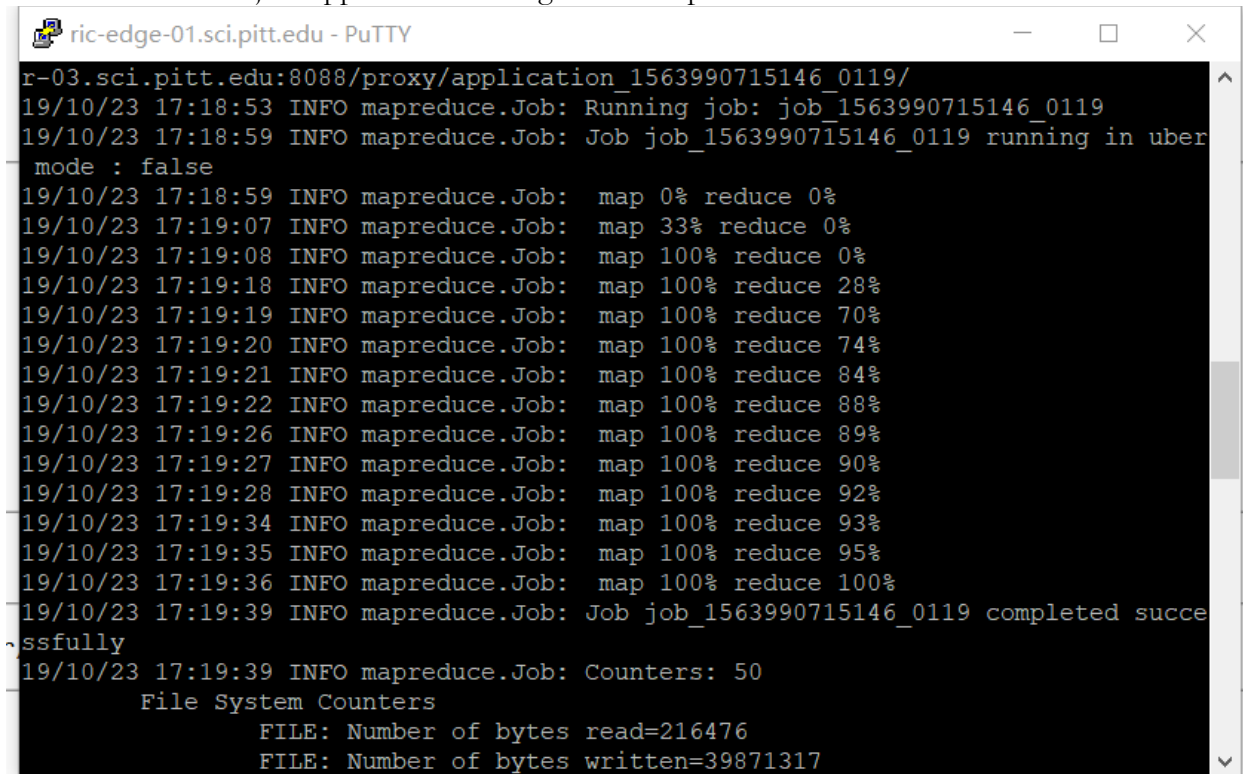


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CS 1699
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Homework-3

Execution result of java application running on my local machine:

```
[LingruiMBP:Homework 3 lingruiouyang$ java WordCount Test1.txt Test2.txt Test3.]  
txt  
The execution time: 1147ms  
LingruiMBP:Homework 3 lingruiouyang$
```

Execution result of java application running on Hadoop cluster:



The screenshot shows a PuTTY terminal window titled "ric-edge-01.sci.pitt.edu - PuTTY". The terminal displays the output of a Hadoop MapReduce job. The logs show the job starting at 17:18:53 and completing at 17:19:39. The progress of the map and reduce tasks is shown as percentages. The final output shows the job completed successfully and the counters for the file system.

```
ric-edge-01.sci.pitt.edu:8088/proxy/application_1563990715146_0119/  
19/10/23 17:18:53 INFO mapreduce.Job: Running job: job_1563990715146_0119  
19/10/23 17:18:59 INFO mapreduce.Job: Job job_1563990715146_0119 running in uber  
mode : false  
19/10/23 17:18:59 INFO mapreduce.Job: map 0% reduce 0%  
19/10/23 17:19:07 INFO mapreduce.Job: map 33% reduce 0%  
19/10/23 17:19:08 INFO mapreduce.Job: map 100% reduce 0%  
19/10/23 17:19:18 INFO mapreduce.Job: map 100% reduce 28%  
19/10/23 17:19:19 INFO mapreduce.Job: map 100% reduce 70%  
19/10/23 17:19:20 INFO mapreduce.Job: map 100% reduce 74%  
19/10/23 17:19:21 INFO mapreduce.Job: map 100% reduce 84%  
19/10/23 17:19:22 INFO mapreduce.Job: map 100% reduce 88%  
19/10/23 17:19:26 INFO mapreduce.Job: map 100% reduce 89%  
19/10/23 17:19:27 INFO mapreduce.Job: map 100% reduce 90%  
19/10/23 17:19:28 INFO mapreduce.Job: map 100% reduce 92%  
19/10/23 17:19:34 INFO mapreduce.Job: map 100% reduce 93%  
19/10/23 17:19:35 INFO mapreduce.Job: map 100% reduce 95%  
19/10/23 17:19:36 INFO mapreduce.Job: map 100% reduce 100%  
19/10/23 17:19:39 INFO mapreduce.Job: Job job_1563990715146_0119 completed succe  
ssfully  
19/10/23 17:19:39 INFO mapreduce.Job: Counters: 50  
File System Counters  
FILE: Number of bytes read=216476  
FILE: Number of bytes written=39871317
```

From the two screenshots above, we can see that it took 1.147 seconds to run the application on local machine, while it took 40 seconds to finish the job on Hadoop cluster. This is because the size of each file is only about 10 MB, this is even smaller than one block size in HDFS, so the performance of application is not good compared to the application running on local machine. If we want to test out how powerful Hadoop is, then perhaps we can use files with 1 GB to do so.