Week 9-Extra program

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 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 Student. 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 SGPA of n students in all five courses.

Programs:

student.java

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

public class Student
{
public String name;
public String usn;
public int sem;
public void display()
{
        Scanner s=new Scanner(System.in);
        System.out.println("Name:");
        name=s.next();
        System.out.println("USN:");
        usn=s.next();
        System.out.println("Semester:");
        sem=s.nextInt();
}
}
```

Internals.java

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

public class Internals extends Student
{
  public int ciem[];

  public void display()
```

```java
    {
            ciem=new int[5];
            Scanner t=new Scanner(System.in);
    System.out.println("CIE Marks for 5 subjects(out of 50):");
    for(int i=0;i<5;i++)
    ciem[i]=t.nextInt();
    }
}


Externals.java
package SEE;
import java.util.*;
import CIE.*;

public class Externals extends CIE.Student
{
    public int seem[];

    public void display()
    {
            seem=new int[5];
            Scanner s=new Scanner(System.in);
    System.out.println("SEE Marks for 5 subjects(out of 100):");
    for(int i=0;i<5;i++)
    seem[i]=s.nextInt();
    }
}


main.java
import CIE.*;
import SEE.*;
import java.util.Scanner;
public class main
{
        public static void main(String args[])
        {
                int n;
                int tcp,tc;
                int credits[]=new int[5];
                int total[]=new int[5];
                Scanner s=new Scanner(System.in);
                System.out.println("Enter the number of students:");
```

```java
n=s.nextInt();
CIE.Student st[]=new CIE.Student[n];
CIE.Internals in[]=new CIE.Internals[n];
SEE.Externals e[]=new SEE.Externals[n];
for(int i=0;i<n;i++)
{
        st[i]=new CIE.Student();
        in[i]=new CIE.Internals();
        e[i]=new SEE.Externals();
        st[i].display();
        in[i].display();
        e[i].display();
        System.out.println("Enter the credits for each subject:");
        for(int k=0;k<5;k++)
        {
                credits[k]=s.nextInt();
                total[k]=in[i].ciem[k]+(e[i].seem[k]/2);
        }
        tcp=0;tc=0;
for(int l=0;l<5;l++)
{
        tc=tc+credits[l];
        if(total[l]>=50)
        {
        tcp=tcp+(((total[l]/10)+1)*credits[l]);
        }
        else if(total[l]>=40 && total[l]<50)
        {
                tcp=tcp+(4*credits[l]);
        }
}
System.out.println("SGPA of student "+st[i].name+" is: "+(double)tcp/tc);

        }
    }
}
```

OUTPUT:

```
D:\Kusum\III SEMESTER\OOJ2020\packages>javac student.java

D:\Kusum\III SEMESTER\OOJ2020\packages>javac Internals.java

D:\Kusum\III SEMESTER\OOJ2020\packages>javac Externals.java

D:\Kusum\III SEMESTER\OOJ2020\packages>javac main.java

D:\Kusum\III SEMESTER\OOJ2020\packages>java main
```

```
Enter the number of students:
2
Name:
Arya
USN:
1BM19CS089
Semester:
3
CIE Marks for 5 subjects(out of 50):
34
47
42
39
33
SEE Marks for 5 subjects(out of 100):
89
97
69
88
79
Enter the credits for each subject:
3
3
4
2
3
SGPA of student Arya is: 8.533333333333333
```

```
Name:
Suman
USN:
1BM18CS044
Semester:
5
CIE Marks for 5 subjects(out of 50):
48
46
49
50
43
SEE Marks for 5 subjects(out of 100):
92
89
91
90
96
Enter the credits for each subject:
3
3
4
2
3
SGPA of student Suman is: 10.0

D:\Kusum\III SEMESTER\OOJ2020\packages>
```