LAB-6

1) Create a package CIE which has two classes - Student and Internals. The class Internals derived from Student has an array that stores the internal marks scored in five courses of the current semester of the student. Create another package SEE which has the class External which is derived class of Student. This class has an array that stores the SEE marks scored in five courses of the current semester.

package CIE;

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

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

public class Internals extends Student {
    public int[] internalMarks;

    public Internals (String usn, String name, int sem) {
        super(usn, name, sem);
    }

    public void inputCIEmarks() {
        Scanner s = new Scanner(System.in);
        for(int i=1; i<=5; i++) {
            System.out.println("Enter marks for "+ i +" subject");
            marks[i] = s.nextInt();
```

```
    }
  }
}

package SEE;
import CIE.Extends;
import java.util.Scanner;
public class External extends Extends {
  public int marks[];
  protected int finalMarks[];
  public External() {
    marks = new int[5];
    finalMarks = new int[5];
  }
public void inputSEEmarks() {
  Scanner s = new Scanner(System.in);
  for(int i=0; i<5; i++) {
  System.out.println("Subject" + (i+1) + " marks:");
  marks[i] = s.nextInt();
}
public void calculateFinalMarks() {
  for(int i=0; i<5; i++)
      finalMarks[i] = marks[i]/2 + Super.mark
}
public void displayFinalMarks() { displayStudent
```

```
for(int i=0; i<5; i++)
    System.out.println("Subject" + (i+1) + ": " + finalMarks[i]);
}
}
```

Main.Java →

```
import SEE.externals;
public class Main {
    public static void main(String args[])
    {
        int num of students = 2;
        Externals finalMarks[] = new Externals
                                 [num of students];
for(int i=0; i< NumofStudents; i++) {
        finalMarks[i] = new Externals();
        finalMarks[i].input StudentDetails();
        System.out.println("Enter CIE marks");
        finalMarks[i].input CIEMarks();
        System.out.println("Enter SEE marks");
        finalMarks[i].input SEE.Marks();
    }
    System.out.println("Displaying details\n");
for(int i=0; i<num of Students; i++) {
        finalMarks[i].calculateFinalMarks();
        final.Marks[i].displayFinalMarks();
    }
}
}
```

Output :-

Enter USN : 1BM22CS273
Enter Name : Shrayansh Sathya
Enter Semester : 2
Enter Internal Marks for Shrayansh
Subject 1 Marks 40
Subject 2 Marks 35
Subject 3 Marks 42
Subject 4 Marks 38
Subject 5 Marks 45

Enter SEE marks for Shrayansh
Subject 1 Marks : 75
Subject 2 Marks : 80
Subject 3 Marks : 65
Subject 4 Marks : 70
Subject 5 Marks : 85

Enter USN : 1BM22CS265
Enter USN : Shreyansh
Enter Semester : 2
Enter CIE Marks

Enter Internal Marks for ~~Shat~~ Shreyansh
Subject 1 : 36
Subject 2 : 48
Subject 3 : 50
Subject 4 : 42
Subject 5 : 55

Enter SEE Marks for Shreyansh
Subject 1 Marks : 80
Subject 2 Marks : 35
Subject 3 Marks : 42
Subject 4 Marks : 38
Subject 5 Marks : 45

Enter Internal SEE marks for Shreyas

Subject 1 Marks 75

Subject 2 Marks 80

Subject 3 Marks 42

Subject 4 Marks 38

Subject 5 Marks 45

Enter SEE marks for Shreyas

Subject 1 Marks : 80

Subject 2 Marks : 72

Subject 3 Marks : 85

Subject 4 Marks : 78

Subject 5 Marks : 90

11 Display 0th

USN = 1BM22CS269

Name = Shreyas

Semester = 2

Subject 1 17

Subject 2 75

Subject 3 79

Subject 4 73

Subject 5 87

USN = 1BM22CS269

Name = Shreyas

Semester 2

Subject 1 = 77

Subject 2 = 84

Subject 3 = 92

Subject 4 = 82

Subject 5 = 100

30.01.24