**MVCPattern Example**

**Main.java**

package com.mvc;

public class Main {

    public static void main(String[] args) {

        // Model: Create student data

        Student student = new Student("S101", "Alice", "A");

        // View: Create view object

        StudentView view = new StudentView();

        // Controller: Bind model and view

        StudentController controller = new StudentController(student, view);

        // Display initial student details

        controller.updateView();

        System.out.println("\n--- Updating student info ---");

        controller.setStudentName("Alicia");

        controller.setStudentGrade("A+");

        // Display updated student details

        controller.updateView();

    }

**Student.java**

package com.mvc;

public class Student {

    private String id;

    private String name;

    private String grade;

    // Constructor

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

        this.id = id;

        this.name = name;

        this.grade = grade;

    }

    // Getters and setters

    public String getId() {

        return id;

    }

    public void setId(String id) {

        this.id = id;

    }

    public String getName() {

        return name;

    }

    public void setName(String name) {

        this.name = name;

    }

    public String getGrade() {

        return grade;

    }

    public void setGrade(String grade) {

        this.grade = grade;

    }

}

**StudentController.java**

package com.mvc;

public class StudentController {

    private Student model;

    private StudentView view;

    public StudentController(Student model, StudentView view) {

        this.model = model;

        this.view = view;

    }

    // Setters to update model

    public void setStudentName(String name) {

        model.setName(name);

    }

    public void setStudentGrade(String grade) {

        model.setGrade(grade);

    }

    public void setStudentId(String id) {

        model.setId(id);

    }

    // Getters

    public String getStudentName() {

        return model.getName();

    }

    public String getStudentId() {

        return model.getId();

    }

    public String getStudentGrade() {

        return model.getGrade();

    }

    // Update the view

    public void updateView() {

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

    }

}

**StudentView.java**

package com.mvc;

public class StudentView {

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

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

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

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

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

    }

}

