

Week-7 (Extra Programs)

```
1. import java.util.Scanner;
   class Student {
       String USN, name;
       int sem;
       Scanner sc = new Scanner(System.in);
       void setStuDetails() {
           System.out.println("Enter USN of Student:");
           this.USN = sc.nextLine();
           System.out.println("Enter name of Student:");
           this.name = sc.nextLine();
           System.out.println("Enter Semester of Student:");
           this.sem = sc.nextInt();
       }
       void getStuDetails() {
           System.out.println("USN: " + this.USN);
           System.out.println("Name: " + this.name);
           System.out.println("Semester: " + this.sem);
       }
   }

   class Test extends Student {
       double cieMarks[] = new double[5];
       int credits[] = new int[5];
       int totalCredits = 0;
       void setCieDetails() {
           for (int i = 0; i < cieMarks.length; i++) {
               System.out.println("Enter CIE marks (50)
               in course " + (i+1) + ": ");
               cieMarks[i] = sc.nextDouble();
           }
       }
   }
```

```
System.out.println("Enter credits of course"
    + (i+1) + ": ");
```

```
credits[i] = sc.nextInt();
totalCredits += credits[i];
```

```
}
```

```
}
```

```
}
```

```
class Result extends Exam {
```

```
class Exam extends Test {
```

```
char grades[] = new char[5];
```

```
double sgpa = 0;
```

```
int points[] = new int[5];
```

```
void calcSGPA() {
```

```
    for(int i=0; i<5; i++) {
```

```
        if (totalMarks[i] > 100) {
```

```
            System.out.println("Error: Marks are
                above 100");
```

```
            return;
```

```
        }
```

```
        else if (totalMarks[i] >= 90) {
```

```
            points[i] = 10;
```

```
        }
```

```
        else if (totalMark[i] >= 80) {
```

```
            point[i] = 9;
```

```
        }
```

```
        else if (totalMark[i] >= 70) {
```

```
            point[i] = 8;
```

```
        }
```

```
        else if (totalMarks[i] >= 60) {
```

```
            points[i] = 7;
```

```
        }
```

```
else if (totalMarks >= 50) {
    points[i] = 5;
} else
else if (totalMarks >= 40) {
    points[i] = 4;
}
else {
    points[i] = 0;
}
sgpa += (points[i] * credits[i]);
}
}

void calcGrade() {
    for (int i = 0; i < 5; i++) {
        if (totalMarks[i] > 100) {
            System.out.println("Error: Marks
                                are above 100");
            return;
        }
        else if (totalMark[i] >= 90) {
            grades[i] = 'S';
        }
        else if (totalMarks[i] >= 80) {
            grades[i] = 'A';
        }
        else if (totalMarks[i] >= 70) {
            grades[i] = 'B';
        }
        else if (totalMarks[i] >= 60) {
            grades[i] = 'C';
        }
    }
}
```



```
        else if (totalMarks[i] >= 50) {  
            grades[i] = 'D';  
        }  
        else if (totalMarks[i] >= 40) {  
            grades[i] = 'E';  
        }  
        else {  
            grades[i] = 'F';  
        }  
    }  
}  
  
void getSGPA() {  
    System.out.println  
    System.out.format("SGPA is %.2f",  
        (sgpa/totalCredits));  
}  
  
void getGrades() {  
    for (int i=0; i<5; i++) {  
        System.out.println("\n Subject " + (i+1) +  
            ": " + grades[i]);  
    }  
}  
}
```

```
class Prog1 {  
    int n = 0;  
    Scanner sc = new Scanner(System.in);  
    System.out.println("Enter number of Students");  
    n = sc.nextInt();  
    Result results[] = new Result[n];  
}
```

```
for (int i=0; i<n; i++) {  
    results[i] = new Result();  
    results[i].setStuDetails();  
    results[i].setCieDetails();  
    results[i].setSeeDetails();  
    results[i].calcSGPA();  
    results[i].calcGrade();  
    results[i].getSGPA();  
    results[i].getGrades();  
}  
}  
}
```

```
class Exam extends Test {  
    double seeMarks[] = new double[5];  
    double totalMarks[] = new double[5];  
    int totalCredits = super.totalCredits;  
    void setSeeDetails() {  
        for (int i=0; i<cieMarks.length; i++) {  
            System.out.println("Enter SEE marks(100)  
                                in course" + (i+1) + ": ");  
            seeMarks[i] = sc.nextDouble()/2;  
        }  
        calc calcTotalMarks();  
    }  
    void calcTotalMarks() {  
        for (int i=0; i<5; i++) {  
            totalMarks[i] = cieMarks[i] + seeMarks[i];  
        }  
    }  
}
```