

TokenizerMapper → **IntSumReducer** → **sortingMapper** → **sortingKey** → **CountingTopK** → **sortingReducer**

TokenizerMapper class is the first mapper to filters out the revision id that was edited between the two given dates. **IntSumReducer** class increments the count of a Revision that has been retrieved and writes into output. **sortingMapper** class is the second mapper which creates **sortingKey** object for each item retrieved from the first map and reduce process which automatically sort through a method in **sortingKey**. **sortingKey** class implements **WritableComparable** to sort the data retrieved according to count and revision id respectively. **sortingReducer** class is the second reducer which prints the top k results using the **CountingTopK** enum. **CountingTopK** enum that acts like a counter for checking if the K amount of results have been written

K = 50	Set 1	Set 2	Set 3
Query processing time	6883690	6854870	6921220
Bytes Read (HDFS)	31290382277	31290382277	31290382277
Bytes Transferred	161982323	161982323	161982323

K = 500	Set 1	Set 2	Set 3
Query processing time	6922290	6873560	6951330
Bytes Read (HDFS)	31290382277	31290382277	31290382277
Bytes Transferred	161982323	161982323	161982323

K = 50	Query processing time (Milliseconds)	Bytes read from HDFS (Bytes)	Bytes transferred over network (Bytes)
Mean Value	6886593	31290382277	161982323
Standard Deviation	33270	0	0

K = 500	Query processing time (Milliseconds)	Bytes read from HDFS (Bytes)	Bytes transferred over network (Bytes)
Mean Value	6922290	31290382277	161982323
Standard Deviation	39298	0	0

Command Arguments -

```
javac-run.sh -source 1.7 -target 1.7 MapReduce.java
```

```
jar -cvf MapReduce.jar MapReduce*.class
```

```
setenv HADOOP_CLASSPATH MapReduce.jar
```

```
java-run.sh MapReduce <input> <output> <startdate> <enddate> <k>
```

After every run of the process please remove the OutputTest folder before continuing with the next run

Reference : <https://tutorials.techmytalk.com/2014/11/14/mapreduce-composite-key-operation-part2/>