```
public class Student {

    protected String usn;
    protected String name;
    protected 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);
    }
}

public class Internals extends Student {

    protected int[] internalMarks = new int[5];

    public Internals(String usn, String name, String sem, int[] internalMarks) {
        super(usn, name, sem);
        this.internalMarks = internalMarks;
    }


    public void displayInternalMarks() {
        System.out.println("Internal Marks:");
        for (int i = 0; i < internalMarks.length; i++) {
            System.out.println("Course " + (i + 1) + ": " + internalMarks[i]);
        }
    }
}
```

```
package SEE;

import CIE.Internals;

public class External extends Internals {
 int[] externalMarks = new int[5];

    public External(String usn, String name, String sem, int[] internalMarks, int[]
externalMarks) {
        super(usn, name, sem, internalMarks);
        this.externalMarks = externalMarks;
    }

     public void displayExternalMarks() {
        System.out.println("External Marks:");
        for (int i = 0; i < externalMarks.length; i++) {
            System.out.println("Course " + (i + 1) + ": " + externalMarks[i]);
        }
    }



    public void displayFinalMarks() {
        System.out.println("Final Marks (Internal + External):");
        for (int i = 0; i < 5; i++) {
            int finalMarks = internalMarks[i] + externalMarks[i];
            System.out.println("Course " + (i + 1) + ": " + finalMarks);
        }
    }
}



import CIE.Internals;
import SEE.External;
import java.util.Scanner;

public class StudentMarksApp {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

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

```
int n = scanner.nextInt();
scanner.nextLine(); // Consume the newline character

        External[] students = new External[n];

    for (int i = 0; i < n; i++) {
    System.out.println("\nEnter details for student " + (i + 1));

    System.out.print("Enter USN: ");
    String usn = scanner.nextLine();

    System.out.print("Enter Name: ");
    String name = scanner.nextLine();

    System.out.print("Enter Semester: ");
    String sem = scanner.nextLine();

    int[] internalMarks = new int[5];
    System.out.println("Enter internal marks for 5 courses:");
    for (int j = 0; j < 5; j++) {
        System.out.print("Course " + (j + 1) + ": ");
        internalMarks[j] = scanner.nextInt();
    }

    int[] externalMarks = new int[5];
    System.out.println("Enter external marks for 5 courses:");
    for (int j = 0; j < 5; j++) {
        System.out.print("Course " + (j + 1) + ": ");
        externalMarks[j] = scanner.nextInt();
    }
    scanner.nextLine();

    students[i] = new External(usn, name, sem, internalMarks, externalMarks);
}

System.out.println("\nStudent Marks Information:");
for (int i = 0; i < n; i++) {
    students[i].displayDetails();
    students[i].displayInternalMarks();
    students[i].displayExternalMarks();
```

```
            students[i].displayFinalMarks();
            System.out.println();
        }

        scanner.close();
    }
}
```

```
Enter number of students: 2

Enter details for student 1
Enter USN: 001
Enter Name: Alice
Enter Semester: 5
Enter internal marks for 5 courses:
Course 1: 18
Course 2: 20
Course 3: 15
Course 4: 17
Course 5: 19
Enter external marks for 5 courses:
Course 1: 40
Course 2: 45
Course 3: 38
Course 4: 42
Course 5: 44

Enter details for student 2
Enter USN: 002
Enter Name: Bob
Enter Semester: 5
Enter internal marks for 5 courses:
Course 1: 19
Course 2: 17
Course 3: 20
Course 4: 16
Course 5: 18
Enter external marks for 5 courses:
Course 1: 36
Course 2: 40
Course 3: 39
Course 4: 41
Course 5: 43
```

```
Student Marks Information:
----------------------------------
Student 1:
USN: 001
Name: Alice
Semester: 5
Internal Marks: [18, 20, 15, 17, 19]
External Marks: [40, 45, 38, 42, 44]
Final Marks: [58, 65, 53, 59, 63]

----------------------------------
Student 2:
USN: 002
Name: Bob
Semester: 5
Internal Marks: [19, 17, 20, 16, 18]
External Marks: [36, 40, 39, 41, 43]
Final Marks: [55, 57, 59, 57, 61]

C:\Users\User\>
```