

LAB-6

Program to manage student marks with internal & external assessment using packages.

Package CSE;

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

```
    public Student (String usn, String name, int sem)
```

```
    {
        this.usn = usn;
        this.name = name;
        this.sem = sem;
```

```
    }

    public String getUsn()
```

```
    {
        return usn;
```

```
    }

    public String getName()
```

```
    {
        return name;
```

```
    }

    public String getSem()
```

```
    {
        return sem;
```

```
    }

    package CSE;
```

```
    public class Internals extends Student
```

```
    {
        private int [] internalMarks;
```

```
    public Internals (String usn, String name, int sem, int [] internalMarks)
```

```
    {
        super (usn, name, sem);
```

```
        this.internalMarks = internalMarks;
```

```
    }

    public int [] getInternalMarks()
```

```
    {
        return internalMarks;
```

```
    }

    }
```

```
package SEE;
```

```
import CIE.Student;
```

```
public class External extends Student
```

```
{ private int [] externalMarks;
```

```
public External (String usn, String name, int sem,  
int [] externalMarks)
```

```
{ super (usn, name, sem);
```

```
this.externalMarks = externalMarks;
```

```
}
```

```
public int [] getExternalMarks()
```

```
{ return externalMarks;
```

```
}
```

```
import CIE.Internals;
```

```
import SEE.External;
```

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

```
public class FinalMarksCalculator
```

```
{ public static void main (String [] args)
```

```
{ Scanner scanner = new Scanner (System.in);
```

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

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

```
Internals [] internalStudents = new Internals[n];
```

```
External [] externalStudents = new External[n];
```

```
for (int i = 0; i < n; i++)
```

```
{ System.out.print ("Enter details for internal student " + (i+1));
```

```
System.out.print ("Usn");
```

```
String usn = scanner.next();
```

```

s.o.p ("Name:");
String name = scanner.next();
s.o.p ("Semester");
int sem = scanner.nextInt();
int [] internalMarks = new int [5];
s.o.p ("Enter Internal marks for 5 courses:");
for (int j = 0; j < 5; j++) {
    internalMarks [j] = scanner.nextInt();
}
InternalStudents [i] = new Internal (usr, name, sem, internal
    marks);
}
for (int i = 0; i < n; i++) {
    s.o.p ("Enter details for External student " + (i+1));
    s.o.p ("usr");
    String usr = scanner.next();
    s.o.p ("Name");
    String name = scanner.next();
    System.out.print ("Semester");
    int sem = scanner.nextInt();
    int [] externalMarks = new int [5];
    s.o.p ("Enter External marks for 5 courses:");
    for (int j = 0; j < 5; j++) {
        externalMarks [j] = scanner.nextInt();
    }
    externalStudents [i] = new External (usr, name, sem,
        external marks);
    }
    s.o.p ("Final marks of Students");
    for (int i = 0; i < n; i++) {
        s.o.p ("Student " + (i+1) + " : " + internalStudents [i].
            getName());
    }
}

```


op1

Enter number of Students: 1

Enter details for Internal student 1

USN: 1234

Name: aarusha

Semester: 3

Enter Internal Marks for 5 courses:

45

43

42

40

35

Enter details for External student 1

USN: 1234

Name: aarusha

Semester: 3

Enter external marks for 5 courses:

95

96

89

85

92

Final Marks of Students:

Student 1: aarusha

Internal Marks: 45 43 42 40 35

External Marks (scaled to 50): 47 48 44 42 46

Total Marks: 92 91 86 82 81

Seen

2/1/20

```
displayFinalMarks (internalStudents [i].getInternalMarks(),
                  externalStudents [i].getExternalMarks());
```

```
}
```

```
Scanner.close();
```

```
}
```

```
private static void displayFinalMarks (int[] internalMarks,
                                       int[] externalMarks)
```

```
{ s.o.p ("Internal Marks ");
```

```
for (int mark : internalMarks)
```

```
{ s.o.p (mark + " ");
```

```
}
```

```
s.o.p ("External Marks (scaled to 50): ");
```

```
int[] scaledExternalMarks = new int [externalMarks.length];
```

```
for (int i = 0; i < externalMarks.length; i++)
```

```
{ scaledExternalMarks [i] = (externalMarks [i] * 50) / 100;
```

```
s.o.p (scaledExternalMarks [i] + " ");
```

```
}
```

```
s.o.p ("Total Marks ");
```

```
for (int i = 0; i < internalMarks.length; i++)
```

```
{ int total = internalMarks [i] + scaledExternalMarks [i];
```

```
s.o.p (total + " ");
```

```
}
```

```
s.o.pln();
```

```
}
```

```
}
```

op

Enter

Enter

USN :

Name

Semester

Enter

45

43

42

40

35

Enter

US

N

Sem

En

95

94

8

8

9

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