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Class: 3A

Lab 2 Question: Create a package CIE which has two classes- Student and Internals- a subclass of Student. The class Student has members like usn, name, sem. The class internals 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 a derived class of Internals. This class has an array that stores the SEE marks scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of n students in all five courses.

Program:

```
Packages
Create a package CIE which has two classes - student and internals.
The class Personal has members like USN, Name, sem. The class internals
has an array that stores the internal marks scould in five courses
of the consent semester of the student. Create another package SEE
which has the class SEE External which is a derived class of Student.
This class has an array that stores the SEE marks scored in five
courses. Import the two packages into a file that declares the
final marks of n students in fine courses.
Student java:
package CIE;
import jara util Scanner;
quelic
                              made (1) = sucretatel;
public class Student [
     protected string usn = new String ();
     protected string name = new string ();
     protected int sem;
     public void input Student Details ()
         Scanner Sc new Scanner (System.in);
         usn = s.next();
        name = s.next();
       sem = s.nextInt();
```

```
Public void eliplay Student Details ()
          Systemand println ("USN: "+ USN);
          Systemout println ("Name: "+ name);
      3 System.out psirithm (" Sem: "-1 sem);
   I smarter of the student. But within grilling sets
 Internals. java:
                    has on away that storm the a
 public class Internals extends Student ?
      protected int marks [] = new int [5];
      Public void inputCIEMarks ()
          Scanner 5 = new Scanner (Systemin);
         for ( ant i=0; i<5; i++)
             System out printter ("Subject" + (1+1) + "mark: ") ;
            marks [i] = sonextInt();
                            all not interdentials ()
Externals ojava:
import CIE. Internals;
package SEE;
Emport CIE. Internals;
import java util Scanner;
```

```
public class Externals extends Internals ?
      protected int mark[];
      protected ant final Marks[];
      public Externals () {
          marks = new Pht[5];
          finalHarks = new 9nt [5];
     public void InputSEE Marks ()
        Scanner S= new Scanner (Systemo ?n);
        for (But 1=0) ix5; 1+4) ( ( ) ( ) ( ) ( ) ( ) ( )
            System out printly l'Har 1-
      System out println ("Subject "+ (i+1)+" marks: ");
         marks [i] = s. nextInt();
   public void calculateFinal Marks ()
         for(int i=0; ix 5; i++)
           final Marks[i] = marks[i]/2 + super-marks[i];
  public void display Finel Marks ()
       display Student Details ();
       for Cint i = 0; ix 5; i++)
           System out println ("Subject "+(i+1)+ ": "+final Marks[1]);
```

Main . java: Import SEE-Externals; public static void main (string args []) class Main & Ent numerstudents = 2; Externals final Marks [] = new Externals [num Of Students]; for (int i=0; i < numer students; i++) } and in set final Marks [i] = new Externals(); final Marks [i]. inputer E Marks Student Details (); System. out. println ("Enter CEE Marks"); final Marks [i]. input CIEMarks (); System. out. printly ("Enter SEE Marks"); final Marks (i] input SEE marks (); Systemoouto println ("Displaying data: \n"); for (int is); ix num Efstudents: i++) } final Marks [i]. calculate Final Marks (); finel Marks [i]. display Final Marks ();

gutput : Jan Janam USN: 18M2105013 Support 5 Marks: 99 Name: Akram sem: 3 Enter CIE Marks: Subject 1 Marks: 39 Subject 2 Harks: 38 Subject 3 Marks: 10 Subject 4 Marks: 39 60m 8: 8 Subject 5 Marks: 40 Enter SEE Marks: Subject 1 Marks: 97 Subject 2 Marks: 96 Support 4: 85 Subject 3 Marks: 94 Subject 4 Marks: 92 Subject 5. Marks: 98 Hord Hours USN: 16M2168070 Name: Haaid Sen: 3 Enter CIE Marks: Subject 1 Marks: 39 Subject 2 Marks: 39 Subject 3 Marks: 38 Subject of Marks: 37 Subject & Marks: 40

Enter SEE Marks

Subject 1 Marks: 96

Subject 2 Marks: 98

Subject 3 Marks: 99

Subject 4 Marks: 92

Subject 5 Moaks: 93

USN: 18M21CS013

Name: Aksam

Sem 3: 3

Subject 1: 87

Subject 2:86

Subject 3:87

Subject 4:85

Subject 5:89

USN: IBM21CS070

Hame: Hacid

8em: 3

Subject 1:87

Subject 2:88

Subject 3; 87

Subject 4: 83

Subject 5: 86

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Output:

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Command Prompt
                                                                                                                                                                            ×
D:\BMSCE\Academics\Semester III\Object Oriented JAVA Programming\Lab Programs\Lab6_Packages_demo>javac Student.java
D:\BMSCE\Academics\Semester III\Object Oriented JAVA Programming\Lab Programs\Lab6_Packages_demo>javac Internals.java
D:\BMSCE\Academics\Semester III\Object Oriented JAVA Programming\Lab Programs\Lab6_Packages_demo>javac Externals.java
D:\BMSCE\Academics\Semester III\Object Oriented JAVA Programming\Lab Programs\Lab6_Packages_demo>java Main
USN: 1BM21CS013
Name: Akram
Sem: 3
Enter CIE marks
Enter CIE marks
Subject 1 marks: 39
Subject 2 marks: 38
Subject 3 marks: 40
Subject 4 marks: 39
Subject 5 marks: 40
Enter SEE marks
Enter SEE marks
Subject 1 marks: 97
Subject 2 marks: 96
Subject 3 marks: 94
Subject 4 marks: 92
Subject 5 marks: 98
USN: 1BM21CS070
Name: Haaid
Sem: 3
Enter CIE marks
 Subject 1 marks: 49
Subject 2 marks: 39
Subject 2 marks: 38
Subject 4 marks: 37
Subject 5 marks: 40
Enter SEE marks
 Subject 1 marks: 96
Subject 2 marks: 98
Subject 3 marks: 99
Subject 4 marks: 92
Subject 5 marks: 93
Displaying data:
USN: 1BM21CS013
Name: Akram
Name: Akram
Sem: 3
Subject 1: 87
Subject 2: 86
Subject 3: 87
Subject 4: 85
Subject 5: 89
USN: 1BM21CS070
 Name: Haaid
Sem: 3
Subject 1: 97
Subject 1: 97
Subject 2: 88
Subject 3: 87
Subject 4: 83
Subject 5: 86
D:\BMSCE\Academics\Semester III\Object Oriented JAVA Programming\Lab Programs\Lab6_Packages_demo>_
```