Extra program -
same program as before but calculate sgpa.

(Package CIE)

(student.java)

```java
package CIE;
public class student {
public int usn, sem;
public String name;
public void get (int u, int s, String n)
{ usn = u;
  sem = s;
  name = n; }
public void set () {
  System.out.println("\n NAME = "+name+ "\n USN = "+usn+ "\n sem
  + sem); }
}
```

(internals.java)

```java
package CIE;
import java.util.Scanner;
public class internals extends CIE.student {
public float inm[];
public internals () {
Scanner ss = new Scanner(system.in);
```

```java
inm = new float[5];
System.out.println("internals marks for 5 subjects (out of 50):");
for(int i=0; i<5; i++){
System.out.println("subject "+(i+1));
inm[i] = ss.nextFloat(); }
}
}
```

(Package see)
(external-java)

```java
package see;
import cie.*;
import java-util.Scanner;
public class external extends cie.student {
public float exm[];
public external(){
Scanner ss = new Scanner(System.in);
exm = new float[5];
System.out.println("external marks for 5 subjects (out of 100):");
for(int i=0; i<5; i++){
System.out.println("subject "+(i+1));
exm[i] = ss.nextFloat(); }
}
}
```

(credits.java)

```java
package SEE;
import CIE.*;
import java.util.Scanner;
public class credits extends CIE.student {
public float cred[];
public credits() {
Scanner ss = new Scanner(System.in);
cred = new float[5];
System.out.println("subject entu credits of the 5 subjects:");
for(int i=0; i<5; i++) {
System.out.println("subject" + (i+1));
cred[i] = ss.nextFloat(); }
}
}
```

(Driver class)

(sgpa.java)

```java
import CIE.*;
import SEE.*;
import java.util.Scanner;
class sgpa {
public static void main(String args[]) {
Scanner ss = new Scanner(System.in);
```

```java
int g = 6;
float sum = 0, sum2 = 0;
float sg;
System.out.println ("enter the no. of students");
int no = ss.nextInt();
for (int j = 0; j < no; j++) {
float tot[] = new float[5];
CIE.student stud = new CIE.student();
System.out.println ("\n enter name, usn and sem");
String n = ss.next();
int u = ss.nextInt();
int s = ss.nextInt();
stud.get(u, s, n);
CIE.internals ci = new CIE.internals();
SEE.externals se = new SEE.external();
SEE.credits cr = new SEE.credits();
stud.set();
for (int i = 0; i < 5; i++) {
tot[i] = (ci.inm[i] + (se.exm[i] / 2));
if (tot[i] >= 90) { g = 10; }
else if (tot[i] >= 80 && tot[i] < 90) { g = 9; }
else if (tot[i] >= 70 && tot[i] < 80) { g = 8; }
else if (tot[i] >= 60 && tot[i] < 70) { g = 7; }
else if (tot[i] >= 50 && tot[i] < 60) { g = 6; }
```

```java
else if (tot[i] >= 40 && tot[i] < 50) { g = 4; }
else if (tot[i] < 40) { g = 0; }
sum + = g * cr.cred[i];
sum2 + = cr.cred[i];
}

sg = (float) sum ((float) sum2;
System.out.println ("SGPA of student "+ (j+1));
System.out.println (sg); }
}
}
}
```