

## **Report for lab assignment 4**

### 1. Question:

Hadoop MapReduce Algorithm

Implement MapReduce algorithm for finding Facebook common friends problem and run the MapReduce job on Apache Hadoop. Write a report including your algorithm and result screenshots.

### Description:

Step 1: I created a jar file of FacebookCommonFriend in IntelliJ IDEA using Maven commands.

Step 2: I uploaded this jar file together with an input file in remote server using FillZilla.

Step 3: I connected to the remote server using ssh, as: ssh group2@172.16.2.241 in Terminal.

Step 4: Run hadoop command to execute the jar file.

```
$ hadoop fs -put CommonFriends-1.0-SNAPSHOT.jar
```

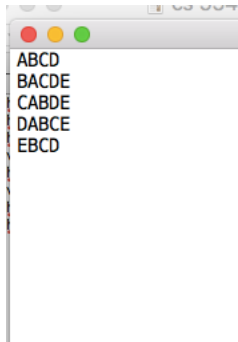
```
$ hadoop fs -put input
```

```
$ hadoop jar CommonFriends-1.0-SNAPSHOT.jar MutualFriends input output
```

```
$ hadoop fs -cat output/part-r-00000
```

Screenshots:

Input file:



Terminal:

```
16/02/17 22:13:07 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing
remed. Implement the Tool interface and execute your application with ToolRunner to remed
16/02/17 22:13:07 INFO input.FileInputFormat: Total input paths to process : 1
16/02/17 22:13:08 INFO mapreduce.JobSubmitter: number of splits:1
16/02/17 22:13:08 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1455690915
16/02/17 22:13:09 INFO impl.YarnClientImpl: Submitted application application_1455690915
16/02/17 22:13:09 INFO mapreduce.Job: The url to track the job: http://KC-SCE-CS5542-1:8
application_1455690915780_0012/
16/02/17 22:13:09 INFO mapreduce.Job: Running job: job_1455690915780_0012
16/02/17 22:13:17 INFO mapreduce.Job: Job job_1455690915780_0012 running in uber mode :
16/02/17 22:13:17 INFO mapreduce.Job: map 0% reduce 0%
16/02/17 22:13:25 INFO mapreduce.Job: map 100% reduce 0%
16/02/17 22:13:32 INFO mapreduce.Job: map 100% reduce 50%
16/02/17 22:13:40 INFO mapreduce.Job: map 100% reduce 100%
16/02/17 22:13:40 INFO mapreduce.Job: Job job_1455690915780_0012 completed successfully
16/02/17 22:13:40 INFO mapreduce.Job: Counters: 49
    File System Counters
        FILE: Number of bytes read=40
        FILE: Number of bytes written=344704
        FILE: Number of read operations=0
        FILE: Number of large read operations=0
        FILE: Number of write operations=0
```

MapReduce was successful but the output file was empty.