**Exercise 10: Implementing the MVC Pattern**

**Code:**

**Student.java**

public 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 setId(String id) { this.id = id; }

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

}

**StudentView.java**

public 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);

}

}

**StudentController.java**

public class StudentController {

private Student model;

private StudentView view;

public StudentController(Student model, StudentView view) {

this.model = model;

this.view = view;

}

public void setStudentName(String name) {

model.setName(name);

}

public void setStudentId(String id) {

model.setId(id);

}

public void setStudentGrade(String grade) {

model.setGrade(grade);

}

public String getStudentName() {

return model.getName();

}

public String getStudentId() {

return model.getId();

}

public String getStudentGrade() {

return model.getGrade();

}

public void updateView() {

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

}

}

**MVCPatternExample.java**

public class MVCPatternExample {

public static void main(String[] args) {

Student student = new Student("John", "X456", "A");

StudentView view = new StudentView();

StudentController controller = new StudentController(student, view);

controller.updateView();

controller.setStudentName("Alice");

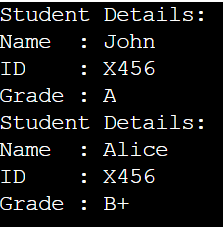
controller.setStudentGrade("B+");

controller.updateView();

}

}

**Output:**

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