Exp.No: 3

Map Reduce program to process a weather dataset

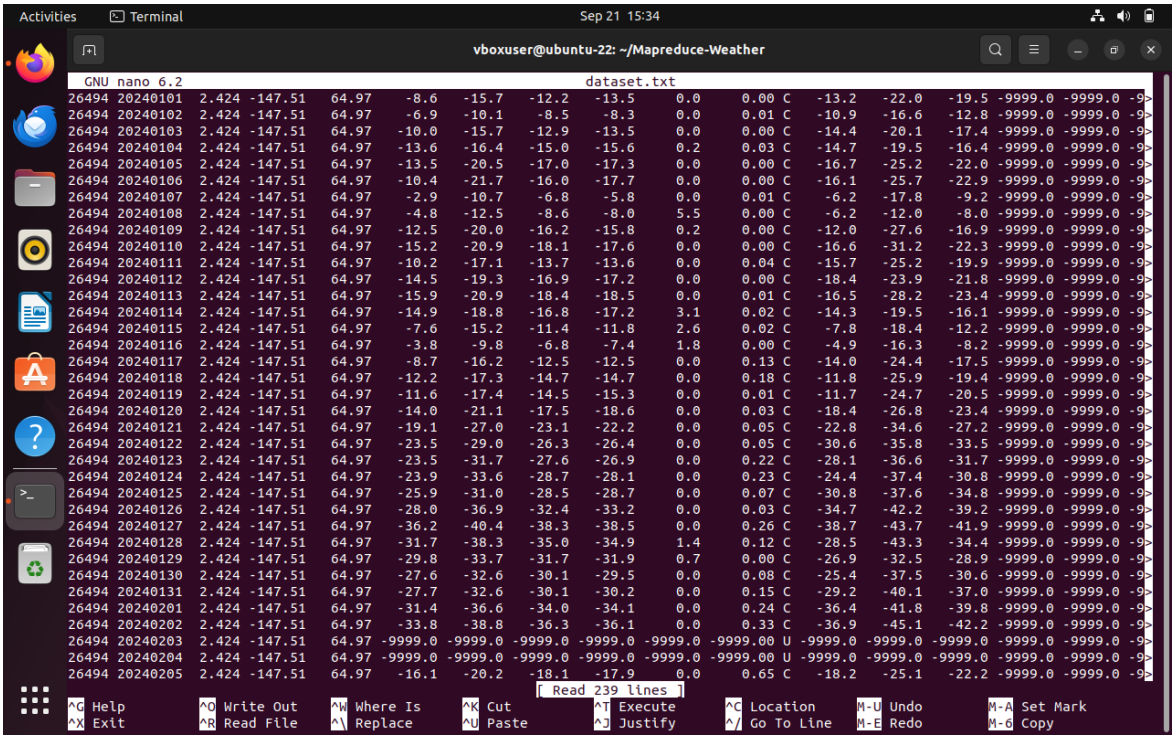
AIM:

To implement MapReduce program to process a weather dataset.

PROCEDURE:

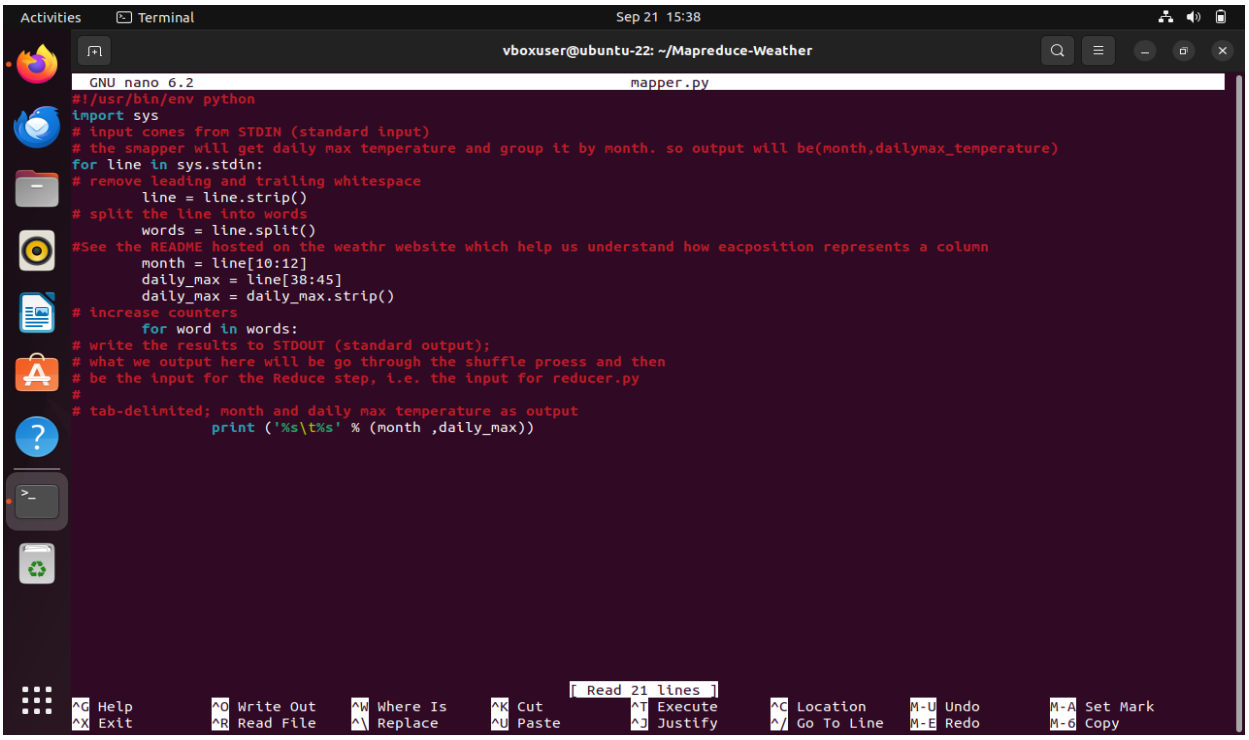
Step 1: Create Data File: Create a file named "word_count_data.txt" and populate it with text data that you wish to analyse. Login with your hadoop user.

Output:



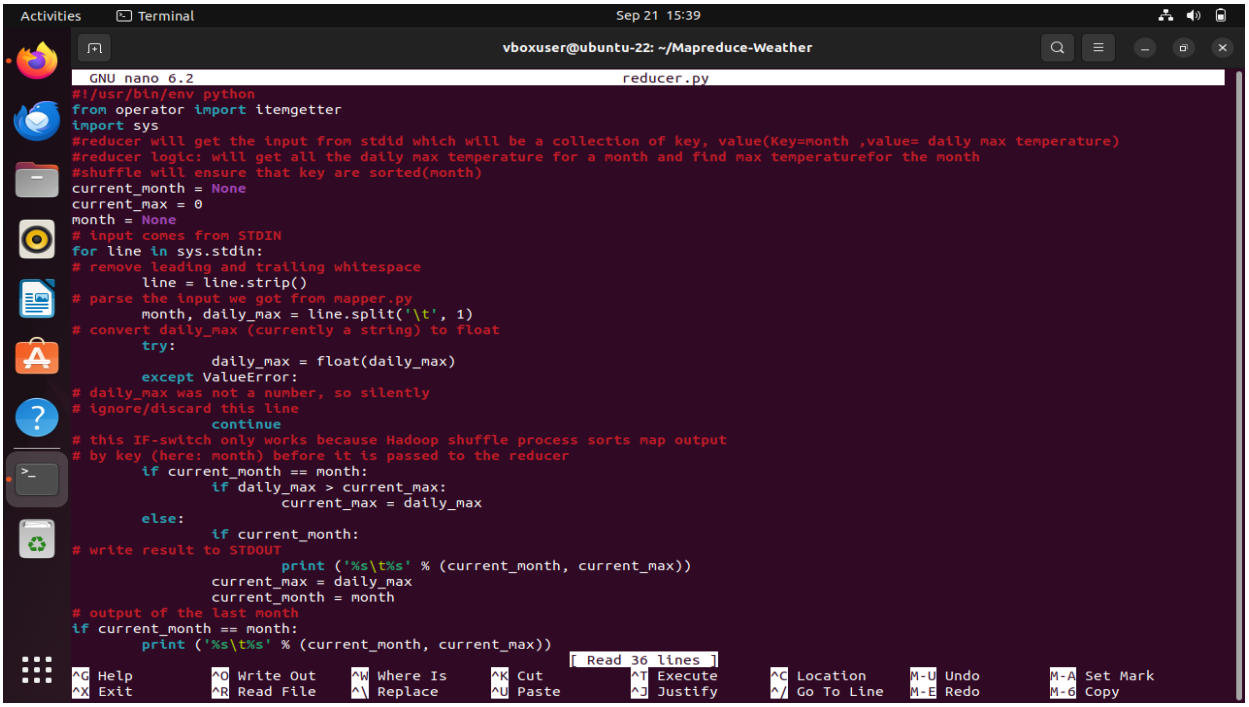
Step 2: Mapper Logic - mapper.py: Create a file named "mapper.py" to implement the logic for the mapper. The mapper will read input data from STDIN, split lines into words, and output each word with its count.

nano mapper.py



Step 3: Reducer Logic - reducer.py: Create a file named "reducer.py" to implement the logic for the reducer. The reducer will aggregate the occurrences of each word and generate the final output.

nano reducer.py



Step 4: Prepare Hadoop Environment: Start the Hadoop daemons and create a directory in HDFS to store your data.

start-all.sh

Step 6: Make Python Files Executable: Give executable permissions to your mapper.py and reducer.py files.

chmod 777 mapper.py reducer.py

Step 7: Run the program using Hadoop Streaming: Download the latest hadoop-streaming jar file and place it in a location you can easily access.

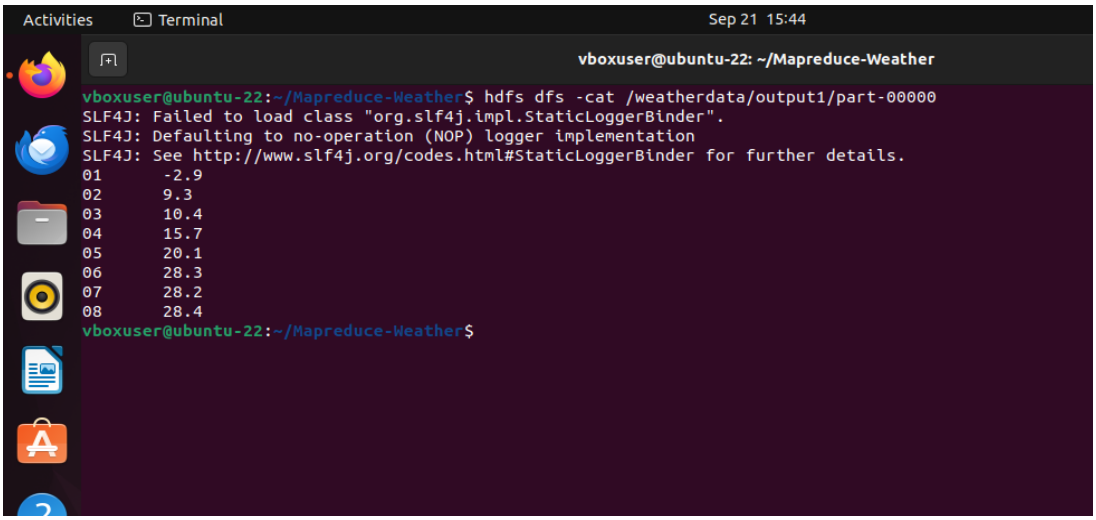
Then run the program using Hadoop Streaming.

hadoop fs -mkdir -p /weatherdata hadoop fs -copyFromLocal /home/vboxuser/Downloads/dataset.txt /weatherdata

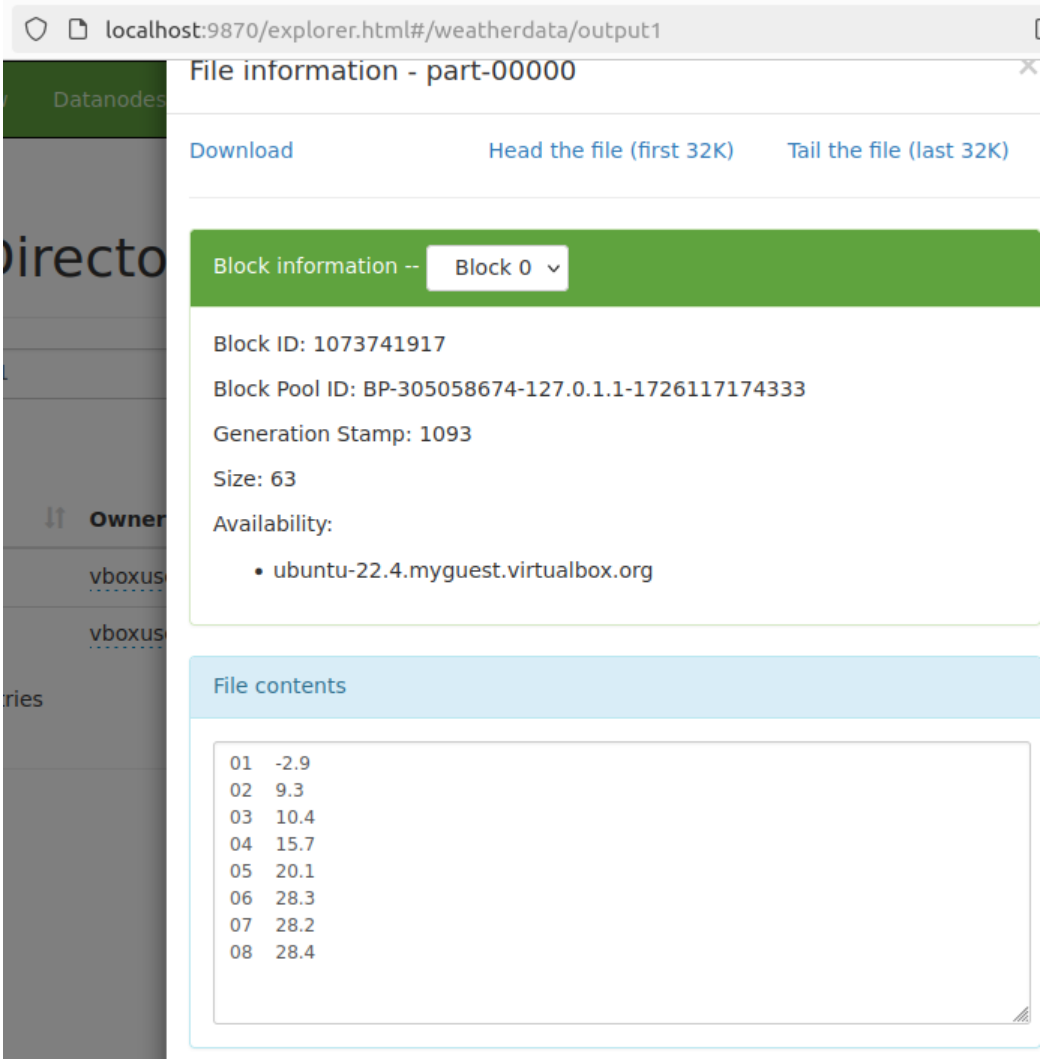
hdfs dfs -ls /weatherdata hadoop jar /home/vboxuser/hadoop-3.2.3/share/hadoop/tools/lib/hadoop-streaming-3.2.3.jar \ -input /weatherdata/dataset.txt \ -output /weatherdata/output \ -file "/home/vboxuser/Downloads/mapper.py" \ -mapper "python3 mapper.py" \ -file "/home/vboxuser/Downloads/reducer.py" \ -reducer "python3 reducer.py"

hdfs dfs -text /weatherdata/output/* > /home/vboxuser/Downloads/outputfile.txt

Step 8: Check Output: Check the output of the program in the specified HDFS output directory.



Step 9: The result in the browser is as follows:



RESULT:

Thus, the program for weather dataset using Map Reduce has been executed successfully.