

lab 6

```
package CIE;

class Student {
    String usn;
    String name;
    int sem;

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

public class Internals {
    int[] internalMarks;

    Internals(int[] marks) {
        this.internalMarks = marks;
    }
}

package SEE;

import CIE.Student;

public class External extends Student {
    int[] externalMarks;

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

import CIE.*;
import SEE.*;

import java.util.Scanner;

class FinalMarks {
```

```

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

    System.out.print("Enter the number of students: ");
    int n = sc.nextInt();

    Student[] students = new Student[n];
    Internals[] internals = new Internals[n];
    External[] externals = new External[n];

    for (int i = 0; i < n; i++) {
        System.out.print("Enter USN: ");
        String usn = sc.next();
        System.out.print("Enter Name: ");
        String name = sc.next();
        System.out.print("Enter Semester: ");
        int sem = sc.nextInt();

        int[] internalMarks = new int[5];
        System.out.print("Enter 5 Internal Marks: ");
        for (int j = 0; j < 5; j++) {
            internalMarks[j] = sc.nextInt();
        }

        int[] externalMarks = new int[5];
        System.out.print("Enter 5 External Marks: ");
        for (int j = 0; j < 5; j++) {
            externalMarks[j] = sc.nextInt();
        }

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

    for (int i = 0; i < n; i++) {
        System.out.println("Final Marks for " + students[i].name + ":");
        for (int j = 0; j < 5; j++) {
            int finalMarks = internals[i].internalMarks[j] + externals[i].ex
            System.out.println("Course " + (j + 1) + ": " + finalMarks);
        }
    }
}
}

```

▼ Output

```
Enter the number of students: 2
Enter USN: 1BM21CS001
Enter Name: Alice
Enter Semester: 5
Enter 5 Internal Marks: 18 19 20 17 16
Enter 5 External Marks: 70 80 60 75 65
Enter USN: 1BM21CS002
Enter Name: Bob
Enter Semester: 5
Enter 5 Internal Marks: 15 18 17 16 14
Enter 5 External Marks: 68 74 70 72 69
```

Final Marks for Alice:

```
Course 1: 53
Course 2: 59
Course 3: 50
Course 4: 54
Course 5: 48
```

Final Marks for Bob:

```
Course 1: 49
Course 2: 55
Course 3: 52
Course 4: 52
Course 5: 48
```

LAB PROGRAM VI

Create a package CIE which has 2 classes student & internab, class student has members like usn, name, sem, class internab has an array that stores the internal marks scored in ~~the~~ courses of the current semester of the student.

Create another package SEE which has the class External which is a derived class of Student. this class has an array that stores the SEE mark scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of a student package CIE;

```
import java.util.Scanner;
```

```
public class Student {
```

```
    String name;
```

```
    String usn;
```

```
    int sem;
```

```
    public void getd() {
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.println("Enter usn, name & sem");
```

```
        name = sc.nextLine();
```

```
        usn = sc.nextLineInt();
```

```
        sem = sc.nextInt();
```

3

```
public void display() {  
    sout();  
    sout("student USN:" + USN + "name" + name + "son"  
    sout();  
}
```

```
package CIE;  
import java.util.Scanner;  
public class Internals {  
    public int marksCie[] = new int [5];  
    public void getMarks() {  
        for (int i = 0; i < 5; i++) {  
            Scanner sc = new Scanner (System.in);  
            sout ("Enter cie marks in subject + (ie)  
            marksCie[i] = sc.nextInt();  
        }  
    }  
    public int returnMarks (ie (int i)) {  
        return marksCie[i];  
    }  
}
```



```
Package SEE;
import CIE.Student;
import CIE.Externals;
import java.util.Scanner;
public class Externals extends Student {
    int marksSee[] = new int[5];
    public void getMarks() {
        for (int i = 0; i < 5; i++) {
            Scanner sc = new Scanner(System.in);
            sout ("Enter see marks in subject" + (i+1));
            marksSee[i] = sc.nextInt();
        }
    }
    public void calcTotalMarks (Internals i1) {
        for (int i = 0; i < 5; i++) {
            sout ("subject" + (i+1) + ": " +
                (i1.returnMarksCie(i) + (marksSee[i]/2)));
        }
        sout ();
    }
}
```

```

import CIE, student;
import CIE, Internals;
import SEE, Externals;
import java.util.Scanner;

public class main {
    public static void main (String [] args) {
        Scanner sc = new Scanner (System.in);
        System.out.println ("Enter number of students");
        int n = sc.nextInt();
        Internals [] i1 = new Internals [n];
        Externals [] e1 = new Externals [n];

        for (int i = 0; i < n; i++) {
            System.out.println ("Student " + (i+1) + " details");
            e1[i] = new Externals ();
            i1[i] = new Internals ();
            e1[i].getd ();
            i1[i].getmarks ();
            e1[i].getmarks ();
        }

        for (int i = 0; i < n; i++) {
            e1[i].display ();
            e1[i].calcTotalMarks (i1[i]);
        }
    }
}

```


Output :-

Enter the number of students

1

Student 1 details:

Enter student USN

324

Enter student name

shri

Enter semester

3

Enter no of subjects in cie

2

~~Enter No. of students:~~

Enter CIE marks in subject 1

34

Enter CIE marks in subject 2

37

Enter ~~SEE~~ number of subjects

3

Enter SEE marks in subject 1

78

Enter SEE marks in subject 2

89

Enter SEE marks in subject 3

99

R_S

21/11/24