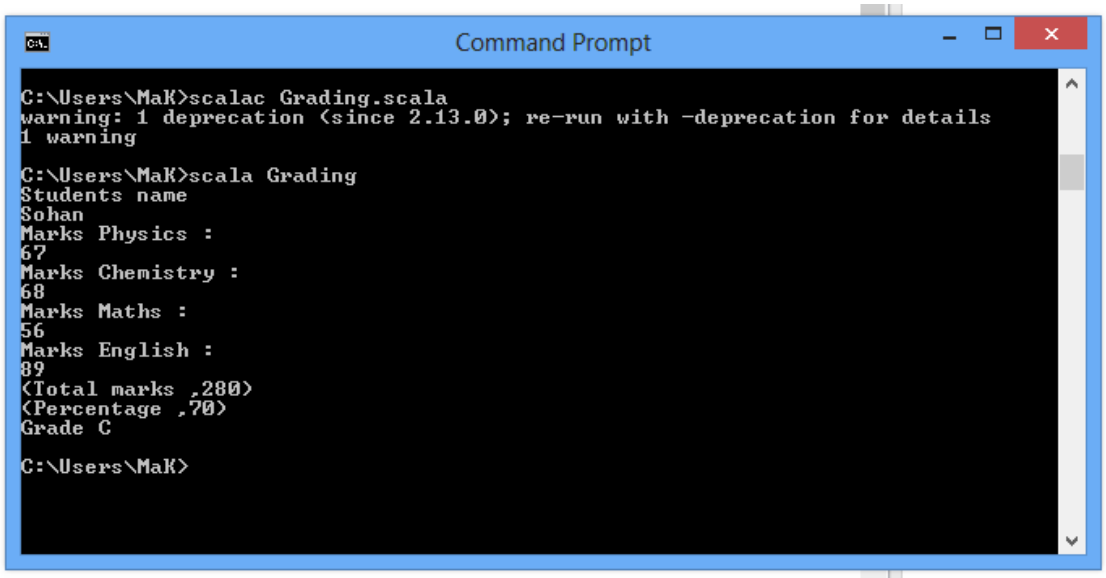
**Scala coding assignment-1**

1. WAP to calculate student grade based on below rules
    a. 90 to 100 -> Grade A
    b. 80 to 90 -> Grade B
    c. 70 to 80 -> Grade C
    d. Failure.

Ans :

Grading.scala

```
object Grading
{
        def main(arg: Array[String]){
          var gr, nm: String = "";
          var ph, ch, mt, en, tot, per: Int = 0;
          println("Students name");
          nm =scala.io.StdIn.readLine();
          println("Marks Physics : ");
          ph =scala.io.StdIn.readInt();
          println("Marks Chemistry : ");
          ch =scala.io.StdIn.readInt();
          println("Marks Maths : ");
          mt =scala.io.StdIn.readInt();
          println("Marks English : ");
          en =scala.io.StdIn.readInt();
          tot = ph + ch + mt +en
          per = tot /4;

          println("Total marks ",tot);
          println("Percentage ",per);

          if (per >= 90)
            gr ="Grade A";
          else
            if (per >= 80)
              gr = "Grade B";
            else
              if (per >= 70)
                    gr = "Grade C";
              else
                gr = "Failure";

          println(gr);
    }
}
```




2. WAP to calculate maximum % scored student report from below data.

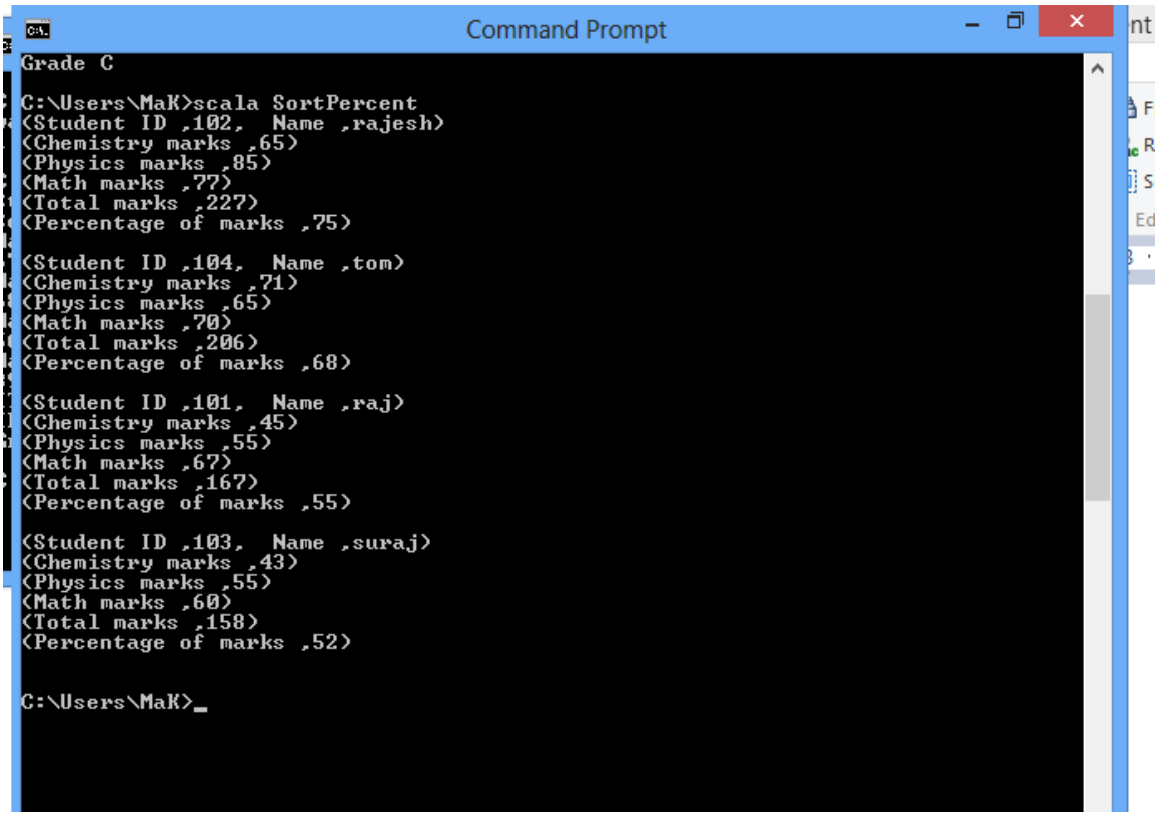
{id:101,name:raj,cmarks:45,pmarks:55,mmarks:67}
{id:102,name:rajesh,cmarks:65,pmarks:85,mmarks:77}
{id:103,name:suraj,cmarks:43,pmarks:55,mmarks:60}
{id:104,name:tom,cmarks:71,pmarks:65,mmarks:70}

Ans :

**File : SortPercent.scala**

```
class Students{
  var id, cmarks, pmarks, mmarks, tot, per: Int = 0;
  var name: String = "";
    def SetVal(i:Int, nm:String, cm:Int, pm:Int, mm:Int): Unit = {
     this.id = i;
     this.name = nm;
     this.cmarks = cm;
     this.pmarks = pm;
     this.mmarks = mm;
     this.tot = cm + pm + mm;
     per = this.tot /3;
    }
    def Show(): Unit = {
          println("Student ID ",this.id,"  Name ",this.name);
          println("Chemistry marks ",this.cmarks);
          println("Physics marks ",this.pmarks);
          println("Math marks ",this.mmarks);
          println("Total marks ",this.tot);
          println("Percentage of marks ",this.per);
   }
}

object SortPercent
{
```

```
// var myArray : Array[String] = new Array[String](10);
// val users = Array.fill[TestUser](2)(new TestUser())

def main(arg: Array[String]){
   var i,j : Int = 0;
   var stud = Array.fill[Students](4)(new Students());
   stud(0).SetVal(101,"raj",45,55,67);
   stud(1).SetVal(102,"rajesh",65,85,77);
   stud(2).SetVal(103,"suraj",43,55,60);
   stud(3).SetVal(104,"tom",71,65,70);

   var tmp = new Students();

   for(i <- 0 to 3)
    {
      for (j<- i to 3)
      {
        if (stud(i).tot < stud(j).tot)
        {
          tmp = stud(i);
          stud(i) = stud(j);
          stud(j) = tmp;
        }
       }
     }
   for( i <- 0 to 3)
   {
     stud(i).Show();
     println("");
   }
 }
}
```




3. WAP to perform sorting of below data based on id and name(create class, object and a method for sorting in util class)

{id:101,name:raj}
{id:121,name:rajesh}
{id:130,name:suraj}
{id:114,name:tom}

Ans:

**File : SortObject.scala**

```
class Person{
  var id: Int = 0;
  var name: String = "";
    def SetVal(i:Int, nm:String): Unit = {
     this.id = i;
     this.name = nm;
    }

    def Show(): Unit = {
          println("Persons ID ",this.id,"  Name ",this.name);
   }
}

object SortObject
```

```
{
// var myArray : Array[String] = new Array[String](10);

// Arrays of Object=>
// val users = Array.fill[TestUser](2)(new TestUser())

def main(arg: Array[String]){
   var i,j : Int = 0;
   var pers = Array.fill[Person](4)(new Person());
   pers(0).SetVal(101,"raj");
   pers(1).SetVal(121,"rajesh");
   pers(2).SetVal(130,"suraj");
   pers(3).SetVal(114,"tom");

   var tmp = new Person();

   for(i <- 0 to 3)
    {
      for (j<- i to 3)
      {
        if (pers(i).id > pers(j).id)
        {
          tmp = pers(i);
          pers(i) = pers(j);
          pers(j) = tmp;
        }
       }
     }
   for( i <- 0 to 3)
   {
     pers(i).Show();
     println("");
   }
 }
}
```