IMPLEMENT WORD COUNT/FREQUENCY PROGRAMS USING MAPREDUCE

AIM:

To implement the python mapper and reducer programs using MapReduce to count the words in a text file using Hadoop.

PROCEDURE:

1. Open command prompt as administrator and start the Hadoop by using the command:

```
start-all.cmd
```

2. Create a new directory in the Hadoop file systems using the command:

```
hadoop fs -mkdir /wordCount
```

3. Upload the input text file into the wordCount directory using the command:

```
hadoop fs -put C:/Users/mercy/OneDrive/Documents/DataAnalytics/input.txt /wordcount
```

4. Create the mapper and reducer files.

5. To execute the files with Hadoop streaming run the following command:

```
hadoop jar C:/hadoop-3.3.6/share/hadoop/tools/lib/hadoop-streaming-3.3.6.jar ^ -file
C:/Users/mercy/Documents/DataAnalytics/mapper.py ^ -file
C:/Users/mercy/Documents/DataAnalytics/reducer.py ^ -input /wordCount/input.txt ^ -output
/user/output ^ -mapper "python mapper.py" ^ -reducer "python reducer.py"
```

MAPPER.PY

```
#!C:/ProgramData/chocolatey/bin/python3.exe

import sys for line in sys.stdin:     line =

line.strip()     words = line.split()     for  word

in words:

      print('%s\t%s' % (word, 1))
```

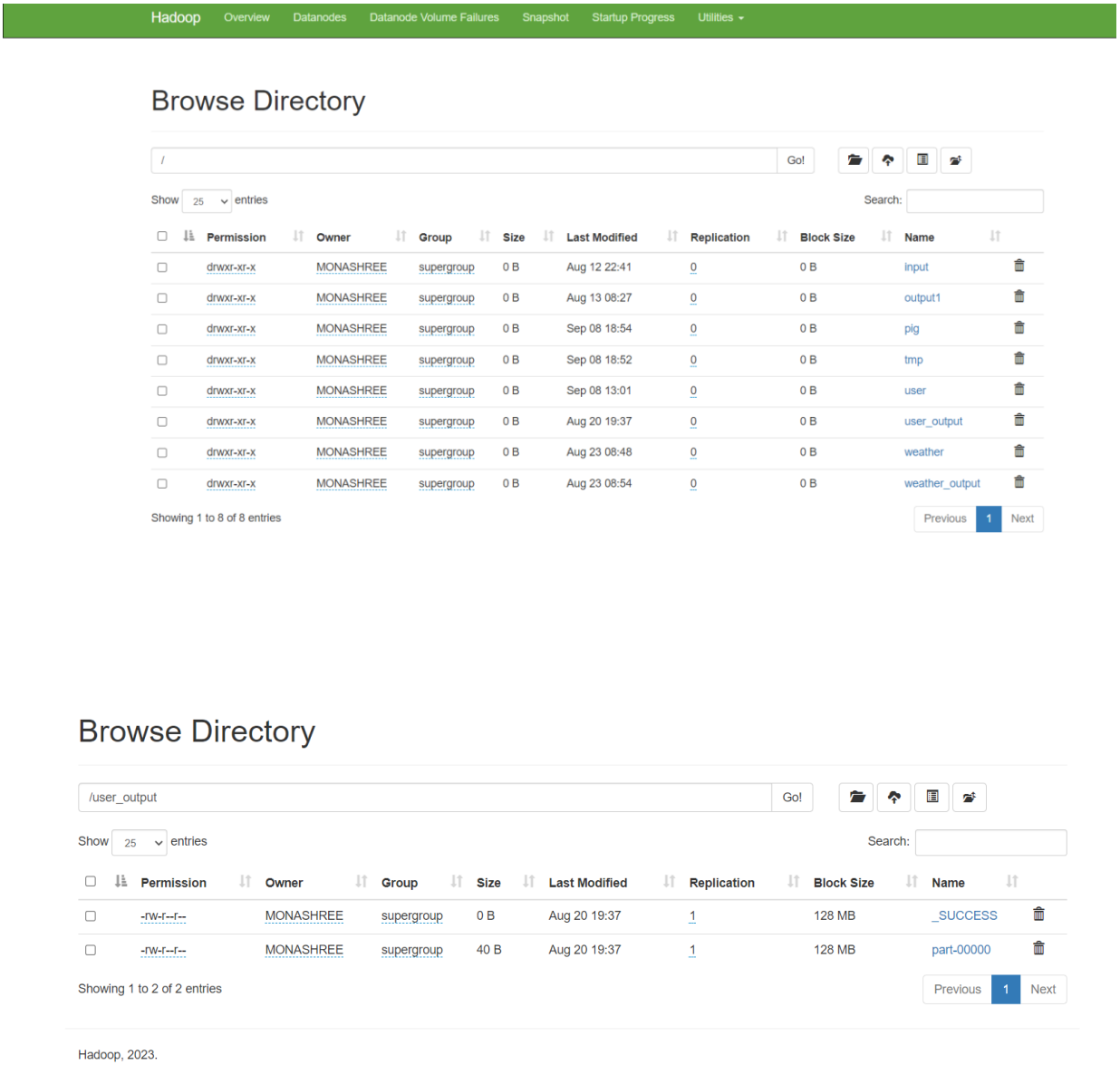
REDUCER.PY

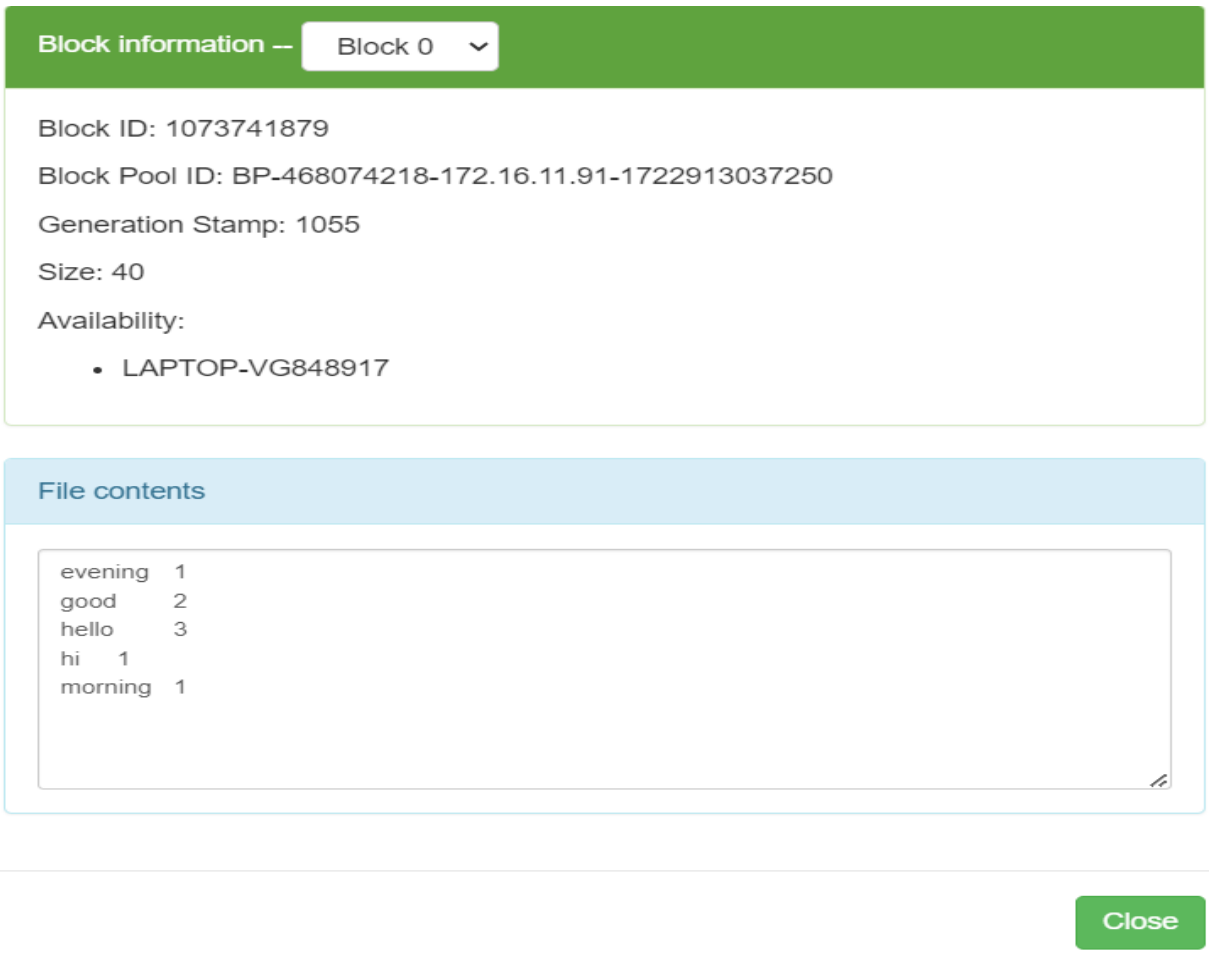
```
#!C:/ProgramData/chocolatey/bin/python3.exe

import sys prev_word = None prev_count = 0 for
```

```
line in sys.stdin:     line = line.strip()     word,
count = line.split('\t')     count = int(count)
if(prev_word == word):         prev_count += count
else:         if prev_word:             print('%s\t%s' %
(prev_word, prev_count))         prev_count =
count         prev_word = word if prev_word ==
word:
        print('%s\t%s' % (prev_word, prev_count))
```

OUTPUT:





RESULT:

Thus the implementation of the python mapper and reducer programs using MapReduce to count the words in a text file using Hadoop is executed successfully.