Java Lab Program 6

import java.util.Scanner;

class Student {

public String usn;

public String name;

public String sem;

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

this.usn = usn;

this.name = name;

this.sem = sem;

}

public void displayDetails() {

System.out.println("USN: " + usn);

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

System.out.println("Semester: " + sem);

}

}

class Internals {

public int[] internalMarks;

public Internals(int[] marks) {

if (marks.length != 5) {

System.out.println("Enter marks for 5 subjects.");

return;

}

this.internalMarks = marks;

}

public void displayMarks() {

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

for (int mark : internalMarks) {

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

}

System.out.println();

}

}

class Externals extends Student {

public int[] externalMarks;

public Externals(String usn, String name, String sem, int[] marks) {

super(usn, name, sem);

if (marks.length != 5) {

System.out.println("Enter marks for 5 subjects.");

return;

}

this.externalMarks = marks;

}

public void displayMarks() {

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

for (int mark : externalMarks) {

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

}

System.out.println();

}

}

public class Main {

public static void main(String[] args) {

System.out.print("Aparna Sankar 1BM23CS047 ");

Scanner sc = new Scanner(System.in);

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

int n = sc.nextInt();

sc.nextLine(); // Consume the newline character

Externals[] students = new Externals[n];

Internals[] internalMarks = new Internals[n];

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

System.out.println("Enter details for student " + (i + 1) + ":");

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

String usn = sc.nextLine();

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

String name = sc.nextLine();

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

String sem = sc.nextLine();

System.out.println("Enter 5 internal marks:");

int[] iMarks = new int[5];

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

iMarks[j] = sc.nextInt();

}

System.out.println("Enter 5 external marks:");

int[] eMarks = new int[5];

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

eMarks[j] = sc.nextInt();

}

sc.nextLine(); // Consume the newline character

internalMarks[i] = new Internals(iMarks);

students[i] = new Externals(usn, name, sem, eMarks);

}

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

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

students[i].displayDetails();

internalMarks[i].displayMarks();

students[i].displayMarks();

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

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

int finalMarks = internalMarks[i].internalMarks[j] + students[i].externalMarks[j];

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

}

System.out.println("\n");

}

sc.close();

}

}



