**Exercise 10: MVC Pattern – *Student Record Management***

**Step 1: Model – Student.java**

public class Student {

private String name;

private String id;

private String grade;

// Constructor

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

this.name = name;

this.id = id;

this.grade = grade;

}

// Getters and Setters

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public String getId() {

return id;

}

public void setId(String id) {

this.id = id;

}

public String getGrade() {

return grade;

}

public void setGrade(String grade) {

this.grade = grade;

}

}

**Step 2: View – StudentView.java**

public class StudentView {

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

System.out.println("\n--- Student Details ---");

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

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

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

}

}

**Step 3: Controller – StudentController.java**

public class StudentController {

private Student student;

private StudentView view;

public StudentController(Student student, StudentView view) {

this.student = student;

this.view = view;

}

// Controller functions

public void setStudentName(String name) {

student.setName(name);

}

public void setStudentId(String id) {

student.setId(id);

}

public void setStudentGrade(String grade) {

student.setGrade(grade);

}

public void updateView() {

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

}

}

**Step 4: Main Class – TestMVC.java**

public class TestMVC {

public static void main(String[] args) {

// Create Model

Student student = new Student("Anushka", "S123", "A");

// Create View

StudentView view = new StudentView();

// Create Controller

StudentController controller = new StudentController(student, view);

// Display initial details

controller.updateView();

// Update student details

controller.setStudentGrade("A+");

controller.setStudentName("Anushka Gone");

// Display updated details

controller.updateView();

}

}

**OUTPUT:**

A computer screen with white text

AI-generated content may be incorrect.