# PROGRAM 8

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.

```java
package CIE;
import java.util.*;
public class student{
    Scanner sc=new Scanner(System.in);
    public String usn,name;
    public int sem;

    public void accept(){
        System.out.println("Enter USN, Name and Current semester: ");
        usn=sc.nextLine();
        name=sc.nextLine();
        sem=sc.nextInt();
    }
    public void display(){
        System.out.println("\nStudent Details");
        System.out.println("Name: "+name);
        System.out.println("USN: "+usn);
        System.out.println("Semester: "+sem);
    }
}

package CIE;
import java.util.*;
```

```java
public class internals extends CIE.student {
    Scanner sc=new Scanner(System.in);
    public int ciem[]=new int[5];

    public void accept(){
        int i;
        for(i=0;i<5;i++)
        { System.out.println("Enter CIE marks of subject "+(i+1));
          ciem[i]=sc.nextInt();
        }
    }
}
package SEE;
import CIE.*;
import java.util.*;
public class externals extends CIE.student{
    Scanner sc=new Scanner(System.in);
    public int seem[]=new int[5];

    public void accept(){
        for(int i=0;i<5;i++)
        {
            System.out.println("Enter SEE marks of subject "+(i+1));
            seem[i]=sc.nextInt();
        }
    }
}

import CIE.*;
import SEE.*;
import java.util.*;
class total{
    public static void main(String args[]) {
        int i,j,n;
```

```java
Scanner sc=new Scanner(System.in);
int total[]=new int[5];
System.out.println("Enter number of students: ");
n=sc.nextInt();
CIE.student s[]=new CIE.student[n];
CIE.internals ci[]=new CIE.internals[n];
SEE.externals se[]=new SEE.externals[n];
for(i=0;i<n;i++)
{
   System.out.println("\nEnter student "+(i+1)+" details");
   s[i]=new CIE.student();
   s[i].accept();
   ci[i]=new CIE.internals();
   ci[i].accept();
   se[i]=new SEE.externals();
   se[i].accept();
}
for(i=0;i<n;i++)
{
   System.out.println("\nDetails of student "+(i+1));
   s[i].display();
   for(j=0;j<5;j++)
   {
      total[j]=ci[i].ciem[j]+se[i].seem[j];
      System.out.println("Total marks in subject "+(j+1)+": "+total[j]);
   }
   System.out.println();
}
   }
}
```

**OBSERVATION:**

# PROGRAM - 8

## Packages

```java
Package CIE;
import java.util.*;
public class student
{
    Scanner SC = new Scanner (System.in);
    public String usn, name;
    public int sem;

    public void accept()
    {
        System.out.println("Enter USN, Name and semester :");
        usn = sc.nextLine();
        name = sc.nextLine();
        sem = sc.nextInt();
    }

    public void display()
    {
        System.out.println("\n Student Details");
        System.out.println("Name : " + name);
        System.out.println("USN: " + usn);
        System.out.println("Semester: " + sem);
    }
}
```

```java
Package CIE;
import java.util.*;
public class internals extends CIE.student
{
    Scanner Sc = new Scanner (System.in);
    public int ciem[] = new int[5];

    public void accept()
    {
        int i;
        for (i=0; i<5; i++)
        {
            System.out.println("Enter CIE marks of subject " + (i+1));
            ciem[i] = sc.nextInt();
        }
    }
}
```

```java
Package SEE;
import CIE.*;
import java.util.*;
public class externals extends CIE.student
{
    Scanner SC = new Scanner (System.in);
    public int seem[] = new int[5];

    public void accept()
    {
        for (int i=0; i<5; i++)
        {
            System.out.println("Enter SEE marks " + (i+1));
            Sem[i] = sc.nextInt();
        }
    }
}
```

```java
import CIE.*;
import SEE.*;
import java.util.*;
class total
{
    public static void main (String args[])
    {
        int i, j, n;
        Scanner SC = new Scanner (System.in);
        int total[] = new int[5];
        System.out.println("Enter number of students :");
        n = sc.nextInt();
        CIE.student S[] = new CIE.student[n];
        CIE.internals ci[] = new CIE.internals[n];
        SEE.externals Se[] = new SEE.externals[n];
        for (i=0; i<n; i++)
        {
            System.out.println("Enter student " + (i+1) + " details");
            S[i] = new CIE.student();
            S[i].accept();
            ci[i] = new CIE.internals();
            ci[i].accept();
            Se[i] = new SEE.externals();
            Se[i].accept();
        }
        for (i=0; i<n; i++)
        {
            System.out.println("Details of student " + (i+1));
            S[i].display();
            for (j=0; j<5; j++)
            {
                total[j] = ci[i].ciem[j] + Se[i].seen[j];
                System.out.println("Total marks in subject " + (j+1) + " : " + total[j]);
            }
            System.out.println();
        }
    }
}
```

Output:

Enter number of students : 1

Enter student 1 details

Enter USN, Name, Semester :

1bm21cs065
gamana
3

Enter CIE marks of subject 1
34
35
36

37
38

Enter SEE marks of subject

89
79
80
90
92

Details of student 1

Student details

Name : gamana
USN : 1bm21CS065

Semester : 3

Total marks in sub 1 : 123

Total marks in sub 2 : 114

Total marks in sub 3 : 116

Total marks in sub 4 : 127

Total marks in sub 5 : 130·

NLP
13/1/2023

## OUTPUT:

```
Command Prompt

Microsoft Windows [Version 10.0.19044.1706]
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C:\Users\bmsce>cd C:\Users\bmsce\Desktop\1BM21CS065

C:\Users\bmsce\Desktop\1BM21CS065>set path="C:\Program Files\Java\jdk1.8.0_201\bin"

C:\Users\bmsce\Desktop\1BM21CS065>javac student.java

C:\Users\bmsce\Desktop\1BM21CS065>javac internals.java

C:\Users\bmsce\Desktop\1BM21CS065>javac externals.java

C:\Users\bmsce\Desktop\1BM21CS065>javac packages.java

C:\Users\bmsce\Desktop\1BM21CS065>java total
Enter number of students:
1

Enter student 1 details
Enter USN, Name and Current semester:
1bm21cs065
gamana
3
Enter CIE marks of subject 1
34
Enter CIE marks of subject 2
35
Enter CIE marks of subject 3
36
Enter CIE marks of subject 4
37
Enter CIE marks of subject 5
38
Enter SEE marks of subject 1
89
Enter SEE marks of subject 2
79
Enter SEE marks of subject 3
80
Enter SEE marks of subject 4
90
Enter SEE marks of subject 5
92

Details of student 1

Student Details
Name: gamana
USN: 1bm21cs065
Semester: 3
Total marks in subject 1: 123
Total marks in subject 2: 114
Total marks in subject 3: 116
Total marks in subject 4: 127
Total marks in subject 5: 130


C:\Users\bmsce\Desktop\1BM21CS065>
```