LAB-6 23/01/2024

• create a package CIE which has two classes - Student & Internals. The class Student has members like usn, name, sem. The class internals derived from student has an array that stores the internal marks scored in five courses of the current sem 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 marks scored in five course.

```
package CIE;
import java.util.*;
public class student{
    protected string usn = new String();
    protected string name = new string();
    protected int sem;

    public void inputStudentDetails(){
        Scanner s = new Scanner(System.in);
        this.usn = s.nextLine();
        this.name = s.nextLine();
        this.sem = s.nextInt();
    }

    public void displayStudentDetails(){
        System.out.println(this.usn + " " + this.name +
                           " " + this.sem);
    }
}
```

```
package CIE;
import java.util.Scanner;
public class Internals extends Student{
    protected int marks[] = new int[5];
    pubic void inputCIEmarks(){
        Scanner s = new Scanner(System.in);
        for(int i=0 ; i<5 ;i++)
            marks[i] = s.nextInt();
    }
}
```

```
package SEE;
import CIE.Internals;
import java.util.Scanner;
public class Externals extends Internals{
    protected int marks[];
    protected int finalMarks[];
    public Externals(){
        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.marks[i];
    }
}
```

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

import SEE.Externals;
class Main {
    pubic static void main(String args[]){
        int numOfStudents = 2;
        Externals finalMarks[] = new Externals[numOfStudents];
        for(int i=0; i<numOfstudents; i++){
            finalMarks[i] = new Externals();
            finalMarks[i].inputStudentDetails();
            System.out.println("Enter CIE marks");
            final Marks[i].inputCIEmarks();
            System.out.println("Enter SEE marks");
            finalMarks[i].inputSEEmarks();
        }
        System.out.println("Displaying Data:\n");
        for(int i=0; i<numOfStudents; i++){
            finalMarks[i].calculateFinalMarks();
            finalMarks[i].displayFinalMarks();
        }
        System.out.println("Sanketh M Hanasi 1BM22SC242");
}
}
```

Output:

Enter student details:

1BM22CS242

Sanketh

3

Enter CIE marks:

Subject 1 : 40

Subject 2 : 45

Subject 3 : 41

Subject 4 : 48

Subject 5 : 44

Enter SEE marks:

Subject 1 : 80

Subject 2 : 90

Subject 3 : 86

Subject 4 : 80

Subject 5 : 84

Enter student details:

1BM22CS243

Santosh

3

Enter CIE marks:

Subject 1 : 50

Subject 2 : 45

Subject 3 : 40

Subject 4 : 48

Subject 5 : 46

Enter SEE marks:

Subject 1 : 90

Subject 2 : 96

Subject 3 : 100

Subject 4 : 95

Subject 5 : 92

Displaying Details:

USN: 1BM22CS242 Name: Sanketh Sem: 3

~~USN: 1BM22CS242~~

subject 1: 80

subject 2: 90

subject 3: 84

subject 4: 88

subject 5: 86

USN: 1BM22CS243 Name: Santosh Sem: 3

subject 1: 95

subject 2: 93

subject 3: 90

subject 4: 96

subject 5: 92

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