Exercise 10: Student Record System using MVC Pattern

Approach and Understanding:

In this task, I am building a **student record system** using the **MVC Pattern**.

* The **Model** is the **Student**. It stores student details like **name, id, and grade**.
* The **View** is the **StudentView**. It shows the student’s details to the user.
* The **Controller** is the **StudentController**. It helps update student details and asks the view to display them.

**Code**

import java.util.Scanner; class Stu {

private String n;

private String i; private String g;

Stu(String n, String i, String g) { this.n = n;

this.i = i; this.g = g;

}

String getN() { return n; } String getI() { return i; } String getG() { return g; }

void setN(String n) { this.n = n; } void setG(String g) { this.g = g; }

}

class Show {

void see(String n, String i, String g) { System.out.println("\nStudent:"); System.out.println("Name: " + n); System.out.println("ID: " + i); System.out.println("Grade: " + g);

}

}

class Ctrl { Stu s; Show sh;

Ctrl(Stu s, Show sh) { this.s = s;

this.sh = sh;

}

void chN(String n) { s.setN(n); } void chG(String g) { s.setG(g); }

void showS() { sh.see(s.getN(), s.getI(), s.getG()); }

}

public class StuApp {

public static void main(String[] a) { Scanner sc = new Scanner(System.in); Stu s = new Stu("Meena", "S001", "A"); Show sh = new Show();

Ctrl c = new Ctrl(s, sh);

System.out.println("Welcome! You can type: view / update / stop"); while (true) {

System.out.print("\nYour choice: "); String t = sc.nextLine().trim();

if (t.equalsIgnoreCase("stop")) { break;

} else if (t.equalsIgnoreCase("view")) { c.showS();

} else if (t.equalsIgnoreCase("update")) { System.out.print("New name: "); String nn = sc.nextLine();

System.out.print("New grade: "); String ng = sc.nextLine();

c.chN(nn);

c.chG(ng);

System.out.println("Update complete!");

} else {

System.out.println("Please type 'view', 'update', or 'stop'.");

}

}

sc.close();

System.out.println("Goodbye! Thanks for using.");

}

}

**OUTPUT:**

