Scala作业参考答案

【课后作业1】

object WordCountExample {

def main(args: Array[String]): Unit = {

val wordline=Source.fromFile("words.txt").getLines().toBuffer

val lineresult=wordline.flatMap(\_.split(" ")).map((\_,1)).groupBy(\_.\_1).map(t=>(t.\_1,t.\_2.size)).toList.sortBy(\_.\_2).reverse

println(lineresult)

}

}

【课后作业2】

def main(args: Array[String]): Unit = {  
 //1.初始化各个城市最近3天的气温  
 var day01 = Array(("taiyuan",10.0),("beijing",12.0),("shanghai",9.0),("guangzhou",20.0))  
 var day02 = Array(("taiyuan",12.0),("beijing",15.0),("shanghai",7.0),("guangzhou",21.0))  
 var day03 = Array(("taiyuan",8.0),("beijing",6.0),("shanghai",5.0),("guangzhou",22.0))  
  
 //2.合并数据源  
 var unionWeatherData : Array[(String,Double)] = day01 ++ day02 ++ day03  
 //unionWeatherData.foreach(println)  
 //3.分组统计输出结果  
 var cityDataGroup: Map[String, Array[(String, Double)]] = unionWeatherData.groupBy(data => data.\_1)  
 cityDataGroup.foreach(println)  
  
 //4. 第二种方式统计每个城市的平均气温  
 var temperatureRDD: Map[String, Double] = cityDataGroup.map(data => {  
 //4.1 累加求和(城市气温)  
 var sumTemperature = data.\_2.map(x => x.\_2).sum  
 //var times = data.\_2.length (思考：30行于31行的执行结果是否等价)  
 var times = data.\_2.map(x => x.\_2).length  
 //4.2 取出城市名  
 var cityName = data.\_1  
 (cityName, sumTemperature / times)  
 })  
  
 temperatureRDD.foreach(println)  
}

【课堂案例3】

def main(args: Array[String]): Unit = {  
 //1.初始化各个城市最近3天的气温  
 var day01 = Array(("taiyuan",10.0),("beijing",12.0),("shanghai",9.0),("guangzhou",20.0))  
 var day02 = Array(("taiyuan",12.0),("beijing",15.0),("shanghai",7.0),("guangzhou",21.0))  
 var day03 = Array(("taiyuan",8.0),("beijing",6.0),("shanghai",5.0),("guangzhou",22.0))  
  
 //2.合并数据源  
 var unionWeatherData : Array[(String,Double)] = day01 ++ day02 ++ day03  
 //unionWeatherData.foreach(println)  
 //3.分组统计输出结果  
 var cityDataGroup: Map[String, Array[(String, Double)]] = unionWeatherData.groupBy(data => data.\_1)  
 cityDataGroup.foreach(println)  
  
 //4.第三种方式统计每个城市的平均气温（reduce）  
 var temperatureResult: Map[String, Double] = cityDataGroup.mapValues(data => {  
 var d: Double = data.reduceLeft((a, b) => ("", a.\_2 + b.\_2)).\_2 / data.length  
 d  
 })  
  
 for( i <- temperatureResult){  
 println(i)  
 }  
}

【课堂案例4】

def main(args: Array[String]): Unit = {  
 //1.初始化各个城市最近3天的气温  
 var day01 = Array(("taiyuan",10.0),("beijing",12.0),("shanghai",9.0),("guangzhou",20.0))  
 var day02 = Array(("taiyuan",12.0),("beijing",15.0),("shanghai",7.0),("guangzhou",21.0))  
 var day03 = Array(("taiyuan",8.0),("beijing",6.0),("shanghai",5.0),("guangzhou",22.0))  
  
 //2.合并数据源  
 var unionWeatherData : Array[(String,Double)] = day01 ++ day02 ++ day03  
 //unionWeatherData.foreach(println)  
 //3.分组统计输出结果  
 var cityDataGroup: Map[String, Array[(String, Double)]] = unionWeatherData.groupBy(data => data.\_1)  
 //cityDataGroup.foreach(println)  
  
   
  
 //4.第四种方式统计每个城市的平均气温(fold)  
 cityDataGroup.mapValues(data => {  
 var totalTemperature: Double = data.foldLeft(0d)(\_ + \_.\_2)  
 totalTemperature / data.length  
 }).foreach(println)

cityDataGroup.mapValues(data => {  
 var totalTemperature: Double = data.foldLeft(0d)((a,b)=> a+ b.\_2)  
 totalTemperature / data.length  
 }).foreach(println)  
  
  
}