WEEK 9

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 final marks of n students in all five courses.

```
package CIE;

public class Internals extends Student{
public int[] marks=new int[5];

public void setint(int[] a){
for(int i=0;i<5;i++){
marks[i]=a[i];
}
}

public void getint(){
System.out.println("Internal marks");
for(int i=0;i<5;i++){
System.out.println("Subject "+i+": "+marks[i]);
}
}

}
```

```
package CIE;

public class Student{
public int USN;
public String name;
public int sem;

public void setdets(int u,String s,int q){
USN=u;
name=s;
sem=q;
}

public void getdets(){
System.out.println("Student details");
```

```
System.out.println("USN:"+USN+"\nNAME:"+name+"\nSEMESTER:"+sem);
}

}

package SEE;

import CIE.*;

public class External extends Internals{
public int[] marksi=new int[5];

public void set(int[] a){
for(int i=0;i<5;i++){
marksi[i]=a[i];
}
}

public void get(){
for(int i=0;i<5;i++){
System.out.println("External marks");
System.out.println("Subject "+i+": "+marksi[i]);
}
}

}

import CIE.*;
import SEE.*;
import java.util.Scanner;

class Test{
public static void main(String args[]){
Scanner s=new Scanner(System.in);
System.out.println("Enter number of students");
int n=s.nextInt();
External[] dets=new External[n];

for(int i=0;i<n;i++){
System.out.println("Enter student details");
int usn=s.nextInt();
String name=s.next();
int sem=s.nextInt();
```

```
System.out.println("Enter internal marks");
int[] intr=new int[5];
for(int j=0;j<5;j++){
intr[j]=s.nextInt();
}

dets[i]=new External();
dets[i].setdets(usn,name,sem);
dets[i].setint(intr);

System.out.println("Enter external marks");
for(int j=0;j<5;j++){
intr[j]=s.nextInt();
}

dets[i].set(intr);

}

for(int i=0;i<n;i++){
dets[i].getdets();
dets[i].getint();
dets[i].get();

System.out.println("Final marks");
for(int j=0;j<5;j++){
System.out.println("Subject "+j+": "+(dets[i].marksi[j]/2+dets[i].marks[j]));
}
}

}
}
```

```
Enter number of students
1
Enter student details
1 aqw 2
Enter internal marks
12 12 12 12 12
Enter external marks
12 12 12 12 12
Student details
USN:1
NAME:aqw
SEMESTER:2
Internal marks
Subject 0: 12
Subject 1: 12
Subject 2: 12
Subject 3: 12
Subject 4: 12
External marks
Subject 0: 12
External marks
Subject 1: 12
External marks
Subject 2: 12
External marks
Subject 3: 12
External marks
Subject 4: 12
Final marks
Subject 0: 18
Subject 1: 18
Subject 2: 18
Subject 3: 18
Subject 4: 18
```

1123

8. Create two packages - CIE and SEE. CIE with two classes Student and Internals. SEE with External marks. Create a list of n students.

```
1:  package CIE;

public class Student{
    int USN;
    String name;
    int sem;

    public void setdets(int u, String a, int s){
    USN=u;
    name=a;
    sem=s;
    }

    public void getdets(){
    System.out.println("USN: "+USN+"\nNAME: "+name+"\n
                                    sem: "+sem);
    }
}

:   package CIE;

    public class Internals extends Student{
    int[] marks = new int[5];

    public void setm(int[] a){
    for(int i=0; i<5; i++){
    marks[i]= a[i];
    }
    }
```

```
public void getm(){
    for(int i=0; i<5; i++){
System.out.println("Subject "+(i+1)+": "+marks[i]);
}
}
}
```

3:
```
package SEE;
import CIE.*;
public class Externals extends Internals {
    int[] marks = new int[5];

public void set(int[] a){
    for(int i=0; i<5; i++){
    marks[i] = a[i];
  }
}

public void get(){
    for(int i=0; i<5; i++){
  System.out.println("Subject "+(i+1)+ marks[i]);
}
}
}
```

:
```
import java.util.Scanner;
import CIE.*;
import SEE.*;

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

```
Scanner s= new Scanner (System.in);
System.out.println("Enter number of students");
int n= s.nextInt();
External[] det = new External[n];
for(int i=0; i<n ; i++) {
System.out.println("Enter student details");
int v= s.nextInt();
String ss= s.next();
int a= s.nextInt();

External det[i]= new External();
   det[i].setdets(v, ss, a);

System.out.println("Enter internal masks");
int[] m= new int[5];
for(int j=0 ; j<5 ; j++){
   m[j]= s.nextInt();
}

det[i].setm(m);

System.out.println("Enter external marks");
for(int j=0; j<5; j++){
   m[j]= s.nextInt();
}

   det[i].set(m);
}

for(int i=0; i<n ; i++) {
   det[i].getdets();
   det[i].getm();
```

```
det[i].get();
for (int j=0; j<5; j++){
System.out.println("Sub"+(j+1)+{det[i].marks[j]
                                 +det[i].marks[j]
}
}
}
```

Output

```
Enter number of students
1
Enter student details
1 a 2
Enter internal marks
12 12 12 12 12
Enter internal marks
12 12 12 12 12

USN: 1
NAME: a
SEM: 2

Subject 1: 12
Subject 2: 12
Subject 3: 12
Subject 4: 12
Subject 5: 13
```

PAGE NO :
DATE :

Subject 1 : 12
Subject 2 : 12
Subject 3 : 12
Subject 4 : 12
Subject 5 : 12

Subject 1 : 18
Subject 2 : 18
Subject 3 : 18
Subject 4 : 18
Subject 5 : 18