**Session 6**

**Assignment 6.5**

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Course: Big Data Hadoop & Spark Training

Problem Statement

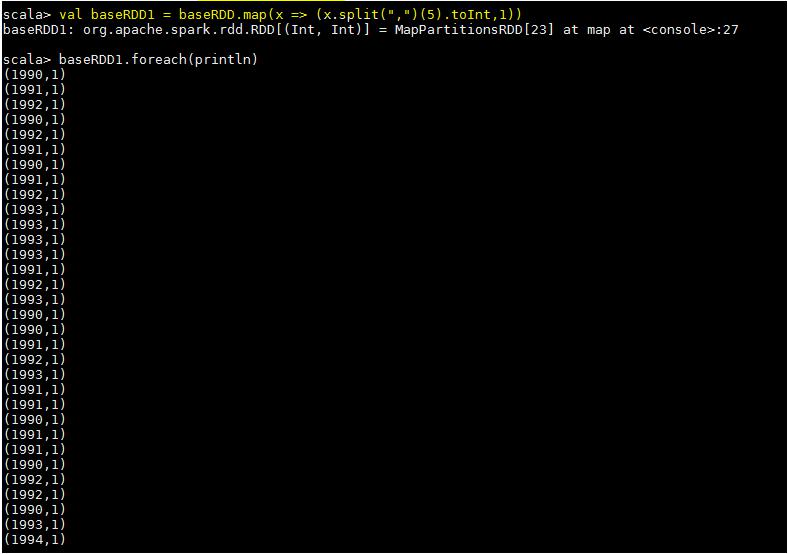
1. What is the distribution of the total number of air-travelers per year?
2. What is the total air distance covered by each user per year?
3. Which user has travelled the largest distance till date?
4. What is the most preferred destination for all users?

Task 1 - What is the distribution of the total number of air-travelers per year?

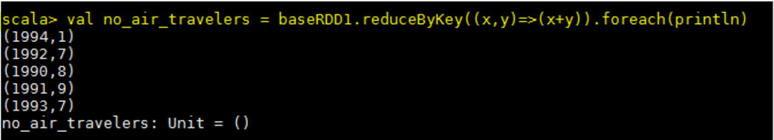
Codes used to achieve the above,

1. ***val baseRDD1 = baseRDD.map(x => (x.split(",")(5).toInt,1))***
2. ***val no\_air\_travelers = baseRDD1.reduceByKey((x,y)=>(x+y)).foreach(println)***

we are creating a tuple RDD baseRDD1 and mapping the key with numerical value 1.



We are reducing the number of occurrences using reduceByKey and printing the result. Therefore, Total no of air travelers per year is,

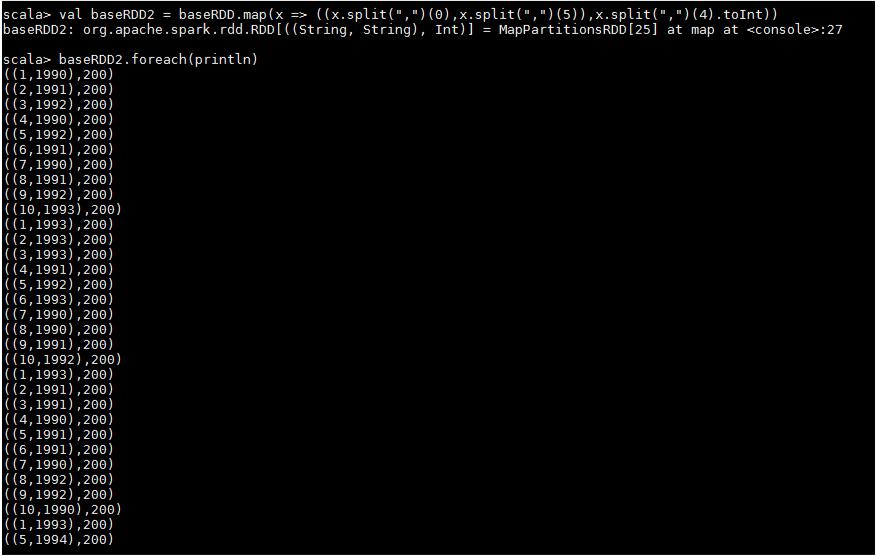


Task 2 - What is the total air distance covered by each user per year?

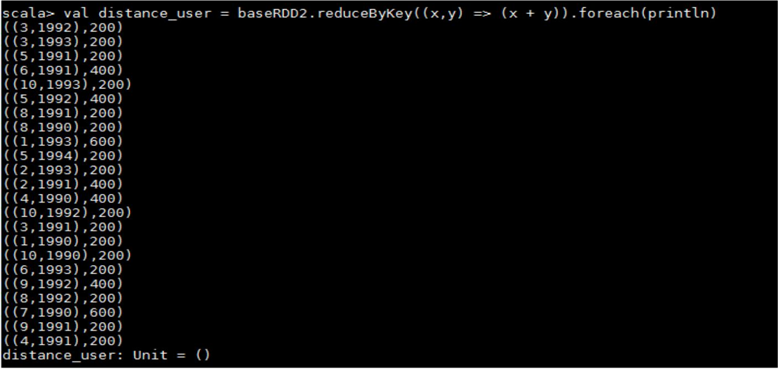
Codes used to achieve the above,

1. ***val baseRDD2 = baseRDD.map(x => ((x.split(",")(0),x.split(",")(5)),x.split(",")(4).toInt))***
2. ***val distance\_user = baseRDD2.reduceByKey((x,y) => (x + y)).foreach(println)***

We are creating a tuple rdd “baseRDD2” and mapping the key and value. Here the userID, year acts as key and the travel distance is value.



In the second step, we are reducing the number of occurrences using reduceByKey and printing the result, therefore the total air distance covered by each user per year is show below in the screenshot



Task 3 - Which user has travelled the largest distance till date?

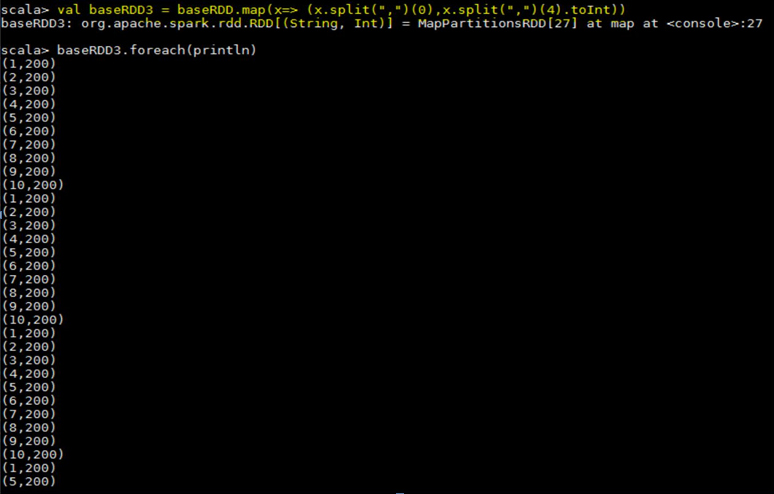
Codes used below,

1. ***val baseRDD3 = baseRDD.map(x=> (x.split(",")(0),x.split(",")(4).toInt))***
2. ***val largest\_dist = baseRDD3.reduceByKey((x,y)=>(x+y)).takeOrdered(1)***

The tuple rdd “baseRDD3” is created to map the key and value from the baseRDD. Here the userID and is key and the travel distance is value,

In the 2nd step, we are reducing the number of occurrences using reduceByKey and using the takeOrdered function to get the result,

***largest\_dist: Array[(String, Int)] = Array((1,800))***



The required output,



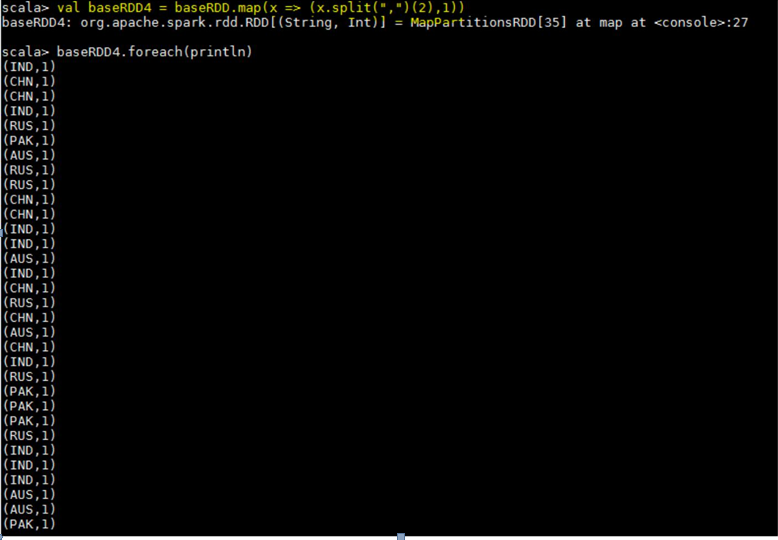
Task 4 – What is the most preferred destination for all users?

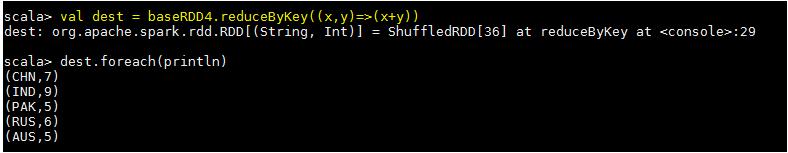
Codes used below,

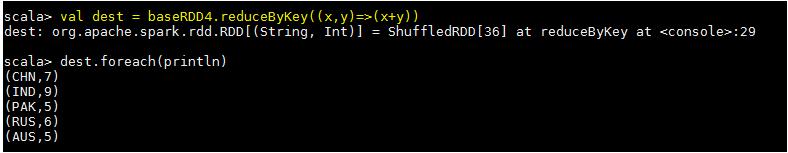
1. ***val baseRDD4 = baseRDD.map(x => (x.split(",")(2),1))***
2. ***val dest = baseRDD4.reduceByKey((x,y)=>(x+y))***
3. ***val dest =***

***baseRDD4.reduceByKey((x,y)=>(x+y)).takeOrdered(1)(Ordering[Int].reverse.on(\_.\_2))***

A tuple rdd created with the destination as key and numerical 1 as value, and we are reducing the number of occurrences using the reduceByKey. Now, the most preferred destination is taken by using the function takeOrdered and ordering the values descending so that we can get the required output.







The required output,

