```java
// Internals.java
package CIE;

public class Internals{
    public int[] marksInternal = new int[5];
    public void set(int[] marks){
        for(int i=0; i<marks.length; i++){
            marksInternal[i] = marks[i];
        }
    }
    public int[] get(){
        return marksInternal;
    }
}


// Suudent.java
package CIE;

public class Student{
    public String usn;
    public String name;
    public int sem;
    public Student(String usn, String name, int sem){
        this.usn = usn;
        this.name = name;
        this.sem = sem;
    }
}
```

```java
// Externals.java
package SEE;
import CIE.Student;

public class Externals extends Student{
    public int[] marksSEE = new int[5];
    public Externals(String usn, String name, int sem){
        super(usn, name, sem);
    }
    public void set(int[] marks){
        for(int i=0; i<marks.length; i++){
            marksSEE[i] = marks[i];
        }
    }
    public int[] get(){
        return marksSEE;
    }
}



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

public class LP6 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n;
        System.out.println("Enter the number of students: ");
        n = sc.nextInt();
```

```java
Student[] studs = new Student[n];

Internals[] internals = new Internals[n];

Externals[] externals = new Internals[n];


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

   System.out.println("Enter the USN: ");

   String usn = sc.next();

   System.out.println("Enter name: ");

   String name = sc.next();

   System.out.println("Enter the sem: ");

   int sem = sc.nextInt();


   studs[i] = new Student(usn, name, sem);

   internals[i] = new Internals();

   externals[i] = new Externals(usn, name, sem);


   System.out.println("Enter marks of internals: ");

   int[] marksInt = new int[5];

   for(int j=0; j<5; j++){

      marksInt[j] = sc.nextInt();

   }

   internals[i].set(marksInt);


   System.out.println("Enter marks of see: ");

   int[] marksSee = new int[5];

   for(int j=0; j<5; j++){

      marksSee[j] = sc.nextInt();

   }

   externals[i].set(marksSee);

}
```

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

        System.out.println("USN: " + studs[i].usn);

        System.out.println("Name: " + studs[i].name);


        int[] totalMarks = new int[5];

        int[] marksInt = internals[i].get();

        int[] marksSee = externals[i].get();


        for(int j=0; j<5; j++){

            totalMarks[j] = marksInt[j] + marksSee[j]/2;

            System.out.println(totalMarks[j]);

        }

    }

  }

}
```

14/11/2024

Lab-Program-6

Create a package CIE which has 2 classes - Student & 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 5 courses of the current semester of the student. Import the 2 packages in a file that declares the final marks of n students in all five courses.

CIE/Student.java

```
package CIE;
public class Student {
    public String name;
    public String usn;
    public int sem;
    public Student(String usn, String name, int sem) {
        this.usn = usn;
        this.name = name;
        this.sem = sem;
    }
}
```

CIE/Internal.java

```
package CIE;
public class Internal
    public int[] marksInternal = new int[5];
    public void set(int[] marks) {
        for(int i=0; i<marks.length; i++) {
            marksInternal[i] = marks[i];
        }
    }
    public void[] get() {
        return marksInternal;
    }
}
```

```java
SEE/Externals.java
Package SEE;
import CIE.student;
public class Externals extends student {
    public int[] marksSEE = new int[5];
    public Externals (String usn, String name, int sem) {
        super(usn, name, sem);
    }
    public void set(int[] marks) {
        for(int i=0; i<marks.length; i++) {
            marksSEE[i] = marks[i];
        }
    }
    public int[] get() {
        return marksSEE;
    }
}
```

```java
LP6.java
import CIE.*;
import SEE.*;
import java.util.Scanner;
public class LP6 {
    public static void main (String[] args) {
        Scanner sc = new Scanner (System.in);
        int n;
        System.out.println("Enter the number of students:");
        n = sc.nextInt();

        Student[] studs = new Student[n];
        Internals[] internals = new Internal[n];
        Externals[] externals = new External[n];

        for(int i=0; i<n; i++) {
            System.out.println("Enter the USN: ");
            String usn = sc.next();
            System.out.println("Enter name: ");
            String name = sc.next();
            System.out.println("Enter sem: ");
            int sem = sc.nextInt();
```

```java
studs[i] = new Student (usn, name, sem);
internals[i] = new Internals ();
externals[i] = new Externals (usn, name, sem);

System.out.println(" Enter marks of internals: ");
int [] marksInt = new int[5];
for (int j=0; j<5; j++){
    marksInt [i] = sc.nextInt ();
}
internals [i]. set (marksInt);

System.out.println("Enter marks of SEE: ");
int[] marksSee = new int[5];
for (int j=0; j<5; j++){
    marksSee [j] = sc.nextInt ();
}
externals[i].set (marksSee);
}

for (int i=0; i<n; i++){
    System.out.println(" USN: "+ studs[i]. usn);
    System.out.println(" Name: "+ studs [i]. name);
    int [] totalMarks = new int[5];
    int[] marksInt = internals [i]. get ();
    int[] marksSee = externals [i]. get ();
    for (int j=0; j<5; j++){
        totalMarks [j] = marksInt [j] + marksSee[j]/2;
        System.out.println (totalMarks[j]);
    }
}
}
}
}
```

<u>Output</u> :- Enter the number of students: 3

Enter the USN:
1BM23CS304
Enter name:
Ali
Semester:
3
Enter internal marks for 5 courses:
18 20 15 17 19

Enter marks of SEE:
70 80 75 60 90

Enter the USN:
1BM23CS298
Enter name:
Citan
Semester:
3
Enter marks of internals:
22 19 20 18 21
Enter marks of SEE:
65 75 70 85 60

Enter the USN:
1BM23CS321
Enter name:
Sinha
Semester:
3
Enter marks of internals:
16 18 22 20 17

Enter marks of SEE:
78 82 68 75 70

USN: 1BM23CS04
Name: Ali
     53
     60
     52
     47
     74

USN: 1BM23CS298
Name: Arian
     54
     56
     55
     60
     51

USN: 1BM23CS321
Name: Sinha
     55
     59
     56
     57
     52

N
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