public void displayStudentDetails(String name, String id, String grade) {

        System.out.println("Student Details:");

        System.out.println("Name: " + name);

        System.out.println("ID: " + id);

        System.out.println("Grade: " + grade);

    }

}

class StudentController {

    private Student student;

    private StudentView view;

    public StudentController(Student student, StudentView view) {

        this.student = student;

        this.view = view;

    }

    public void updateView() {

        view.displayStudentDetails(student.getName(), student.getId(), student.getGrade());

    }

    public void setStudentName(String name) {

        student.setName(name);

    }

    public void setStudentGrade(String grade) {

        student.setGrade(grade);

    }

}

public class MVCPatternExample {

    public static void main(String[] args) {

        Student student = new Student("Arun", "SCT2025", "A");

        StudentView view = new StudentView();

        StudentController controller = new StudentController(student, view);

        controller.updateView();

        controller.setStudentName("Kiran");

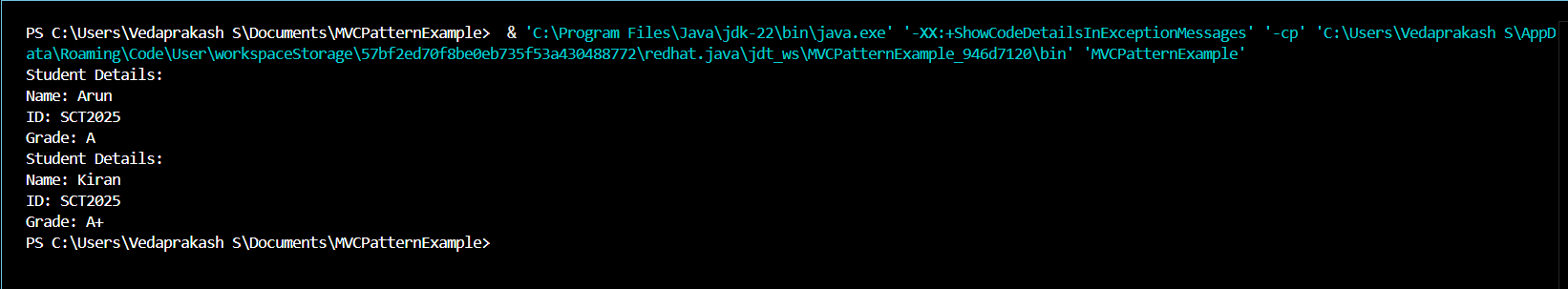
        controller.setStudentGrade("A+");

        controller.updateView();

    }

}

**Output:**

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