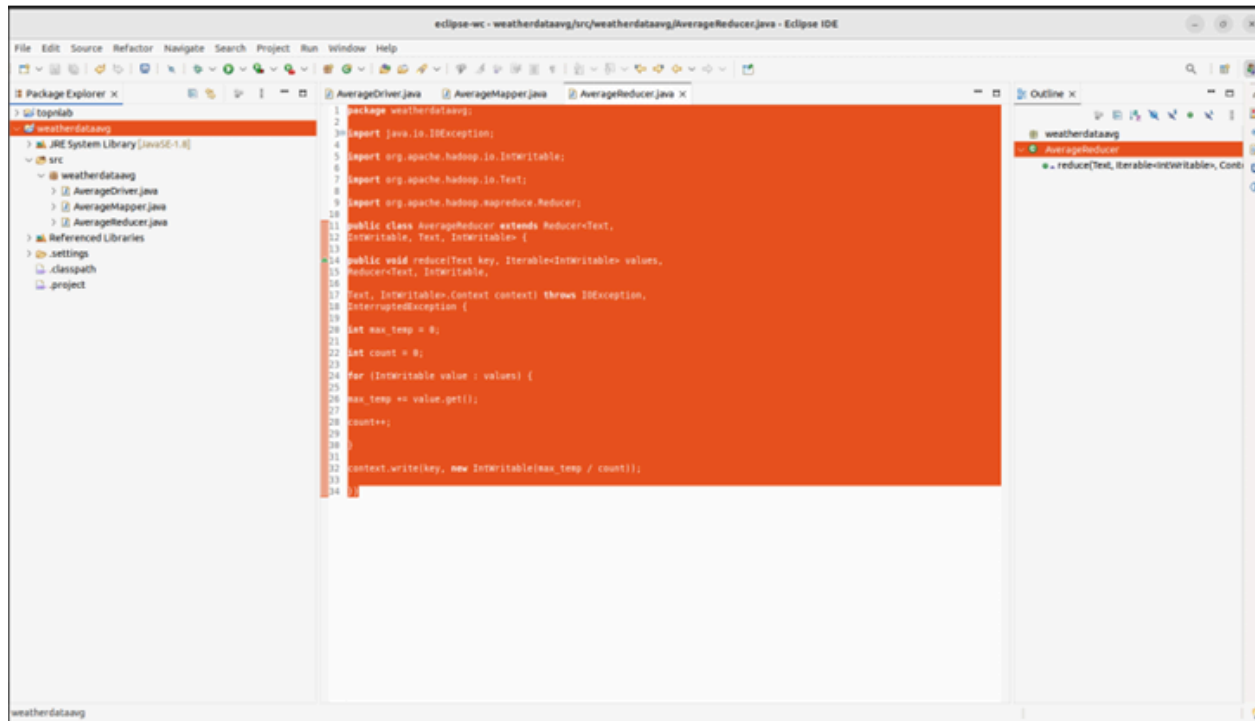


LAB-06

Hadoop-Temperature



```
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ start-all.sh
WARNING: Attempting to start all Apache Hadoop daemons as hadoop in 30 seconds.
WARNING: This is not a recommended production deployment configuration.
WARNING: Use CTRL-C to abort!
Starting namenodes on [localhost]
localhost: namenode is running as process 9745. Stop it first and ensure /tmp/hadoop-hadoop-namenode.pid file is empty before retry.
Starting datanodes
localhost: datanode is running as process 9928. Stop it first and ensure /tmp/hadoop-hadoop-datanode.pid file is empty before retry.
Starting secondary namenodes [bmscse-HP-Ellite-Tower-800-G9-Desktop-PC]
bmscse-HP-Ellite-Tower-800-G9-Desktop-PC: secondarynamenode is running as process 10221. Stop it first and ensure /tmp/hadoop-hadoop-secondarynamenode.pid file is empty before retry.
Starting resourcemanager
resourcemanager is running as process 10513. Stop it first and ensure /tmp/hadoop-hadoop-resourcemanager.pid file is empty before retry.
Starting nodemanagers
localhost: nodemanager is running as process 10664. Stop it first and ensure /tmp/hadoop-hadoop-nodemanager.pid file is empty before retry.
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -mkdir /kln
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -copyFromLocal /home/hadoop/Desktop/1901 /kln/1901
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop jar /home/hadoop/Desktop/weatherdataavg.jar weatherdataavg.AverageDriver /kln/1901/rem
Please enter the input and output parameters
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ ^C
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -rm -r /remout
rm: /remout: No such file or directory
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -ls /
Found 9 items
drwxr-xr-x - hadoop supergroup 0 2025-04-15 15:11 /CSE
drwxr-xr-x - hadoop supergroup 0 2025-04-15 15:10 /FPF
drwxr-xr-x - hadoop supergroup 0 2025-04-15 15:11 /LLL
drwxr-xr-x - hadoop supergroup 0 2024-05-14 15:30 /abc
drwxr-xr-x - hadoop supergroup 0 2025-05-20 14:30 /kln
drwxr-xr-x - hadoop supergroup 0 2025-05-20 13:52 /mno
drwxr-xr-x - hadoop supergroup 0 2025-05-20 13:58 /res
drwxr-xr-x - hadoop supergroup 0 2025-04-29 15:38 /rgs
drwxr-xr-x - hadoop supergroup 0 2024-05-21 15:37 /wordcount
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -ls /kln/
Found 1 items
-rw-r--r-- 1 hadoop supergroup 888190 2025-05-20 14:30 /kln/1901
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -cat /kln/1901
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop jar /home/hadoop/Desktop/weatherdataavg.jar weatherdataavg.AverageDriver /kln/1901 /rem
2025-05-20 14:34:22,074 INFO Impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2025-05-20 14:34:23,116 INFO Impl.MetricsSystemImpl: Scheduled metric snapshot period at 10 second(s).
2025-05-20 14:34:23,116 INFO Impl.MetricsSystemImpl: JobTracker metrics system started
2025-05-20 14:34:23,176 WARN mapreduce.JobResourceLoader: Hadoop command-line option parsing not performed. Implement the Tool interface and execute your application with ToolRunner to remedy this.
2025-05-20 14:34:23,406 INFO mapreduce.Job: Total input files to process : 1
2025-05-20 14:34:23,262 INFO mapreduce.JobSubmitter: number of splits:1
2025-05-20 14:34:23,334 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_local261815800_0001
2025-05-20 14:34:23,334 INFO mapreduce.JobSubmitter: Executing with tokens: []
2025-05-20 14:34:23,406 INFO mapreduce.Job: The url to track the job: http://localhost:8080/
2025-05-20 14:34:23,401 INFO mapreduce.Job: Running job: job_local261815800_0001
2025-05-20 14:34:23,402 INFO mapreduce.LocalJobRunner: OutputCommitter set in config null
2025-05-20 14:34:23,401 INFO output.PathOutputCommitterFactory: No output committer factory defined, defaulting to FileOutputCommitterFactory
2025-05-20 14:34:23,403 INFO output.FileOutputCommitter: File Output Committer Algorithm version is 2
2025-05-20 14:34:23,406 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup_temporary folders under output directory:false, ignore cleanup failures: false
2025-05-20 14:34:23,406 INFO mapreduce.LocalJobRunner: OutputCommitter is org.apache.hadoop.mapreduce.lib.output.FileOutputCommitter
2025-05-20 14:34:23,446 INFO mapreduce.LocalJobRunner: Waiting for map tasks
2025-05-20 14:34:23,447 INFO mapreduce.LocalJobRunner: Starting task: attempt_local261815800_0001_m_000000_0
2025-05-20 14:34:23,459 INFO output.PathOutputCommitterFactory: No output committer factory defined, defaulting to FileOutputCommitterFactory
2025-05-20 14:34:23,460 INFO output.FileOutputCommitter: File Output Committer Algorithm version is 2
2025-05-20 14:34:23,460 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup_temporary folders under output directory:false, ignore cleanup failures: false
2025-05-20 14:34:23,511 INFO mapreduce.LocalJobRunner: Using ResourceCalculatorProcessTree : []
2025-05-20 14:34:23,511 INFO mapreduce.Task: Processing split: hdfs://localhost:9000/kln/1901/0-888190
2025-05-20 14:34:23,511 INFO mapreduce.Task: (EQUATOR) 0 kv1 26214396(104857584)
2025-05-20 14:34:23,511 INFO mapreduce.Task: mapreduce.task.io.sort.mb: 100
2025-05-20 14:34:23,511 INFO mapreduce.Task: soft limit at 83886080
2025-05-20 14:34:23,511 INFO mapreduce.Task: bufstart = 0; bufvoid = 1048575000
2025-05-20 14:34:23,511 INFO mapreduce.Task: kvstart = 26214396; length = 6553600
2025-05-20 14:34:23,513 INFO mapreduce.Task: Map output collector class = org.apache.hadoop.mapreduce.Task$MapOutputBuffer
2025-05-20 14:34:23,586 INFO mapreduce.LocalJobRunner:
2025-05-20 14:34:23,587 INFO mapreduce.Task: Starting flush of map output
2025-05-20 14:34:23,587 INFO mapreduce.Task: Spilling map output
2025-05-20 14:34:23,587 INFO mapreduce.Task: bufstart = 0; bufend = 59076; bufvoid = 104857000
2025-05-20 14:34:23,587 INFO mapreduce.Task: kvstart = 26214396(104857584); kven = 26188144(104752576); length = 26253/6553600
2025-05-20 14:34:23,591 INFO mapreduce.Task: Finished split 0
2025-05-20 14:34:23,608 INFO mapreduce.Task: Taskattempt_local261815800_0001_m_000000_0 is done. And is in the process of committing
2025-05-20 14:34:23,602 INFO mapreduce.LocalJobRunner: map
2025-05-20 14:34:23,602 INFO mapreduce.Task: Task 'attempt_local261815800_0001_m_000000_0' done.

File System Counters
  FILE: Number of bytes read=148802
  FILE: Number of bytes written=786200
  FILE: Number of read operations=0
  FILE: Number of large read operations=0
  FILE: Number of write operations=0
  HDFS: Number of bytes read=888190
  HDFS: Number of bytes written=0
  HDFS: Number of read operations=10

Reduce shuffle bytes=72120
Reduce input records=6564
Reduce output records=1
Spilled Records=13128
Shuffled Maps=1
Failed Shuffles=0
Merged Map outputs=1
GC time elapsed (ms)=0
Total committed heap usage (bytes)=1266079000

Shuffle Errors
  BAD_ID=0
  CONNECTION=0
  IO_ERROR=0
  WRONG_LENGTH=0
  WRONG_MAP=0
  WRONG_REDUCE=0

File Input Format Counters
  Bytes Read=888190
File Output Format Counters
  Bytes Written=0
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -cat /ren/part-00000
cat: /ren/part-00000: No such file or directory
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -cat /ren/part-r-00000
1901 46
hadoop@bmscse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ package weatherdataavg;
import java.io.IOException;

import org.apache.hadoop.io.IntWritable;

import org.apache.hadoop.io.Text;

import org.apache.hadoop.mapreduce.Reducer;

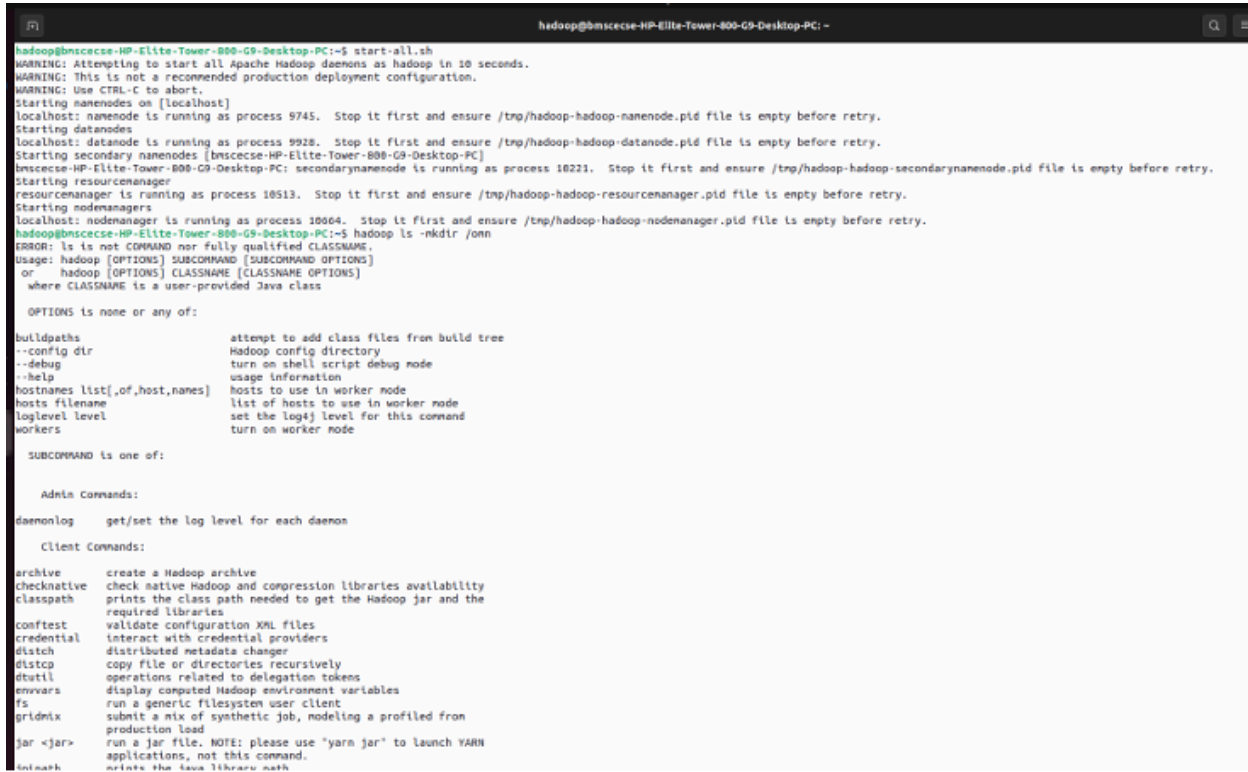
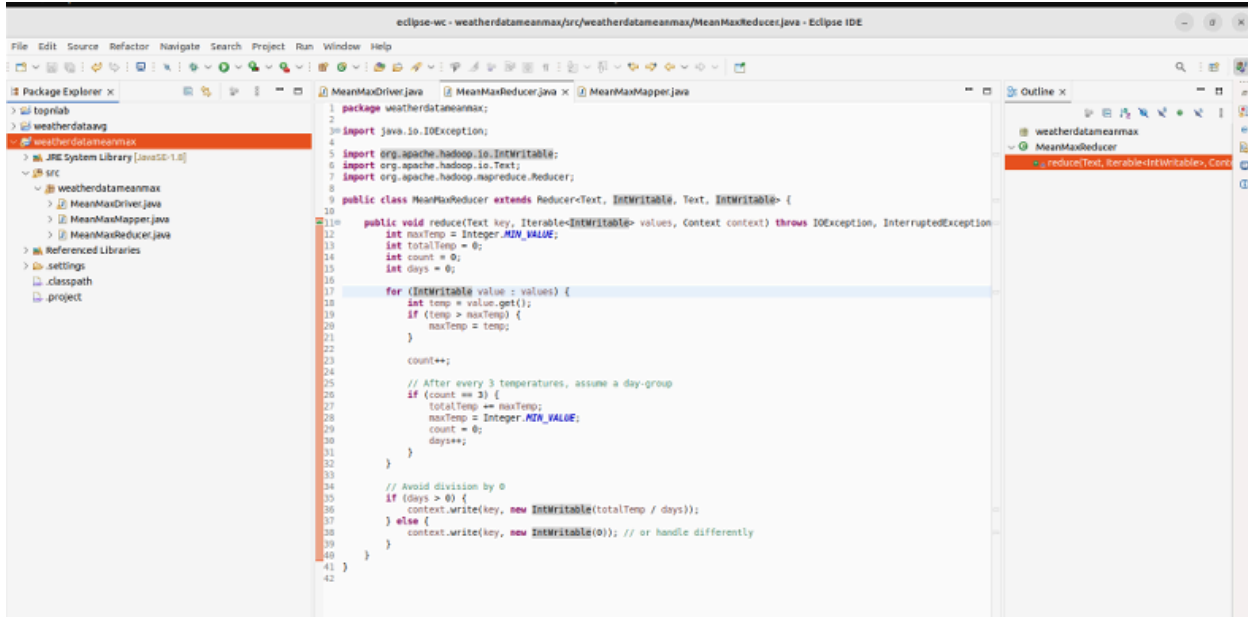
public class AverageReducer extends Reducer<Text,
IntWritable, Text, IntWritable> {

public void reduce(Text key, Iterable<IntWritable> values,
Reducer<Text, IntWritable,
Text, IntWritable> context) throws IOException,
InterruptedException {

int max_temp = 0;

int count = 0;

for (IntWritable value : values) {
max_temp += value.get();
count++;
}
```



```
hadoop@bmsccse-HP-Ellite-Tower-800-G9-Desktop-PC: -
applications, not this command.
initpath      prints the java.library.path
kdiag         Diagnose Kerberos Problems
kerbname      show auth_to_local_principal conversion
key           manage keys via the KeyProvider
runenfolder   scale a runen input trace
runenrtrace   convert logs into a runen trace
sguard        53 Commands
trace         view and modify Hadoop tracing settings
version       print the version

Daemon Commands:
kms           run KMS, the Key Management Server
registrydms   run the registry DNS server

SUBCOMMAND may print help when invoked w/o parameters or with -h.
hadoop@bmsccse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -mkdir /onn
hadoop@bmsccse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop fs -copyFromLocal /home/hadoop/Desktop/1901 /onn/1901
hadoop@bmsccse-HP-Ellite-Tower-800-G9-Desktop-PC:~$ hadoop jar /home/hadoop/Desktop/weatherdataannex.jar weatherdataannex.MeanMaxDriver /onn/1901 /ren
2025-05-20 14:53:15,576 INFO impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2025-05-20 14:53:15,615 INFO impl.MetricsSystemImpl: Scheduled metric snapshot period at 10 second(s).
2025-05-20 14:53:15,615 INFO impl.MetricsSystemImpl: JobTracker metrics system started
2025-05-20 14:53:15,679 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool interface and execute your application with ToolRunner to remedy this.
2025-05-20 14:53:15,737 INFO input.FileInputFormat: Total input files to process : 1
2025-05-20 14:53:15,764 INFO mapreduce.JobSubmitter: number of splits:1
2025-05-20 14:53:15,830 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_local2143084439_0001
2025-05-20 14:53:15,830 INFO mapreduce.JobSubmitter: Executing with tokens: []
2025-05-20 14:53:15,890 INFO mapreduce.Job: The url to track the job: http://localhost:8080/
2025-05-20 14:53:15,891 INFO mapreduce.Job: Running job: job_local2143084439_0001
2025-05-20 14:53:15,891 INFO mapred.LocalJobRunner: OutputCommitter set in config null
2025-05-20 14:53:15,895 INFO output.PathOutputCommitterFactory: No output committer factory defined, defaulting to FileOutputCommitterFactory
2025-05-20 14:53:15,895 INFO output.FileOutputCommitter: File OutputCommitter Algorithm version is 2
2025-05-20 14:53:15,896 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup _temporary folders under output directory:false, ignore cleanup failures: false
2025-05-20 14:53:15,896 INFO mapred.LocalJobRunner: OutputCommitter is org.apache.hadoop.mapreduce.lib.output.FileOutputCommitter
2025-05-20 14:53:15,981 INFO mapred.LocalJobRunner: Waiting for map tasks
2025-05-20 14:53:15,982 INFO mapred.LocalJobRunner: Starting task: attempt_local2143084439_0001_m_000000_0
2025-05-20 14:53:15,986 INFO output.PathOutputCommitterFactory: No output committer factory defined, defaulting to FileOutputCommitterFactory
2025-05-20 14:53:15,990 INFO output.FileOutputCommitter: File OutputCommitter Algorithm version is 2
2025-05-20 14:53:15,990 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup _temporary folders under output directory:false, ignore cleanup failures: false
2025-05-20 14:53:16,004 INFO mapred.Task: Using ResourceCalculatorProcessTree : [ ]
2025-05-20 14:53:16,007 INFO mapred.MapTask: Processing split: hdfs://localhost:9000/onn/1901:0+888190
2025-05-20 14:53:16,044 INFO mapred.MapTask: (EQUAL) 0 kv: 26214396(104857584)
2025-05-20 14:53:16,044 INFO mapred.MapTask: mapreduce.task.io.sort.mb: 100
2025-05-20 14:53:16,044 INFO mapred.MapTask: soft limit at 83886080
2025-05-20 14:53:16,044 INFO mapred.MapTask: bufstart = 0; bufvold = 104857000
2025-05-20 14:53:16,044 INFO mapred.MapTask: kvstart = 26214396; length = 6553600
2025-05-20 14:53:16,046 INFO mapred.MapTask: Map output collector class = org.apache.hadoop.mapred.MapTask$MapOutputBuffer
2025-05-20 14:53:16,118 INFO mapred.LocalJobRunner:
2025-05-20 14:53:16,119 INFO mapred.MapTask: Starting flush of map output
2025-05-20 14:53:16,119 INFO mapred.MapTask: Spilling map output
2025-05-20 14:53:16,119 INFO mapred.MapTask: bufstart = 0; bufend = 104857000
2025-05-20 14:53:16,119 INFO mapred.MapTask: kvstart = 26214396(104857584); kvend = 26188144(104752576); length = 26253/6553600
2025-05-20 14:53:16,128 INFO mapred.MapTask: Finished spill 0
2025-05-20 14:53:16,133 INFO mapred.Task: Task:attempt_local2143084439_0001_m_000000_0 is done. And is in the process of committing
```

```
hadoop@bmsccse-HP-Ellite-Tower-800-G9-Desktop-PC: -
2025-05-20 14:53:16,145 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup _temporary folders under output directory:false, ignore cleanup failures: false
2025-05-20 14:53:16,145 INFO mapred.Task: Using ResourceCalculatorProcessTree : [ ]
2025-05-20 14:53:16,146 INFO mapred.ReduceTask: Using ShuffleConsumerPlugin: org.apache.hadoop.mapreduce.task.reduce.Shuffle$B4fffe0
2025-05-20 14:53:16,147 WARN impl.MetricsSystemImpl: JobTracker metrics system already initialized!
2025-05-20 14:53:16,155 INFO reduce.MergeManagerImpl: MergeManager: memoryLimit=5829453312, maxSingleShuffleInt=1457363328, mergeThreshold=3847439360, ioSortFactor=10, numToMergeOutputsThreshold=10
2025-05-20 14:53:16,170 INFO reduce.LocalFetcher: localFetcher#1 about to shuffle output of map attempt_local2143084439_0001_m_000000_0 decomp: 59078 len: 59082 to MEMORY
2025-05-20 14:53:16,172 INFO reduce.InMemoryMapOutput: Read 59078 bytes from map-output of size: 59078, inMemoryMapOutputs.size() -> 1, commitMemory -> 0, usedMemory -> 59078
2025-05-20 14:53:16,172 INFO reduce.MergeManagerImpl: closeInMemoryFile -> map-output of size: 59078, inMemoryMapOutputs.size() -> 1, commitMemory -> 0, usedMemory -> 59078
2025-05-20 14:53:16,174 INFO mapred.LocalJobRunner: 1 / 1 copied.
2025-05-20 14:53:16,174 INFO reduce.MergeManagerImpl: finalMerge called with 1 in-memory map-outputs and 0 on-disk map-outputs
2025-05-20 14:53:16,176 INFO reduce.MergeManagerImpl: MergeManager: Merge: 1 sorted segments
2025-05-20 14:53:16,176 INFO mapred.Reducer: Down to the last merge-pass, with 1 segments left of total size: 59073 bytes
2025-05-20 14:53:16,180 INFO reduce.MergeManagerImpl: Merged 1 segments, 59078 bytes to disk to satisfy reduce memory limit
2025-05-20 14:53:16,181 INFO reduce.MergeManagerImpl: Merge: 1 files, 59082 bytes from disk
2025-05-20 14:53:16,181 INFO reduce.MergeManagerImpl: Merge: 0 segments, 0 bytes from memory into reduce
2025-05-20 14:53:16,181 INFO mapred.Reducer: Merge: 1 sorted segments
2025-05-20 14:53:16,182 INFO mapred.Reducer: Down to the last merge-pass, with 1 segments left of total size: 59073 bytes
2025-05-20 14:53:16,182 INFO mapred.LocalJobRunner: 1 / 1 copied.
2025-05-20 14:53:16,212 INFO Configuration.deprecation: mapred.skip.on is deprecated. Instead, use mapreduce.job.skiprecords
2025-05-20 14:53:16,273 INFO mapred.Task: Task:attempt_local2143084439_0001_r_000000_0 is done. And is in the process of committing
2025-05-20 14:53:16,275 INFO mapred.LocalJobRunner: 1 / 1 copied.
2025-05-20 14:53:16,275 INFO mapred.Task: Task:attempt_local2143084439_0001_r_000000_0 is allowed to commit now
2025-05-20 14:53:16,289 INFO output.FileOutputCommitter: Saved output of task 'attempt_local2143084439_0001_r_000000_0' to hdfs://localhost:9000/ren
2025-05-20 14:53:16,290 INFO mapred.LocalJobRunner: reduce > reduce
2025-05-20 14:53:16,290 INFO mapred.Task: Task 'attempt_local2143084439_0001_r_000000_0' done.
2025-05-20 14:53:16,290 INFO mapred.Task: Final Counters for attempt_local2143084439_0001_r_000000_0: Counters: 30
File System Counters
FILE: Number of bytes read=122759
FILE: Number of bytes written=703193
FILE: Number of read operations=0
FILE: Number of large read operations=0
FILE: Number of write operations=0
HDFS: Number of bytes read=888190
HDFS: Number of bytes written=01
HDFS: Number of read operations=10
HDFS: Number of large read operations=0
HDFS: Number of write operations=3
HDFS: Number of bytes read erasure-coded=0
Map-Reduce Framework
Combine Input records=0
Combine output records=0
Reduce input groups=12
Reduce shuffle bytes=59082
Reduce input records=0564
Reduce output records=12
Spilled Records=6564
Shuffled Maps =1
Failed Shuffles=0
Merged Map outputs=1
GC time elapsed (ms)=0
Total committed heap usage (bytes)=526385152
Shuffle Errors
```

```

HDFS: Number of read operations=15
HDFS: Number of large read operations=0
HDFS: Number of write operations=4
HDFS: Number of bytes read erasure-coded=0
Map-Reduce Framework
  Map input records=6565
  Map output records=6564
  Map output bytes=43948
  Map output materialized bytes=59682
  Input split bytes=95
  Combine input records=0
  Combine output records=0
  Reduce input groups=12
  Reduce shuffle bytes=59682
  Reduce input records=6564
  Reduce output records=12
  Spilled Records=13128
  Shuffled Maps =1
  Failed Shuffles=0
  Merged Map outputs=1
  GC time elapsed (ms)=0
  Total committed heap usage (bytes)=1052770304
Shuffle Errors
  BAD_ID=0
  CONNECTION=0
  IO_ERROR=0
  WRONG_LENGTH=0
  WRONG_MAP=0
  WRONG_REDUCE=0
File Input Format Counters
  Bytes Read=888198
File Output Format Counters
  Bytes Written=81
hadoop@bmscecsse-HP-Elite-Tower-880-G9-Desktop-PC:~$ hadoop fs -cat /ann/part-r-00000
cat: '/ann/part-r-00000': No such file or directory
hadoop@bmscecsse-HP-Elite-Tower-880-G9-Desktop-PC:~$ hadoop fs -cat /ren/part-r-00000
01      -13
02      -66
03      -15
04      43
05     100
06     168
07     219
08     198
09     141
10     100
11        1
12     -61
hadoop@bmscecsse-HP-Elite-Tower-880-G9-Desktop-PC:~$

```