Lab - 6

Student

```
package cie;
import java.util.Arrays;
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 void display() {
        System.out.println("USN: " + usn);
        System.out.println("NAME: " + name);
        System.out.println("SEM: " + sem);
```

Internals

```
package cie
import java.util.Arrays;

public class Internals extends Student {
    public double[] cie_marks = new double[5];

    public Internals(String usn, String name,
                     int sem, double[]
                     cie_marks) {
        super(usn, name, sem);
```

```
        this.cie_marks = cie_marks;
    }
    public void display() {
        super.display();
        System.out.println("CIE marks: " +
            Arrays.toString(cie_marks));
    }
}
```

External

```
package see;
import cie.*;
import java.util.Arrays;
public class External extends cie.Student {
    public double[] see_marks = new double[5];
    public External(String usn, String name, int sem,
                    double[] see_marks) {
        super(usn, name, sem);
        this.see_marks = see_marks;
    }
    public void display() {
        System.out.println("SEE " + Arrays.to
            String(see_marks));
    }
}
```

Total Marks

```
import java.util.Scanner;
import java.util.Arrays;
import cic.*;
import see.*;
class TotalMarks {
    public static double[] addArrays(double[]
        arr1, double[] arr2) {
        double[] added = new double[arr1.length];
        for(int i=0; i<arr1.length; i++){
            added[i] = arr1[i] + arr2[i];
        }
        return added;

}
public static double[] fromStringToArray(
    String entered_str, int type) {
    String[] separated = entered_str.split
        (",");
    double[] returnArray = new double
        [separated.length];

for(int i=0; i<separated.length; i++){
    if(type==0){
        return Array[i] = Double.parseDouble
        (separated[i]);
    }
    else if(type==1){
        returnArray[i] = Double.parseDouble
        (separated[i]/2);
```

```
        }
    }
    return sstreamArray;
}

public static void main(String[] args){
    int num;
    String temp_name, temp_user;
    int temp_sem;
    double[]temp_cie;
    double[] temp_see;
    Scanner sd = new Scanner(System.in);
    System.out.println("Enter num students:");
    num = sd.nextInt();
    sd.nextInt();
    cie.Internals[] internals_marks =
    new cie.Internals[num];
    see.External[] externals_marks =
    new see.External[num];
    double[][] added_marks = new
    double[num][5];
    for(int i=0; i<num; i++){
    System.out.println("Enter details:");
    temp_usn = sd.nextLine();
    temp_name = sd.nextLine();
    temp_sem = Integer.parseInt(sd.next
                                Int());
    temp_cie = fromString2Array(sd.next
                                Line(),0);
```

```
temp_see = fromString2Array(gd.nextLine(), 8);
internals_marks[i] = new cie.Internals(
    temp_mse, temp_name, temp_sem,
    temp_cie);
externals_marks[i] = new see.External(
    temp_mse, temp_name, temp_sem,
    temp_see);
added_marks[i] = addArrays(internals_
    marks[i].cie_marks, external_marks[i].
    see_marks);
}
System.out.println("DATA DETAILS \n");
for(int i=0; i<num; i++){
    System.out.println("Student " + (i+1) + ":");
    internals_marks[i].display();
    external_marks[i].display();
    System.out.println("Total : " + Arrays.
        toString(added_marks[i]));
}
}
}
```

```
Enter the number of students:
2
Enter the details(USN,Name,Sem,ciemarks,seemarks) of Student 1:
1bm19cs228
Pranav Sastry
3
40,50,35,45,50
90,89,90,100,90
Enter the details(USN,Name,Sem,ciemarks,seemarks) of Student 2:
1bm19ei037
Sastry Pranav
3
35,40,50,30,40
90,90,89,90,100

***** STUDENTS DATA *****

Student 1:
USN: 1bm19cs228
NAME: Pranav Sastry
SEM: 3
CIE MARKS: [40.0, 50.0, 35.0, 45.0, 50.0]
SEE MARKS: [45.0, 44.5, 45.0, 50.0, 45.0]
TOTAL MARKS: [85.0, 94.5, 80.0, 95.0, 95.0]

Student 2:
USN: 1bm19ei037
NAME: Sastry Pranav
SEM: 3
CIE MARKS: [35.0, 40.0, 50.0, 30.0, 40.0]
SEE MARKS: [45.0, 45.0, 44.5, 45.0, 50.0]
TOTAL MARKS: [80.0, 85.0, 94.5, 75.0, 90.0]
```