- Create a package CIE which has two classes - Student and Internals. The class student has members like usn, name, sem. The class internals derived from Student 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 derived from student, stores SEE marks of 5 cour. Import the two packages in a file that declares final marks of n students in all 5 five courses

Student class

```java
package CIE;
import java.util.Scanner;
public class Student
{
    protected String usn, name;
    protected int sem;
    public void input()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter your USN:");
        usn = sc.nextLine();
        System.out.println("Enter your name: ");
        name = sc.nextLine();
        System.out.println("Enter your semester: ");
        sem = sc.nextInt();
    }

    public void display()
    {
        System.out.println("USN: " + usn);
        System.out.println("NAME: " + name);
        System.out.println("SEMESTER: " + sem);
    }
}
```
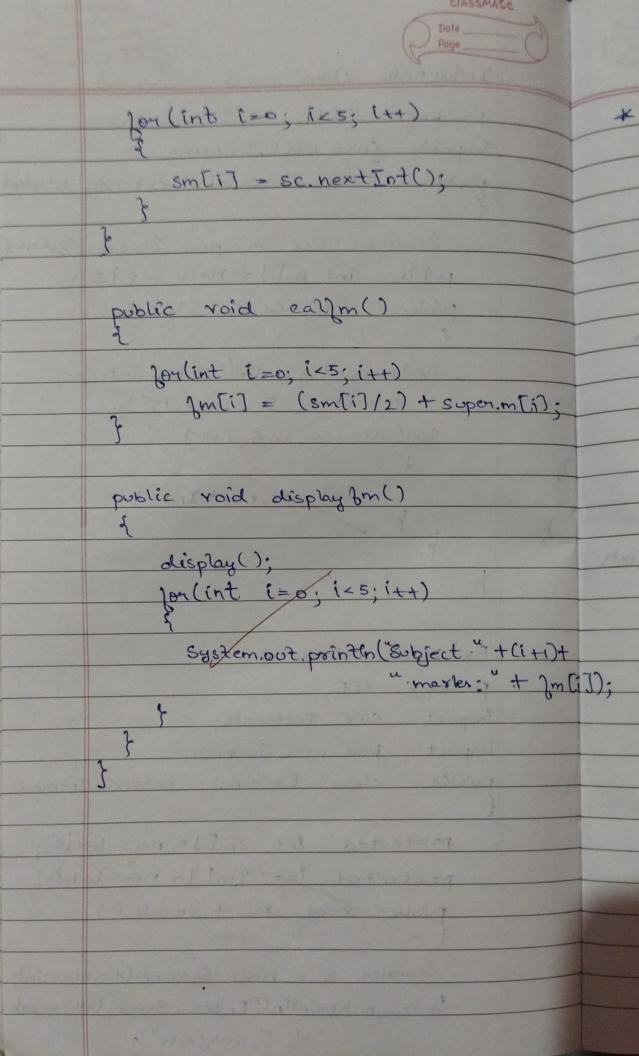
Internals class

```java
package CIE;
import java.util.Scanner;
public class Internals extends Student
{
    Scanner sc = new Scanner(System.in)
    public int m[] = new int [5];
    public void accept_imarks()
    {
        System.out.println(" Enter internal
        marks of 5 subjects");
        for(int i=0; i<5; i++)
        {
            m[i] = sc.nextInt();
        }
    }
}
```

External class

```java
package SEE;
import CIE.Internals;
import java.util.Scanner;
public class External extends Internals
{
    protected int sm[] = new int[5];
    protected int fm[] = new int[5];
    public void accept_smarks()
    {
        Scanner sc = new Scanner(System.in);
        System.out.println(" Enter semester marks
                    of 5 subjects");
```

```java
        for (int i=0; i<5; i++)
        {
            sm[i] = sc.nextInt();
        }
    }

    public void calfm()
    {
        for(int i=0; i<5; i++)
            fm[i] = (sm[i]/2) + super.m[i];
    }

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

*   Main Class

```java
import    CIE.Student;
import    CIE.Internals;
import    SEE.External;


public    class  Main
{
    public   static   void main(String ar [])
    {
        int  n=1;
        External   ob[] = new  External[n];
        for(int i=0; i<n; i++)
        {
            ob[i] = new  External();
            ob[i].input();
            System.out.println("Enter  CIE marks");
            ob[i].accept_imarks();
            System.out.println("Enter SEE marks");
            ob[i].accept_smarks();
        }

        System.out.println("Displaying Data:");
        for(int i=0; i<n; i++)
        {
            ob[i].calfm();
            ob[i].displayfm();
        }
    }
}
```

Output :-

Enter your USN:

IBM22CS189

Enter your name:

Pannaga R Bhat

Enter your semester:

3

Enter CIE Marks

Enter internal marks of 5 subjects

50

49

48

47

50

Enter SEE Marks

Enter semester marks of 5 subjects

100

99

98

97

95

Displaying Data:

USN: 1BM22CS189

NAME: Pannaga R. Bhat

SEMESTER: 3

Subject 1 marks: 200

Subject 2 marks: 98

Subject 3 marks: 97

Subject 4 marks: 95

Subject 5 marks: 97

24.01.24