Q6/ Create package CIE which has 2 classes - Personal and Internals. The class Personal has members usn, name, sem. The class Internals has array that stores internal in 5 courses of current semester of student. Create another package SEE which has class External which is derived class of Personal. This class has an array that stores SEE marks scored in five courses in current semester of student. Import two packages in file that declares the final marks of n students in all five courses.

```java
Package CIE;

public class Personal {
    public String usn;
    public String name;
    public int sem;

    public Personal (String usn, String name, int sem) {
        this.usn = usn;
        this.name = name;
        this.sem = sem;
    }

    public void displayPersonalDetails() {
        System.out.println("USN  : " + usn);
        System.out.println("Name : " + name);
        System.out.println("Semester : " + sem);
    }
}
```

```java
public class Internals
{
    public int[] internalMarks = new int[5];

    public void setInternalMarks(int[] marks) {
        for(int i=0; i<5; i++) {
            internalMarks[i] = marks[i];
        }
    }

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

        System.out.println();
    }
}
```

```java
package SEE;
import CIE.*;

public class External extends Personal {
    public int[] seeMarks = new int[5];
    public External(String usn, String name, int sem)
    {
        super(usn, name, sem);
    }
}
```

```java
public void setSEEMarks (int[] marks) {
    for (int i = 0; i < 5; i++) {
        seeMarks[i] = marks[i];
    }
}


public void displaySEEMarks() {
    System.out.print("SEE Marks : ");
    for (int i = 0; i < seeMarks.length); i++)
    {    System.out.print(marks + " ");
    }
    System.out.println();
}
}
```

————— x —————

```java
import CIE.*;
import SEE.*;
import java.util.Scanner;

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

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

        int n = scanner.nextInt();
```

```java
External [] students = new External[n];
Internals[] internals = new Internals(n);

for (int i = 0; i < n; i++) {
    System.out.println("\n Enter details of Student : ");
    System.out.print("Enter USN : ");
    String usn = scanner.next();

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

    System.out.print("Enter Semester : ");
    int sem = scanner.nextInt();

    students[i] = new External(usn, name, sem);
    internals[i] = new Internals();


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

    internals[i].setInternalMarks(internalMarks);

    System.out.println("Enter 5 SEE Marks : ");
    int[] seeMarks = new int[5];
    for (int j = 0; j < 5; j++) {
        seeMarks[j] = scanner.nextInt();
    }

    student[i].setSEEMarks(seeMarks);
```

```java
System.out.println("\nFinal Marks of Students : ");
for (int i=0; i<n; i++){

    System.out.println("\n Student " + (i+1) + " : ");
    Students[i].displayPersonalDetails();
    internals[i].displayInternalMarks();
    student[i].displaySEEMarks();

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

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

        int finalMarks = internals[i].internalMarks[j]
        + (Students[i].seeMarks[j] / 2);

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

    }

    System.out.println();

  }

}
```

Output :

Enter number of students : 1
Enter USN : 1BM23CS001
Enter Name : Hrishikesh
Enter Semester : 3
Enter 5 internal marks :
20 25 18 23 20
Enter 5 SEE marks :
50 55 40 45 35

Student 1:
USN : 1BM23CS001
Name : Hrishikesh
Semester : 3
Internal Marks : 20 25 18 23 20
SEE Marks : 50 55 40 45 35
Final Marks : 45 52 38 45 37