package CIE;

public class Student {

protected String usn;

protected String name;

protected int sem;

public Student(String usn, String name, int sem) {

this.usn = usn;

this.name = name;

this.sem = sem;

}

// Getters

public String getUsn() {

return usn;

}

public String getName() {

return name;

}

public int getSem() {

return sem;

}

}

package CIE;

public class Internals extends Student {

private int[] internalMarks;

public Internals(String usn, String name, int sem, int[] internalMarks) {

super(usn, name, sem);

this.internalMarks = internalMarks;

}

public int[] getInternalMarks() {

return internalMarks;

}

}

package SEE;

import CIE.Student;

public class External extends Student {

private int[] externalMarks;

public External(String usn, String name, int sem, int[] externalMarks) {

super(usn, name, sem);

this.externalMarks = externalMarks;

}

public int[] getExternalMarks() {

return externalMarks;

}

}

import CIE.Internals;

import SEE.External;

import java.util.Scanner;

public class FinalMarksCalculator {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter number of students: ");

int n = scanner.nextInt();

Internals[] internalStudents = new Internals[n];

External[] externalStudents = new External[n];

// Input for Internal Students

for (int i = 0; i < n; i++) {

System.out.println("Enter details for Internal Student " + (i + 1));

System.out.print("USN: ");

String usn = scanner.next();

System.out.print("Name: ");

String name = scanner.next();

System.out.print("Semester: ");

int sem = scanner.nextInt();

int[] internalMarks = new int[5];

System.out.println("Enter Internal Marks for 5 courses:");

for (int j = 0; j < 5; j++) {

internalMarks[j] = scanner.nextInt();

}

internalStudents[i] = new Internals(usn, name, sem, internalMarks);

}

// Input for External Students

for (int i = 0; i < n; i++) {

System.out.println("Enter details for External Student " + (i + 1));

System.out.print("USN: ");

String usn = scanner.next();

System.out.print("Name: ");

String name = scanner.next();

System.out.print("Semester: ");

int sem = scanner.nextInt();

int[] externalMarks = new int[5];

System.out.println("Enter External Marks for 5 courses:");

for (int j = 0; j < 5; j++) {

externalMarks[j] = scanner.nextInt();

}

externalStudents[i] = new External(usn, name, sem, externalMarks);

}

// Display Final Marks

System.out.println("\nFinal Marks of Students:");

for (int i = 0; i < n; i++) {

System.out.println("Student " + (i + 1) + ": " + internalStudents[i].getName());

displayFinalMarks(internalStudents[i].getInternalMarks(), externalStudents[i].getExternalMarks());

}

scanner.close();

}

private static void displayFinalMarks(int[] internalMarks, int[] externalMarks) {

System.out.print("Internal Marks: ");

for (int mark : internalMarks) {

System.out.print(mark + " ");

}

System.out.print("\nExternal Marks (scaled to 50): ");

int[] scaledExternalMarks = new int[externalMarks.length];

for (int i = 0; i < externalMarks.length; i++) {

scaledExternalMarks[i] = (externalMarks[i] \* 50) / 100; // Assuming external marks are out of 100

System.out.print(scaledExternalMarks[i] + " ");

}

System.out.print("\nTotal Marks: ");

for (int i = 0; i < internalMarks.length; i++) {

int total = internalMarks[i] + scaledExternalMarks[i];

System.out.print(total + " ");

}

System.out.println();

}

}

Output:

