**EXERCISE – 10**

**MVC PATTERN EXAMPLE**

// MVCPatternExample.java  
  
class Student {  
 private String id;  
 private String name;  
 private String grade;  
  
 public Student(String id, String name, String grade) {  
 this.id = id;  
 this.name = name;  
 this.grade = grade;  
 }  
  
 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;  
 }  
}  
  
class StudentView {  
 public void displayStudentDetails(String studentName, String studentId, String studentGrade) {  
 System.*out*.println("Student Details: ");  
 System.*out*.println("Name: " + studentName);  
 System.*out*.println("ID: " + studentId);  
 System.*out*.println("Grade: " + studentGrade);  
 }  
}  
  
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 String getStudentName() {  
 return model.getName();  
 }  
  
 public void setStudentId(String id) {  
 model.setId(id);  
 }  
  
 public String getStudentId() {  
 return model.getId();  
 }  
  
 public void setStudentGrade(String grade) {  
 model.setGrade(grade);  
 }  
  
 public String getStudentGrade() {  
 return model.getGrade();  
 }  
  
 public void updateView() {  
 view.displayStudentDetails(model.getName(), model.getId(), model.getGrade());  
 }  
}  
  
public class MVCPatternExample {  
 public static void main(String[] args) {  
 // Create a Student  
 Student student = new Student("1", "John Doe", "A");  
  
 StudentView view = new StudentView();  
  
 StudentController controller = new StudentController(student, view);  
 controller.updateView();  
 controller.setStudentName("Jane Doe");  
 controller.setStudentGrade("A+");  
  
 // Display updated student details  
 controller.updateView();

}

}