Assignment 7

TASK 1

Program to implement wordcount using Pig is

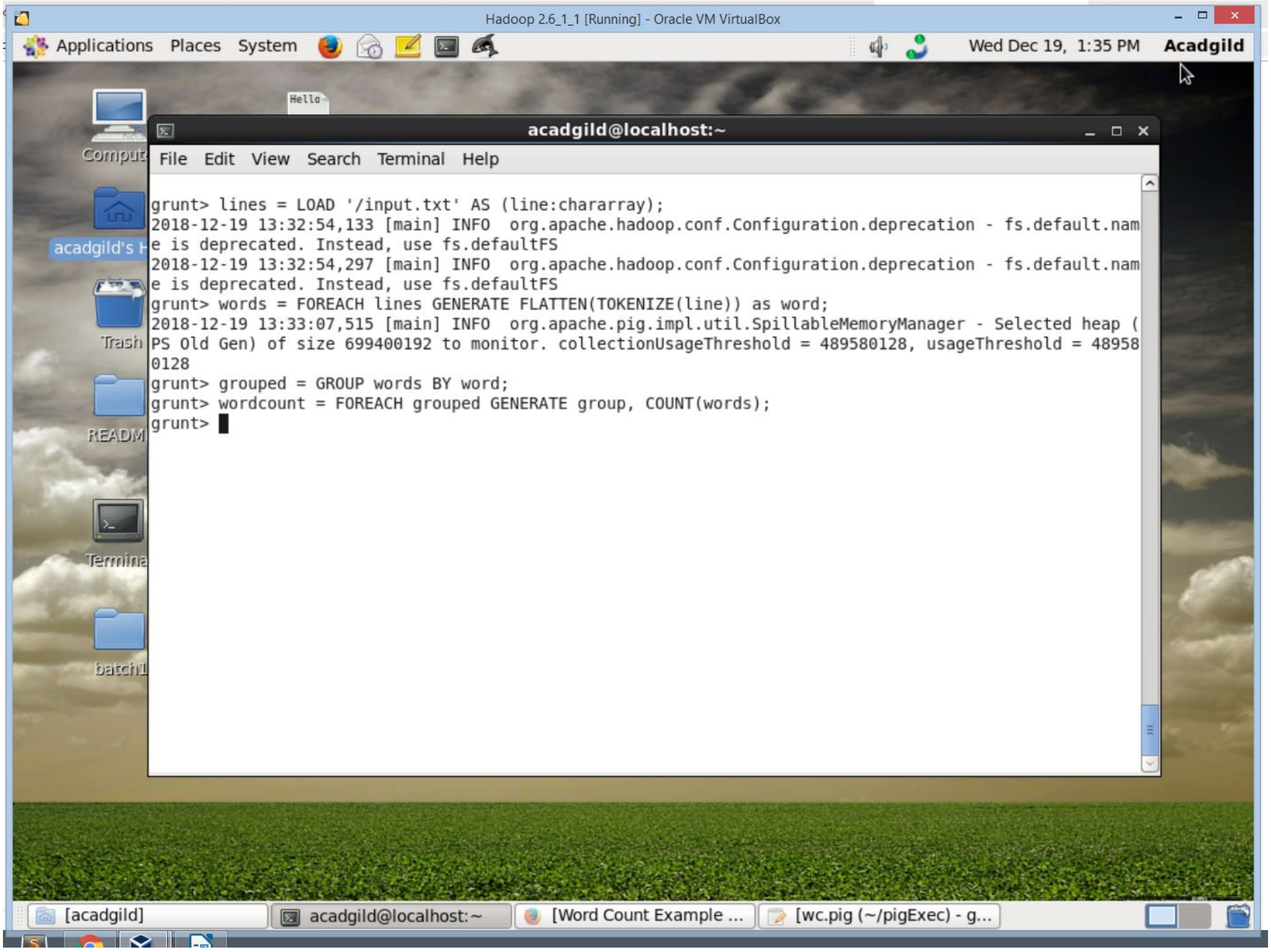
lines = LOAD '/input.txt' AS (line:chararray);

words = FOREACH lines GENERATE FLATTEN(TOKENIZE(line)) as word;

grouped = GROUP words BY word;

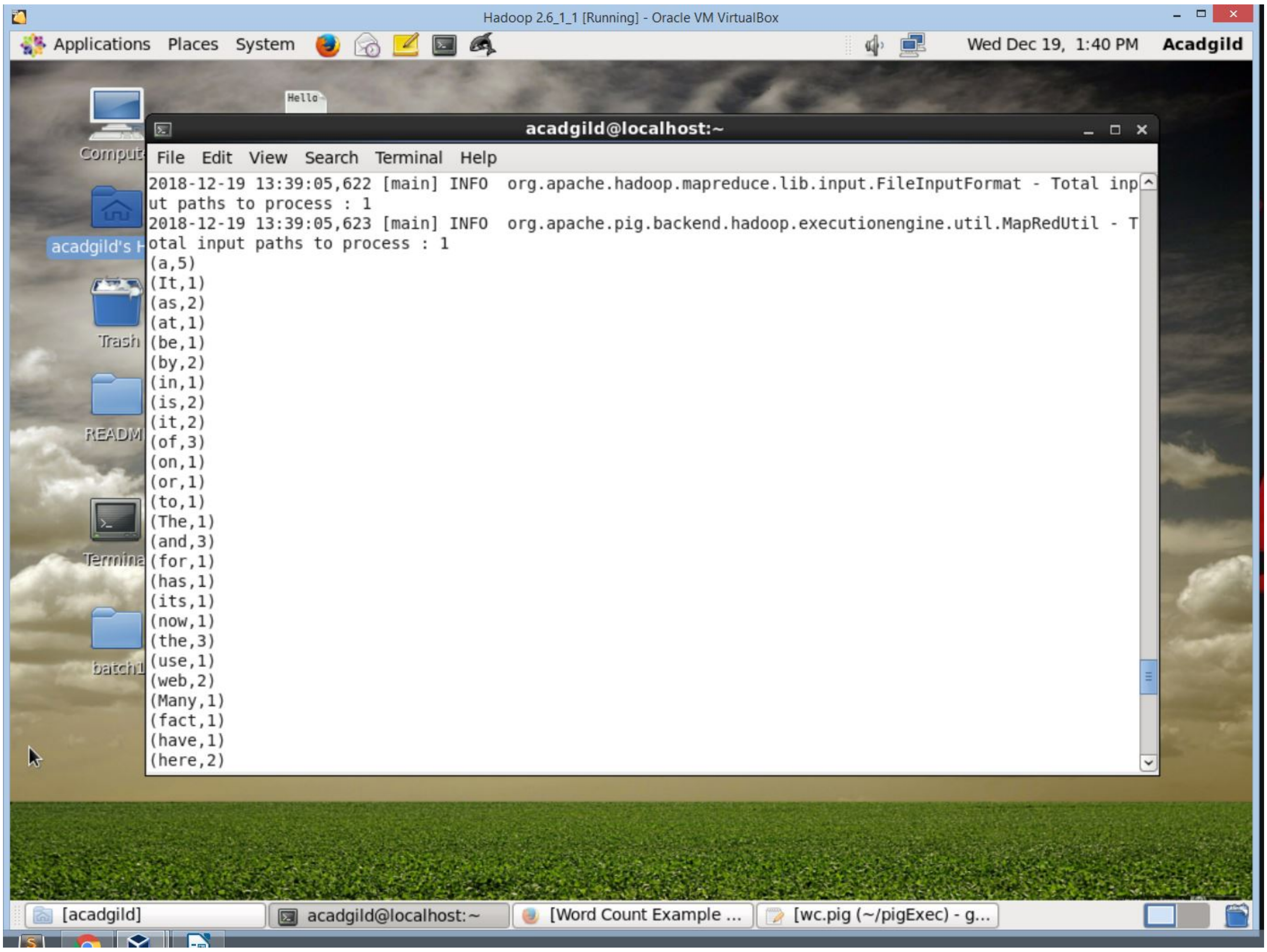
wordcount = FOREACH grouped GENERATE group, COUNT(words);

DUMP wordcount;



```
grunt> lines = LOAD '/input.txt' AS (line:chararray);
2018-12-19 13:32:54,133 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.nam
e is deprecated. Instead, use fs.defaultFS
2018-12-19 13:32:54,297 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.nam
e is deprecated. Instead, use fs.defaultFS
grunt> words = FOREACH lines GENERATE FLATTEN(TOKENIZE(line)) as word;
2018-12-19 13:33:07,515 [main] INFO  org.apache.pig.impl.util.SpillableMemoryManager - Selected heap (
PS Old Gen) of size 699400192 to monitor. collectionUsageThreshold = 489580128, usageThreshold = 48958
0128
grunt> grouped = GROUP words BY word;
grunt> wordcount = FOREACH grouped GENERATE group, COUNT(words);
grunt> 
```

Output



Hadoop 2.6_1_1 [Running] - Oracle VM VirtualBox
Applications Places System
Wed Dec 19, 1:40 PM Acadgild
acadgild@localhost:~
File Edit View Search Terminal Help
[acadgild]
acadgild@localhost:~
[Word Count Example ...
[wc.pig (~/pigExec) - g...

```
2018-12-19 13:39:05,622 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total inp
ut paths to process : 1
2018-12-19 13:39:05,623 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - T
otal input paths to process : 1
(a,5)
(It,1)
(as,2)
(at,1)
(be,1)
(by,2)
(in,1)
(is,2)
(it,2)
(of,3)
(on,1)
(or,1)
(to,1)
(The,1)
(and,3)
(for,1)
(has,1)
(its,1)
(now,1)
(the,3)
(use,1)
(web,2)
(Many,1)
(fact,1)
(have,1)
(here,2)
```

•

TASK 2:

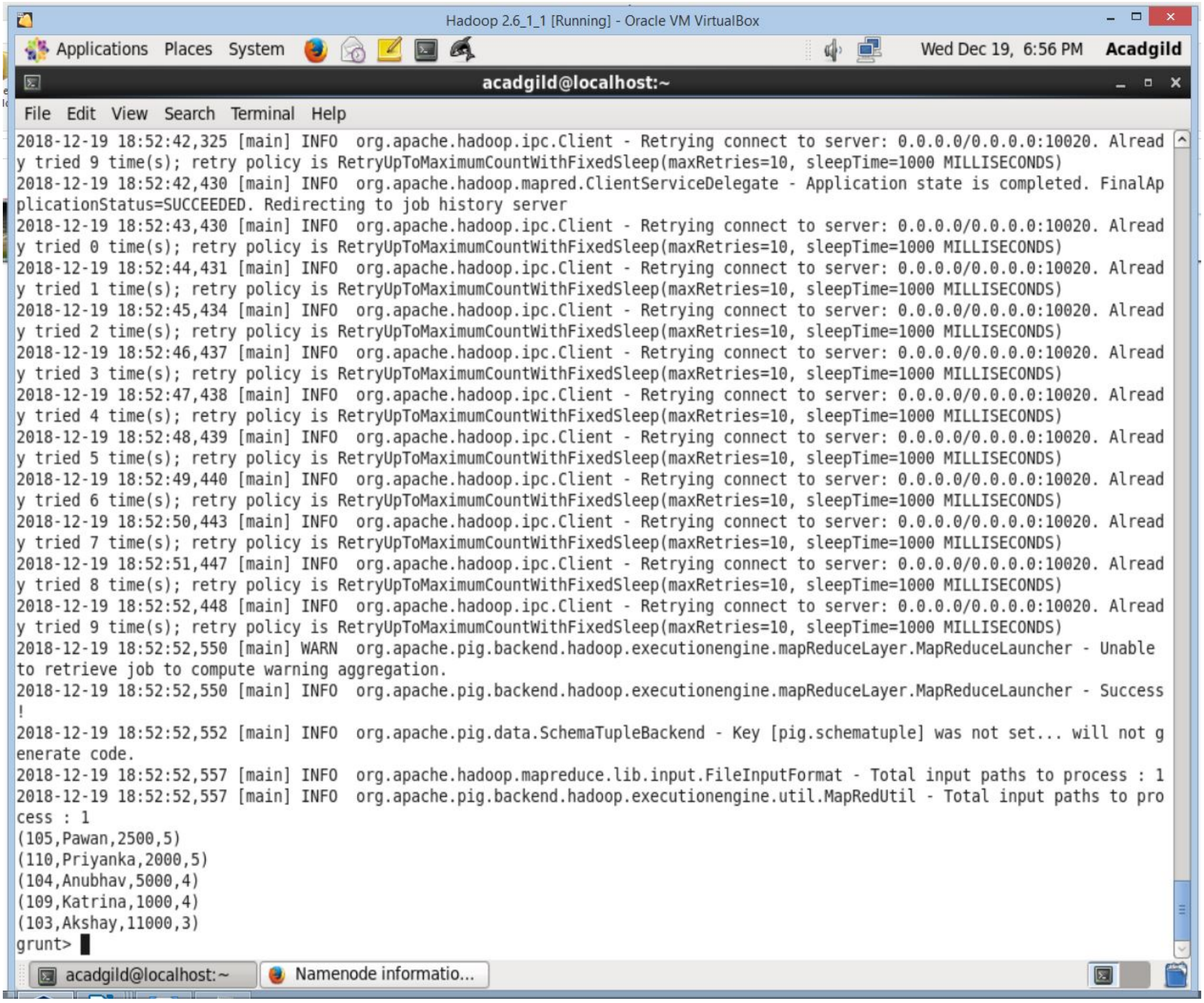
A) The Pig Script is

LOAD a = 'employee_details' USING PigStorage(',') AS (e_id:int, e_name:chararray, e_salary:int, e_rating:int);

b = order a by e_rating DESC, e_name ASC;

c = LIMIT b 5;

DUMP c;


Hadoop 2.6_1_1 [Running] - Oracle VM VirtualBox
Applications Places System
Wed Dec 19, 6:56 PM Acadgild
acadgild@localhost:~
File Edit View Search Terminal Help
acadgild@localhost:~
Namenode informatio...

```
2018-12-19 18:52:42,325 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:42,430 [main] INFO  org.apache.hadoop.mapred.ClientServiceDelegate - Application state is completed. FinalAp
plicationStatus=SUCCEEDED. Redirecting to job history server
2018-12-19 18:52:43,430 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:44,431 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:45,434 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:46,437 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:47,438 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:48,439 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:49,440 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:50,443 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:51,447 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:52,448 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 18:52:52,550 [main] WARN  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Unable
to retrieve job to compute warning aggregation.
2018-12-19 18:52:52,550 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2018-12-19 18:52:52,552 [main] INFO  org.apache.pig.data.SchemaTupleBackend - Key [pig.schematuple] was not set... will not g
enerate code.
2018-12-19 18:52:52,557 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2018-12-19 18:52:52,557 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to pro
cess : 1
(105,Pawan,2500,5)
(110,Priyanka,2000,5)
(104,Anubhav,5000,4)
(109,Katrina,1000,4)
(103,Akshay,11000,3)
grunt> 
```

B) The Pig Script is

a = LOAD 'employee_details.txt' USING PigStorage(',') AS (e_id:int, e_name:chararray, e_salary:int, e_rating:int);

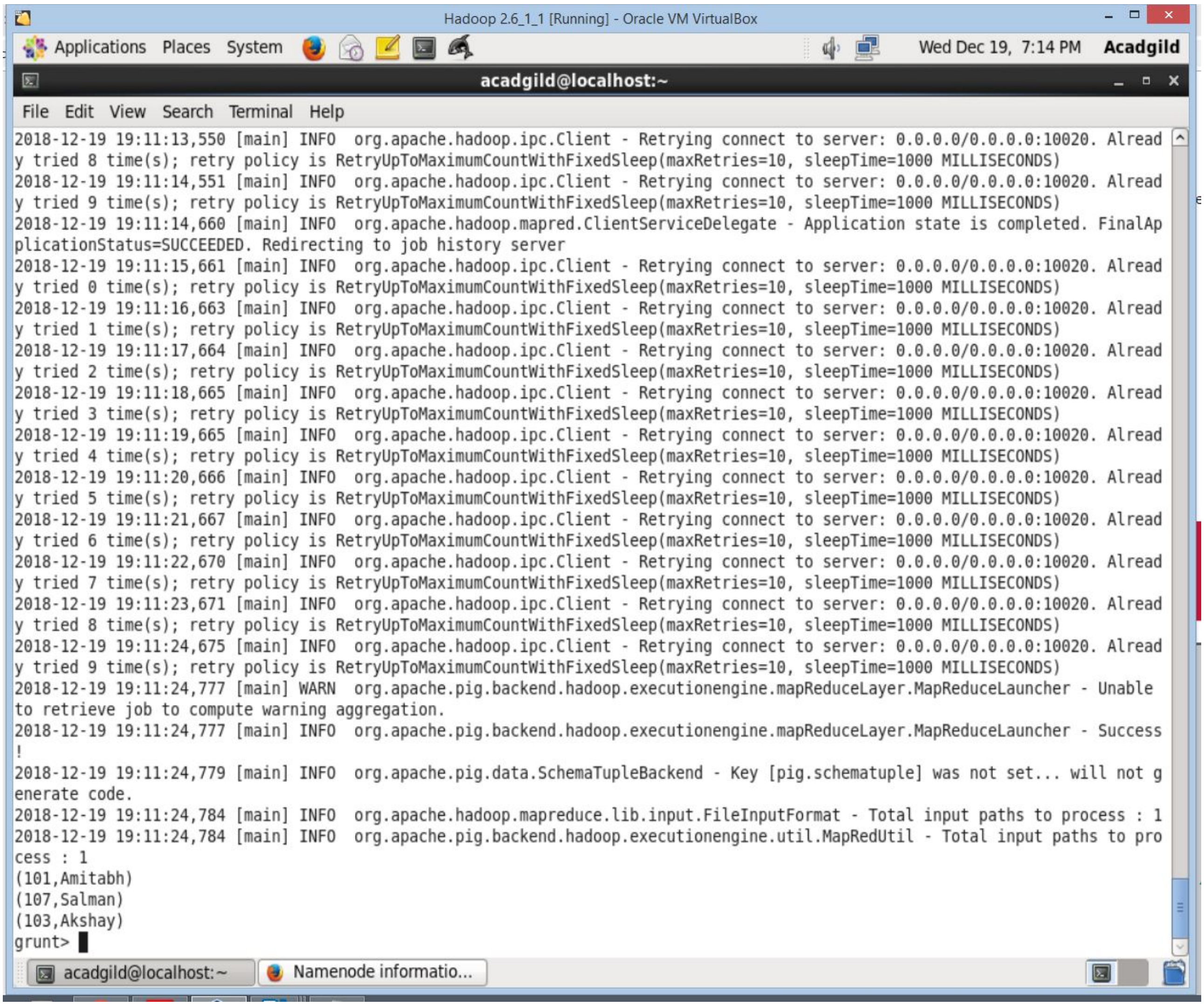
b = order a by e_salary desc;

c = FILTER b by e_id%2==1;

d = FOREACH c generate e_id,e_name;

e = LIMIT d 3;

DUMP e;



```
2018-12-19 19:11:13,550 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:14,551 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:14,660 [main] INFO  org.apache.hadoop.mapred.ClientServiceDelegate - Application state is completed. FinalAp
plicationStatus=SUCCEEDED. Redirecting to job history server
2018-12-19 19:11:15,661 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:16,663 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:17,664 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:18,665 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:19,665 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:20,666 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:21,667 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:22,670 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:23,671 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:24,675 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:11:24,777 [main] WARN  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Unable
to retrieve job to compute warning aggregation.
2018-12-19 19:11:24,777 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2018-12-19 19:11:24,779 [main] INFO  org.apache.pig.data.SchemaTupleBackend - Key [pig.schematuple] was not set... will not g
enerate code.
2018-12-19 19:11:24,784 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2018-12-19 19:11:24,784 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to pro
cess : 1
(101,Amitabh)
(107,Salman)
(103,Akshay)
grunt> 
```

C) The Pig Script is

a = LOAD 'employee_details.txt' USING PigStorage(',') AS (e_id:int, e_name:chararray, e_salary:int, e_rating:int);

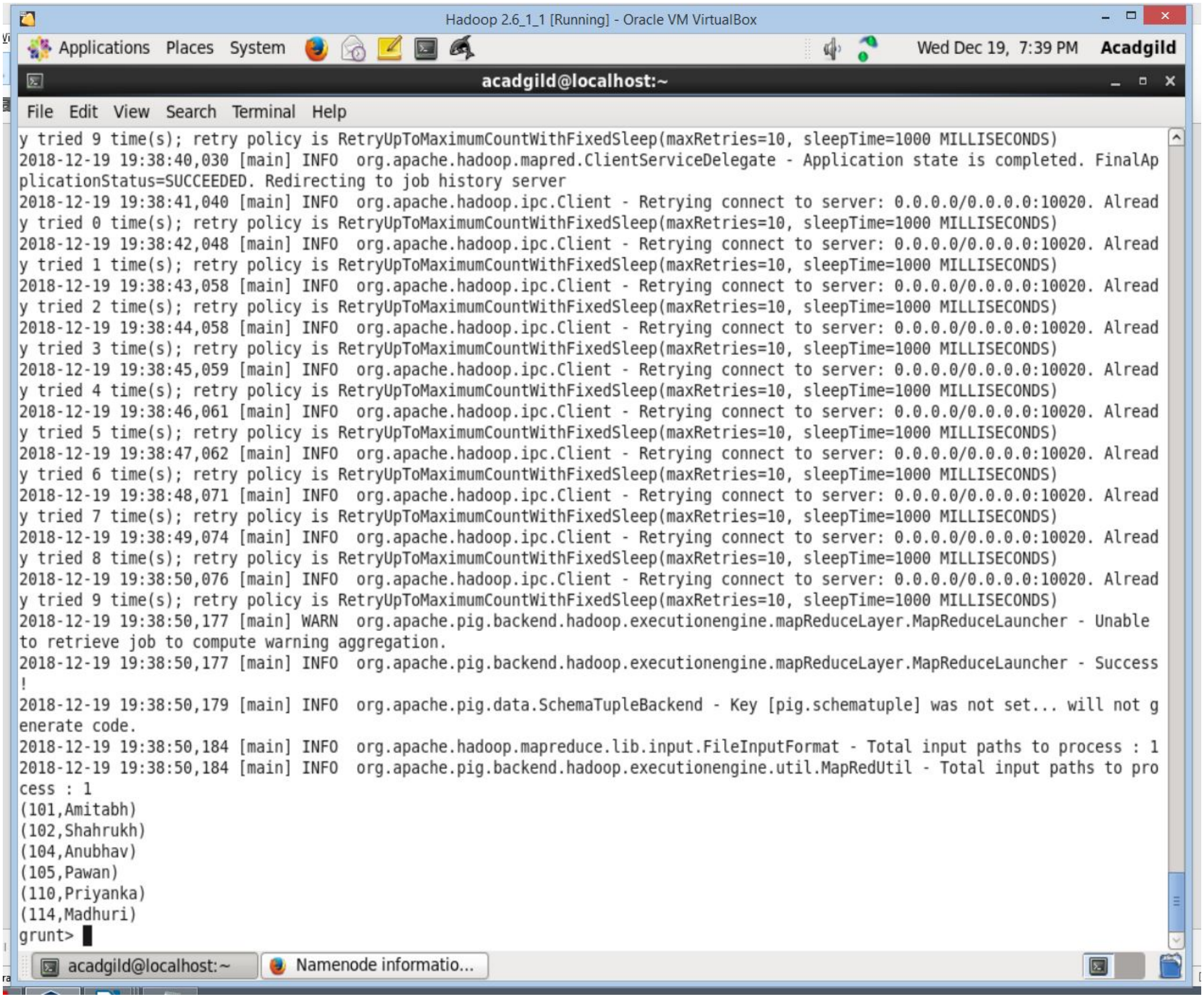
b = LOAD '/employee_expenses.txt' AS (e_id:int, e_exp:int);

c = JOIN a BY e_id, b BY e_id;

d = FOREACH c GENERATE a::e_id, a::e_name;

e = DISTINCT d;

dump e;

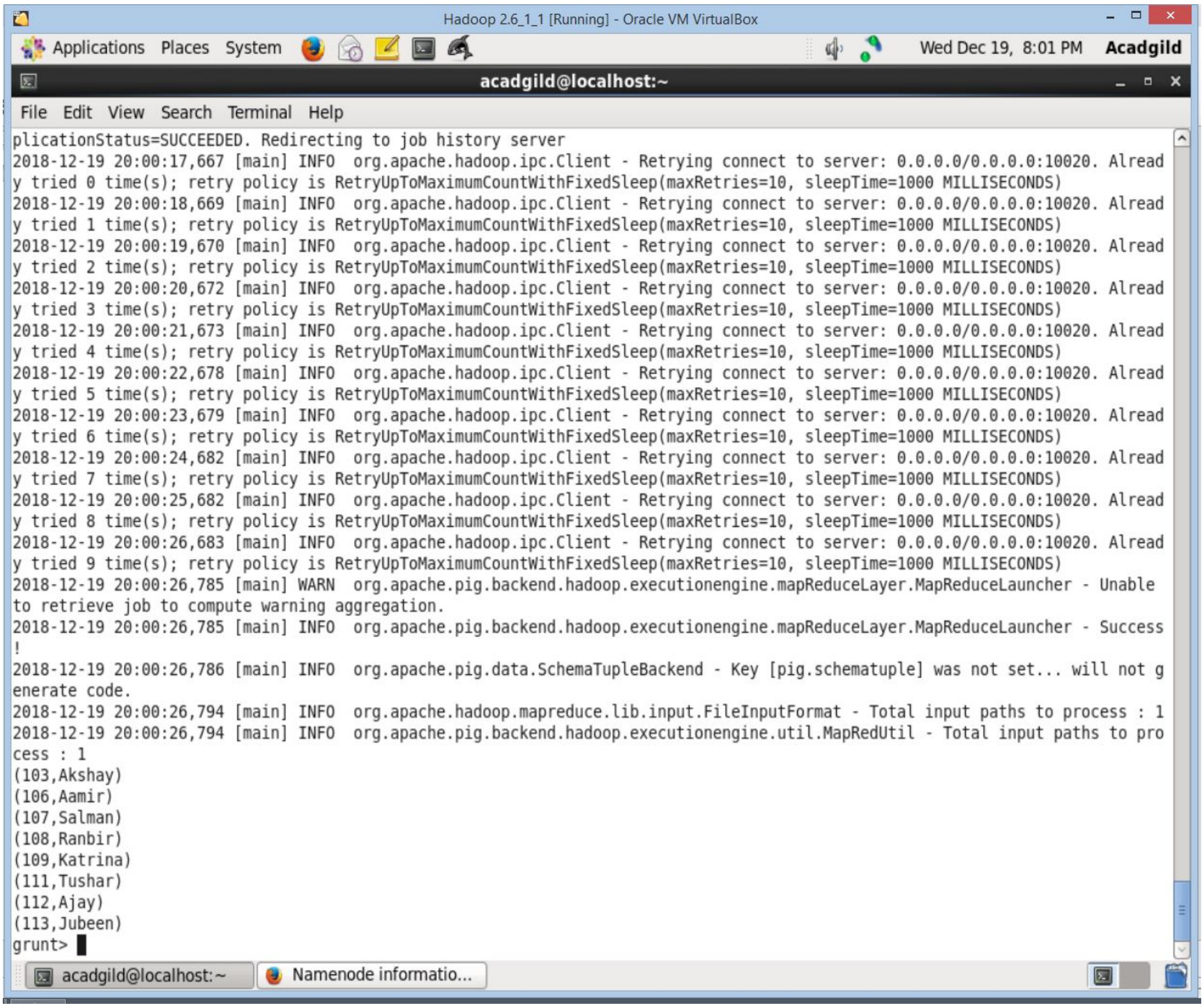


Hadoop 2.6_1_1 [Running] - Oracle VM VirtualBox
Applications Places System
Wed Dec 19, 7:39 PM
Acadgild
acadgild@localhost:~
File Edit View Search Terminal Help
acadgild@localhost:~
Namenode informatio...

```
y tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:40,030 [main] INFO  org.apache.hadoop.mapred.ClientServiceDelegate - Application state is completed. FinalAp
plicationStatus=SUCCEEDED. Redirecting to job history server
2018-12-19 19:38:41,040 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:42,048 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:43,058 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:44,058 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:45,059 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:46,061 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:47,062 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:48,071 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:49,074 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:50,076 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 19:38:50,177 [main] WARN  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Unable
to retrieve job to compute warning aggregation.
2018-12-19 19:38:50,177 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2018-12-19 19:38:50,179 [main] INFO  org.apache.pig.data.SchemaTupleBackend - Key [pig.schematuple] was not set... will not g
enerate code.
2018-12-19 19:38:50,184 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2018-12-19 19:38:50,184 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to pro
cess : 1
(101,Amitabh)
(102,Shahrukh)
(104,Anubhav)
(105,Pawan)
(110,Priyanka)
(114,Madhuri)
grunt> 
```

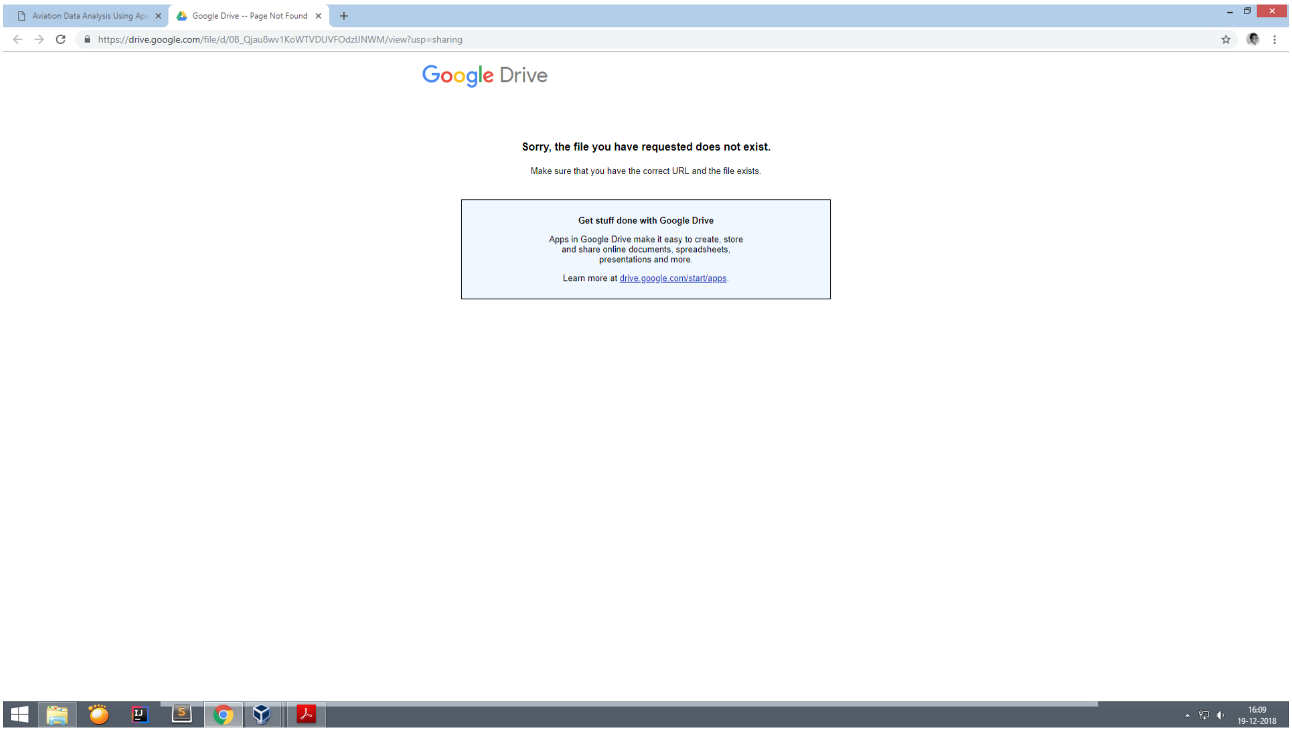
D) The Pig Script is

```
a = LOAD 'employee_details.txt' USING PigStorage(',') AS (e_id:int, e_name:chararray,
e_salary:int, e_rating:int);

 b = LOAD 'employee_expenses.txt' AS (e_id:int, e_exp:int);

 c = JOIN a BY e_id LEFT OUTER, b BY e_id;

 d = FILTER c BY b::e_id is null;

 e = FOREACH d GENERATE a::e_id, a::e_name;

DUMP e;
```



```
plicationStatus=SUCCEEDED. Redirecting to job history server
2018-12-19 20:00:17,667 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:18,669 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:19,670 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:20,672 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:21,673 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:22,678 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:23,679 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:24,682 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:25,682 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:26,683 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Alread
y tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS)
2018-12-19 20:00:26,785 [main] WARN  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Unable
to retrieve job to compute warning aggregation.
2018-12-19 20:00:26,785 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2018-12-19 20:00:26,786 [main] INFO  org.apache.pig.data.SchemaTupleBackend - Key [pig.schematuple] was not set... will not g
enerate code.
2018-12-19 20:00:26,794 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2018-12-19 20:00:26,794 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to pro
cess : 1
(103,Akshay)
(106,Aamir)
(107,Salman)
(108,Ranbir)
(109,Katrina)
(111,Tushar)
(112,Ajay)
(113,Jubeen)
grunt> 
```

TASK 3:



Aviation Data Analysis Using Apa
Google Drive -- Page Not Found
https://drive.google.com/file/d/0B_Qjau8wv1KoWTVDUVFOdzlJNWM/view?usp=sharing
Google Drive
16:09
19-12-2018

Sorry, the file you have requested does not exist.

Make sure that you have the correct URL and the file exists.

Get stuff done with Google Drive

Apps in Google Drive make it easy to create, store and share online documents, spreadsheets, presentations and more.

Learn more at drive.google.com/start/apps.

The data sets for task 3 is not available in the provided link.