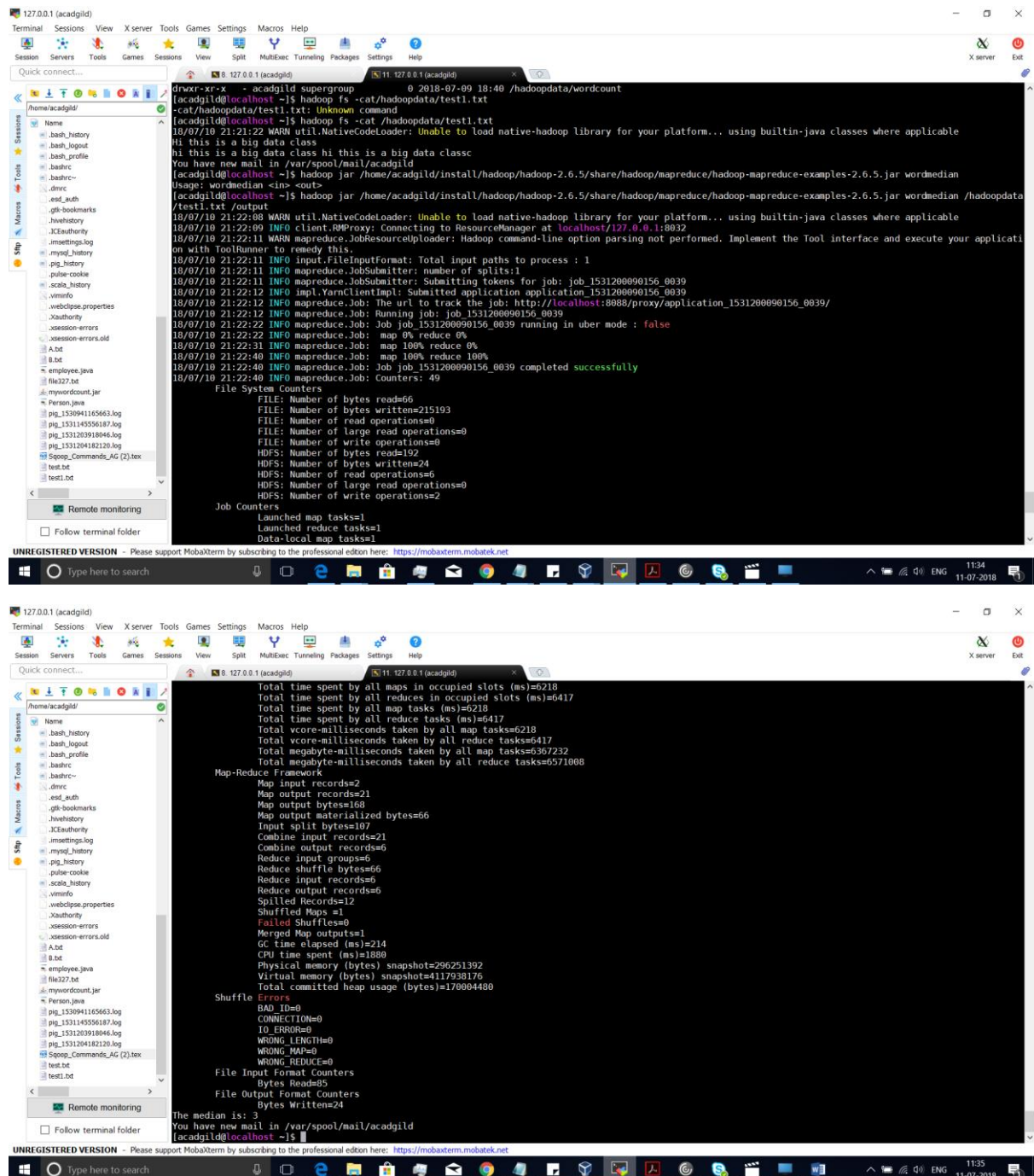


The command given for word median for file test1.txt stored in hdfs is:

```
hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar wordmedian /hadoopdata/test1.txt /output
```

Note: Here test1.txt file is stored in hadoopdata directory and output is stored in folder called output.

hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar is the path of the map reduce jar files where it resides in hdfs.



The image displays two screenshots of a terminal window running Hadoop commands. The first screenshot shows the execution of the `wordmedian` command, which processes a file named `test1.txt` in the `/hadoopdata` directory. The output indicates that the job was completed successfully, with a median value of 3. The second screenshot shows the detailed output of the Hadoop job, including various counters and metrics.

```
drwxr-xr-x - acadgild supergroup 0 2018-07-09 18:40 /hadoopdata/wordcount
[acadgild@localhost ~]$ hadoop fs -cat/hadoopdata/test1.txt
-cat/hadoopdata/test1.txt: Unknown command
[acadgild@localhost ~]$ hadoop fs -cat /hadoopdata/test1.txt
18/07/10 21:21:22 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Hi this is a big data class
Hi this is a big data class
Hi this is a big data class
Hi this is a big data class
Hi this is a big data class
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar wordmedian
Usage: wordmedian <in> <out>
[acadgild@localhost ~]$ hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar wordmedian /hadoopdata
/test1.txt /output
18/07/10 21:22:08 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
18/07/10 21:22:11 INFO mapreduce.JobSubmitter: number of splits=1
18/07/10 21:22:11 INFO mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool interface and execute your application with ToolRunner to remedy this.
18/07/10 21:22:11 INFO input.FileInputFormat: Total input paths to process : 1
18/07/10 21:22:09 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/07/10 21:22:11 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1531200990156_0039
18/07/10 21:22:12 INFO impl.YarnClientImpl: Submitted application application_1531200990156_0039
18/07/10 21:22:12 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/application_1531200990156_0039/
18/07/10 21:22:12 INFO mapreduce.Job: Running job: job_1531200990156_0039
18/07/10 21:22:22 INFO mapreduce.Job: Job job_1531200990156_0039 running in uber mode : false
18/07/10 21:22:22 INFO mapreduce.Job: map 0% reduce 0%
18/07/10 21:22:31 INFO mapreduce.Job: map 100% reduce 0%
18/07/10 21:22:40 INFO mapreduce.Job: map 100% reduce 100%
18/07/10 21:22:40 INFO mapreduce.Job: Job job_1531200990156_0039 completed successfully
18/07/10 21:22:40 INFO mapreduce.Job: Counters: 49

File System Counters
  FILE: Number of bytes read=66
  FILE: Number of bytes written=215193
  FILE: Number of read operations=0
  FILE: Number of large read operations=0
  FILE: Number of write operations=0
  HDFS: Number of bytes read=192
  HDFS: Number of bytes written=24
  HDFS: Number of read operations=6
  HDFS: Number of large read operations=0
  HDFS: Number of write operations=2

Job Counters
  Launched map tasks=1
  Launched reduce tasks=1
  Data-local map tasks=1

Total time spent by all maps in occupied slots (ms)=6218
Total time spent by all reduces in occupied slots (ms)=6417
Total time spent by all map tasks (ms)=6218
Total time spent by all reduce tasks (ms)=6417
Total vcore-milliseconds taken by all map tasks=6218
Total vcore-milliseconds taken by all reduce tasks=6417
Total megabyte-milliseconds taken by all map tasks=6367232
Total megabyte-milliseconds taken by all reduce tasks=6571008

Map-Reduce Framework
  Map input records=2
  Map output records=21
  Map output bytes=168
  Map output materialized bytes=66
  Input split bytes=107
  Combine input records=21
  Combine output records=6
  Reduce input groups=6
  Reduce shuffle bytes=66
  Reduce input records=6
  Reduce output records=6
  Spilled Records=12
  Shuffled Maps=1
  Failed Shuffles=0
  Merged Map outputs=1
  GC time elapsed (ms)=214
  CPU time spent (ms)=1880
  Physical memory (bytes) snapshot=296251392
  Virtual memory (bytes) snapshot=4117938176
  Total committed heap usage (bytes)=170004480

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

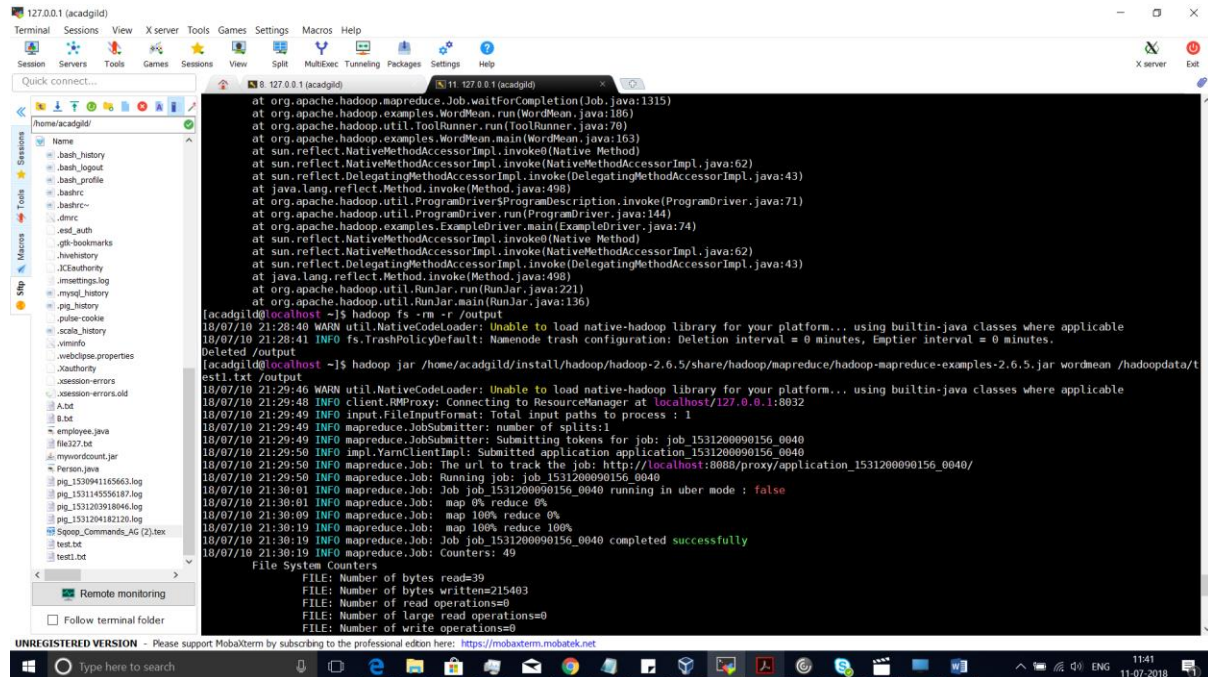
File Input Format Counters
  Bytes Read=85

File Output Format Counters
  Bytes Written=24

The median is: 3
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$
```

The command given for word mean for file test1.txt stored in hdfs is:

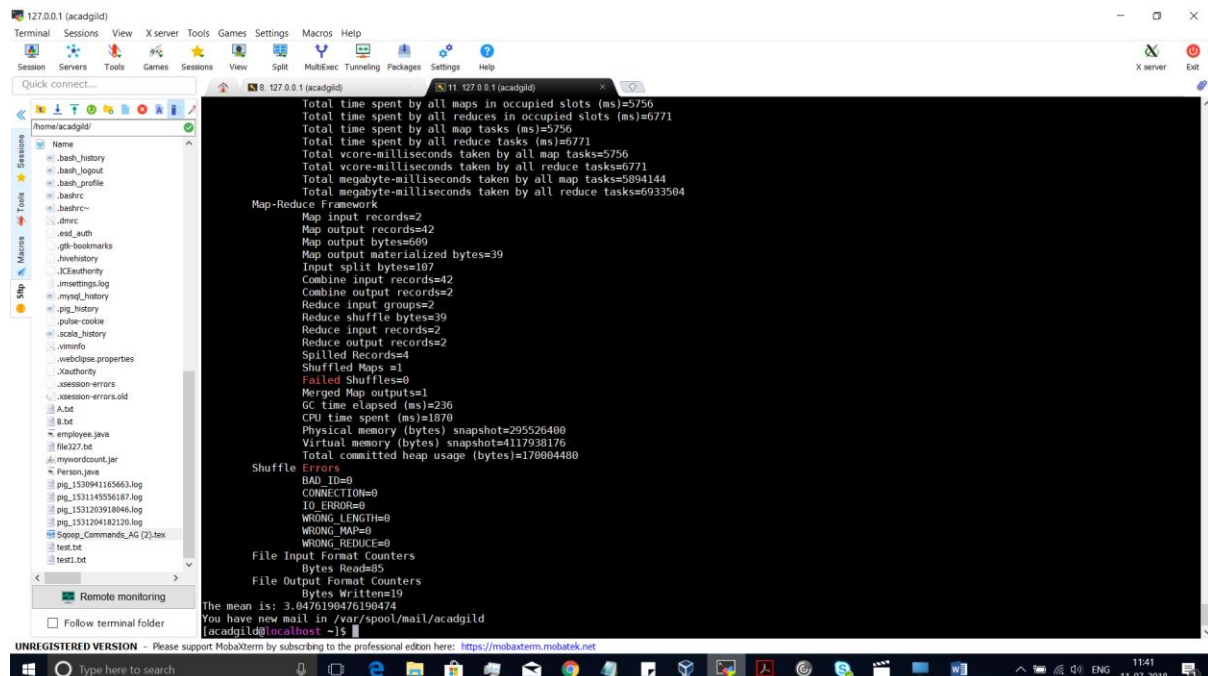
`hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar wordmean /hadoopdata/test1.txt /output`



```
at org.apache.hadoop.mapreduce.Job.waitForCompletion(Job.java:1315)
at org.apache.hadoop.examples.WordMean.run(WordMean.java:106)
at org.apache.hadoop.util.ToolRunner.run(ToolRunner.java:70)
at org.apache.hadoop.examples.WordMean.main(WordMean.java:163)
at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
at java.lang.reflect.Method.invoke(Method.java:498)
at org.apache.hadoop.util.ProgramDriver$ProgramDescription.invoke(ProgramDriver.java:71)
at org.apache.hadoop.util.ProgramDriver.run(ProgramDriver.java:144)
at org.apache.hadoop.examples.ExampleDriver.main(ExampleDriver.java:74)
at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
at java.lang.reflect.Method.invoke(Method.java:498)
at org.apache.hadoop.util.RunJar.run(RunJar.java:221)
at org.apache.hadoop.util.RunJar.main(RunJar.java:136)

[acadgild@localhost ~]$ hadoop fs -rm -r /output
18/07/10 21:28:48 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
18/07/10 21:28:41 INFO fs.TrashPolicyDefault: NameNode trash configuration: Deletion interval = 0 minutes. Empty interval = 0 minutes.
Deleted /output
[acadgild@localhost ~]$ hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar wordmean /hadoopdata/test1.txt /output
18/07/10 21:29:46 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
18/07/10 21:29:48 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/07/10 21:29:49 INFO input.FileInputFormat: Total input paths to process : 1
18/07/10 21:29:49 INFO mapreduce.JobSubmitter: number of splits:1
18/07/10 21:29:49 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1531200090156_0040
18/07/10 21:29:50 INFO impl.YarnClientImpl: Submitted application application_1531200090156_0040/
18/07/10 21:29:50 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/application_1531200090156_0040/
18/07/10 21:29:50 INFO mapreduce.Job: Running job: job_1531200090156_0040
18/07/10 21:30:01 INFO mapreduce.Job: Job job_1531200090156_0040 running in uber mode : false
18/07/10 21:30:01 INFO mapreduce.Job: map 0% reduce 0%
18/07/10 21:30:09 INFO mapreduce.Job: map 100% reduce 0%
18/07/10 21:30:19 INFO mapreduce.Job: map 100% reduce 100%
18/07/10 21:30:19 INFO mapreduce.Job: Job job_1531200090156_0040 completed successfully
18/07/10 21:30:19 INFO mapreduce.Job: Counters: 49

File System Counters
  FILE: Number of bytes read=39
  FILE: Number of bytes written=215403
  FILE: Number of read operations=0
  FILE: Number of large read operations=0
  FILE: Number of write operations=0
```



```
Total time spent by all maps in occupied slots (ms)=25756
Total time spent by all reduces in occupied slots (ms)=6771
Total time spent by all map tasks (ms)=5756
Total time spent by all reduce tasks (ms)=6771
Total vcore-millisecods taken by all map tasks=5756
Total vcore-millisecods taken by all reduce tasks=6771
Total megabyte-millisecods taken by all map tasks=5894144
Total megabyte-millisecods taken by all reduce tasks=6933504

Map-Reduce Framework
  Map input records=2
  Map output records=42
  Map output bytes=609
  Map output materialized bytes=39
  Input split bytes=107
  Combine input records=42
  Combine output records=2
  Reduce input groups=2
  Reduce shuffle bytes=39
  Reduce input records=2
  Reduce output records=2
  Spilled Records=4
  Shuffled Maps =1
  Failed Shuffles=0
  Merged Map outputs=1
  GC time elapsed (ms)=236
  CPU time spent (ms)=1870
  Physical memory (bytes) snapshot=295526400
  Virtual memory (bytes) snapshot=4117938176
  Total committed heap usage (bytes)=170804480

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=85
  File Output Format Counters
  Bytes Written=19

The mean is: 3.0476190476190474
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$
```

The command given for word standard deviation for file test1.txt stored in hdfs is:

`hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar wordstandarddeviation /hadoopdata/test1.txt /output`

```
GC time elapsed (ms)=236
CPU time spent (ms)=1870
Physical memory (bytes) snapshot=295526408
Virtual memory (bytes) snapshot=4117938176
Total committed heap usage (bytes)=170804480

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=95
File Output Format Counters
Bytes Written=19
The mean is: 3.0476190476190474
You have new mail in /var/spool/mail/acadgild
acadgild@localhost ~$ hadoop fs -rm -r /output
18/07/10 21:31:46 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
18/07/10 21:31:47 INFO fs.TrashPolicyDefault: Namenode trash configuration: Deletion interval = 0 minutes, Emptier interval = 0 minutes.
Deleted /output
You have new mail in /var/spool/mail/acadgild
acadgild@localhost ~$ hadoop jar /home/acadgild/install/hadoop/hadoop-2.6.5/share/hadoop/mapreduce/hadoop-mapreduce-examples-2.6.5.jar wordstandarddeviation /hadoopdata/test1.txt /output
18/07/10 21:32:29 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
18/07/10 21:32:22 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/07/10 21:32:23 INFO input.FileInputFormat: Total input paths to process : 1
18/07/10 21:32:23 INFO mapreduce.JobSubmitter: number of splits:1
18/07/10 21:32:24 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1531200090156_0041
18/07/10 21:32:24 INFO impl.YarnClientImpl: Submitted application application_1531200090156_0041
18/07/10 21:32:24 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/application_1531200090156_0041/
18/07/10 21:32:24 INFO mapreduce.Job: Running job: job_1531200090156_0041
18/07/10 21:32:36 INFO mapreduce.Job: Job job_1531200090156_0041 running in uber mode : false
18/07/10 21:32:36 INFO mapreduce.Job: map 0% reduce 0%
18/07/10 21:32:43 INFO mapreduce.Job: map 100% reduce 0%
18/07/10 21:32:52 INFO mapreduce.Job: map 100% reduce 100%
18/07/10 21:32:52 INFO mapreduce.Job: Job job_1531200090156_0041 completed successfully
18/07/10 21:32:52 INFO mapreduce.Job: Counters: 49

File System Counters
FILE: Number of bytes read=56
FILE: Number of bytes written=215597
FILE: Number of read operations=0

Total time spent by all maps in occupied slots (ms)=5902
Total time spent by all reduces in occupied slots (ms)=6056
Total time spent by all map tasks (ms)=5902
Total time spent by all reduce tasks (ms)=6056
Total score-millisecons taken by all map tasks=5902
Total score-millisecons taken by all reduce tasks=6056
Total megabyte-millisecons taken by all map tasks=6843648
Total megabyte-millisecons taken by all reduce tasks=6201344

Map-Reduce Framework
Map input records=2
Map output records=63
Map output bytes=924
Map output materialized bytes=56
Input split bytes=107
Combine input records=63
Combine output records=3
Reduce input groups=3
Reduce shuffle bytes=56
Reduce input records=3
Reduce output records=3
Spilled Records=0
Shuffled Maps=1
Failed Shuffles=0
Merged Map outputs=1
GC time elapsed (ms)=193
CPU time spent (ms)=1610
Physical memory (bytes) snapshot=295641088
Virtual memory (bytes) snapshot=4118228992
Total committed heap usage (bytes)=170804480

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=95
File Output Format Counters
Bytes Written=30
The standard deviation is: 1.3964645998681127
You have new mail in /var/spool/mail/acadgild
acadgild@localhost ~$
```