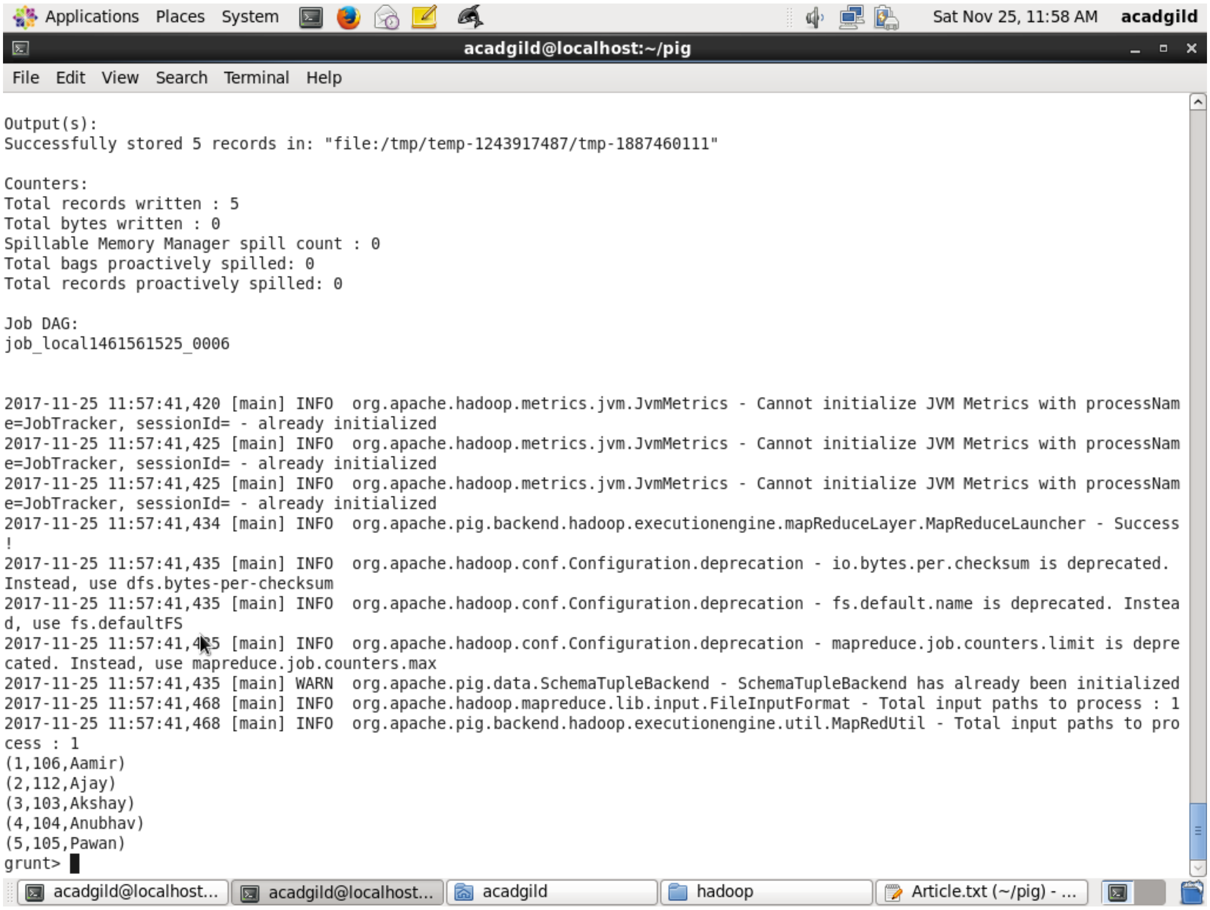
# SESSION 5 ASSIGNMENT 1

Task_1:

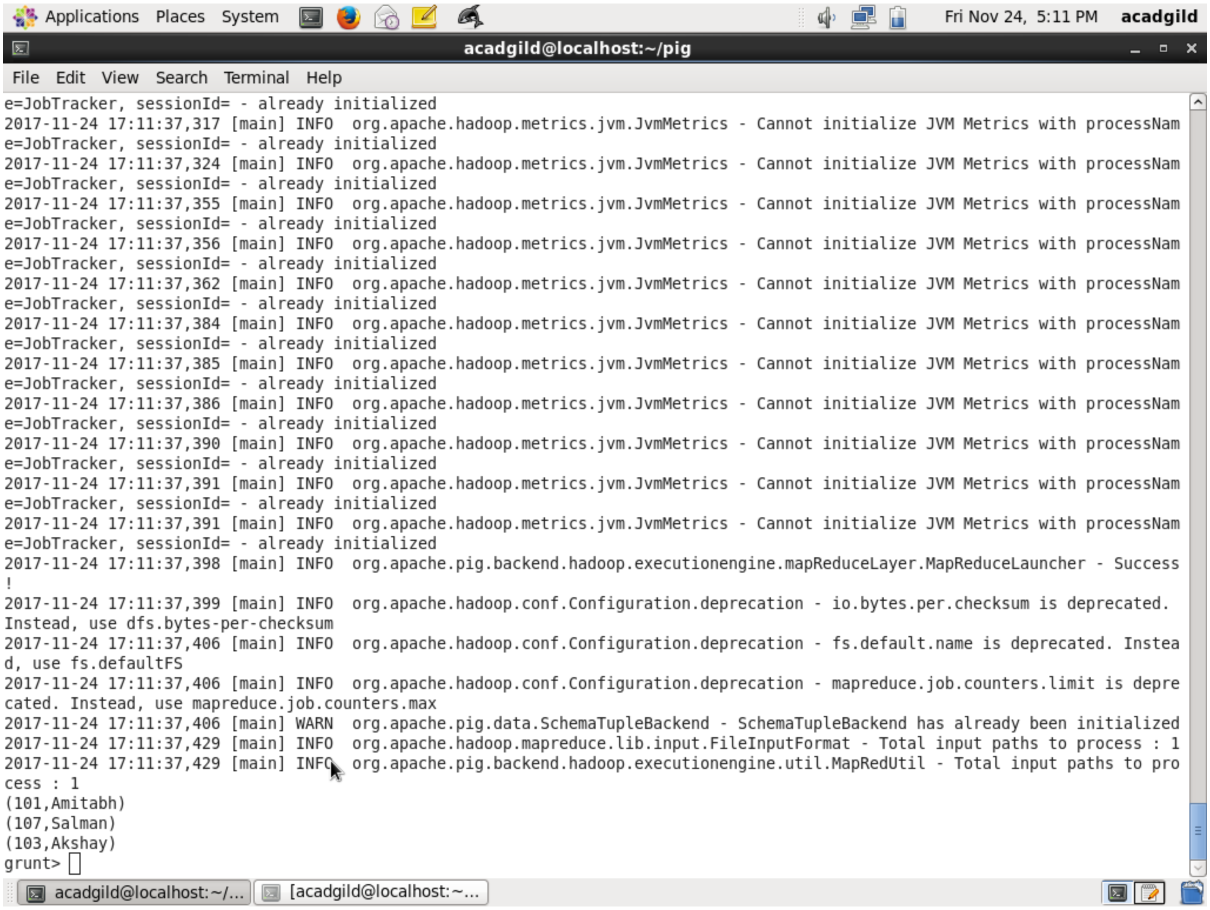
```
grunt>emp_group = GROUP emp_details by rating;

grunt> emp_5 = FOREACH emp_group {

>> da = ORDER emp_details BY rating DESC, name;

>> db = LIMIT da 1;

>> GENERATE FLATTEN(group), FLATTEN(db.id), FLATTEN(db.name);

>> }
```


Applications Places System
Sat Nov 25, 11:58 AM acadgild
acadgild@localhost:~/pig
File Edit View Search Terminal Help
acadgild@localhost...
acadgild@localhost...
acadgild
hadoop
Article.txt (~/pig) - ...

```
Output(s):
Successfully stored 5 records in: "file:/tmp/temp-1243917487/tmp-1887460111"

Counters:
Total records written : 5
Total bytes written : 0
Spillable Memory Manager spill count : 0
Total bags proactively spilled: 0
Total records proactively spilled: 0

Job DAG:
job_local1461561525_0006


2017-11-25 11:57:41,420 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-25 11:57:41,425 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-25 11:57:41,425 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-25 11:57:41,434 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2017-11-25 11:57:41,435 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated.
Instead, use dfs.bytes-per-checksum
2017-11-25 11:57:41,435 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instea
d, use fs.defaultFS
2017-11-25 11:57:41,435 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapreduce.job.counters.limit is depre
cated. Instead, use mapreduce.job.counters.max
2017-11-25 11:57:41,435 [main] WARN  org.apache.pig.data.SchemaTupleBackend - SchemaTupleBackend has already been initialized
2017-11-25 11:57:41,468 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2017-11-25 11:57:41,468 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to pro
cess : 1
(1,106,Aamir)
(2,112,Ajay)
(3,103,Akshay)
(4,104,Anubhav)
(5,105,Pawan)
grunt>
```

Task_2:

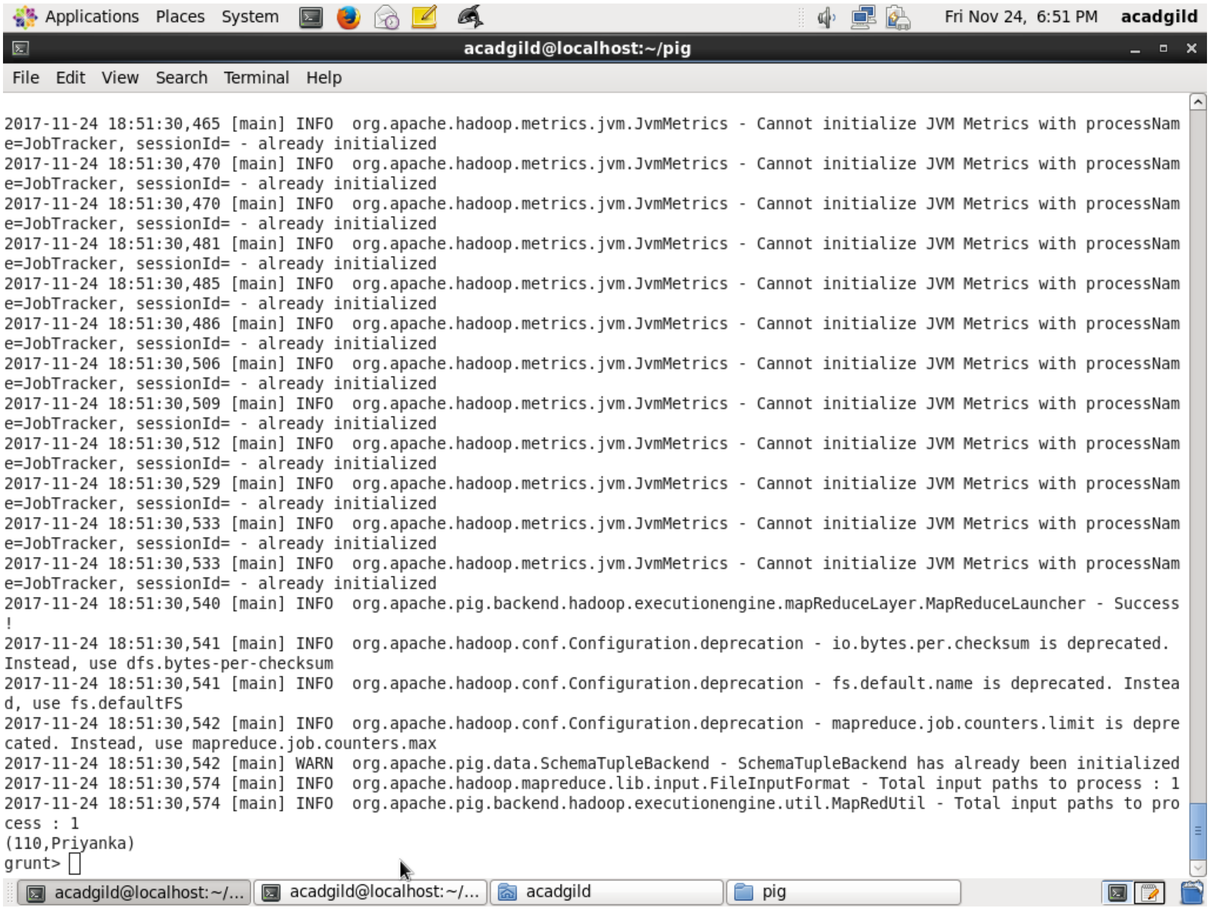
```
grunt> emp_odd = FILTER emp_details BY (id%2 != 0);

grunt> emp_odd_order = ORDER emp_odd BY salary desc, name;

grunt> emp = LIMIT emp_odd_order 3;

grunt> emp_result = FOREACH emp GENERATE id,name;
```



```
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,317 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,324 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,355 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,356 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,362 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,384 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,385 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,386 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,390 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,391 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,391 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 17:11:37,398 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2017-11-24 17:11:37,399 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated.
Instead, use dfs.bytes-per-checksum
2017-11-24 17:11:37,406 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instea
d, use fs.defaultFS
2017-11-24 17:11:37,406 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapreduce.job.counters.limit is depre
cated. Instead, use mapreduce.job.counters.max
2017-11-24 17:11:37,406 [main] WARN  org.apache.pig.data.SchemaTupleBackend - SchemaTupleBackend has already been initialized
2017-11-24 17:11:37,429 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2017-11-24 17:11:37,429 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to pro
cess : 1
(101,Amitabh)
(107,Salman)
(103,Akshay)
grunt> 
```

Task_3:

```
grunt> A = JOIN emp_details BY id, emp_expenses BY id;

grunt> B = ORDER A BY  expense DESC,name;

grunt> C = LIMIT B 1;

grunt> D= FOREACH C GENERATE emp_details::id,name;
```

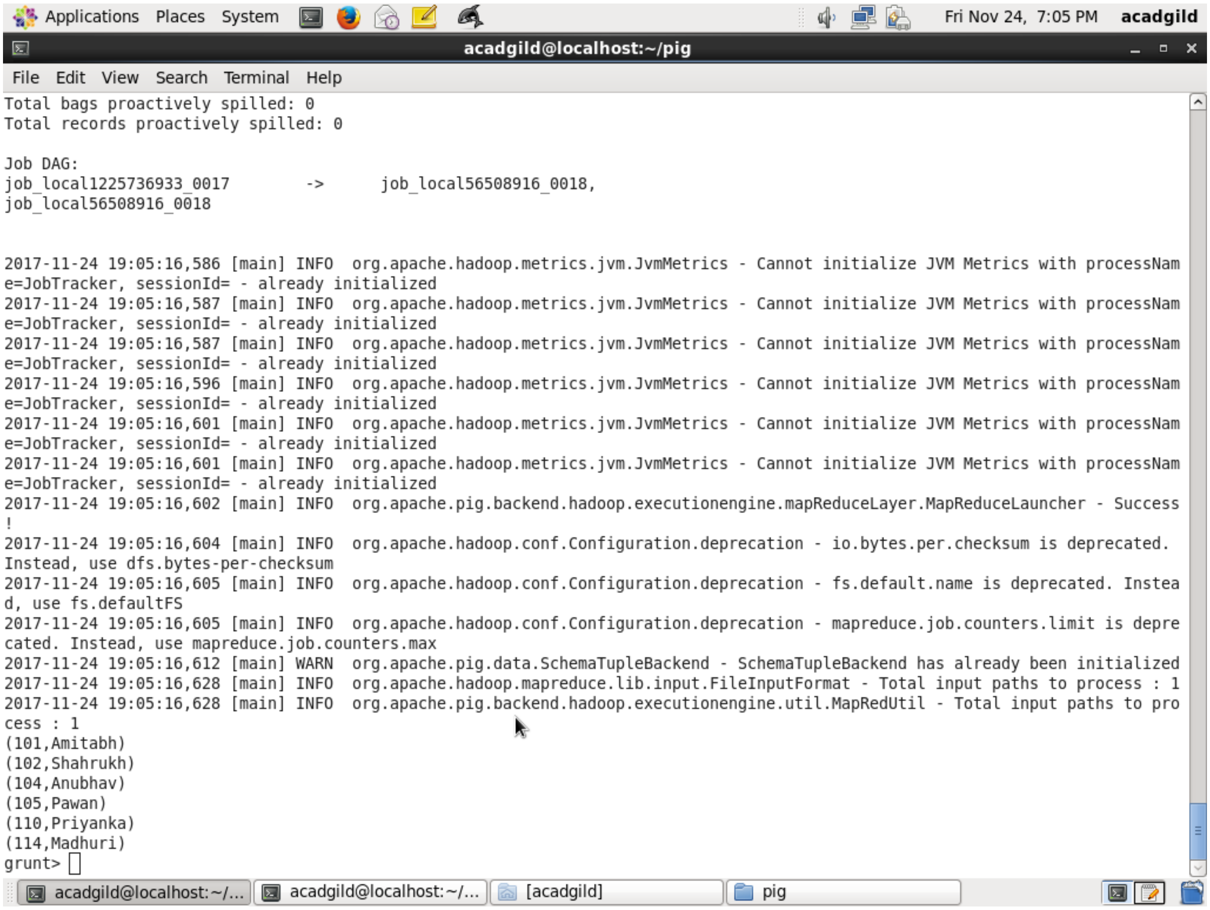


Applications Places System
Fri Nov 24, 6:51 PM acadgild
acadgild@localhost:~/pig
File Edit View Search Terminal Help
acadgild@localhost:~/...
acadgild@localhost:~/...
acadgild
pig

```
2017-11-24 18:51:30,465 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,470 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,470 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,481 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,485 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,486 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,506 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,509 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,512 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,529 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,533 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,533 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 18:51:30,540 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2017-11-24 18:51:30,541 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated.
Instead, use dfs.bytes-per-checksum
2017-11-24 18:51:30,541 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instea
d, use fs.defaultFS
2017-11-24 18:51:30,542 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapreduce.job.counters.limit is depre
cated. Instead, use mapreduce.job.counters.max
2017-11-24 18:51:30,542 [main] WARN  org.apache.pig.data.SchemaTupleBackend - SchemaTupleBackend has already been initialized
2017-11-24 18:51:30,574 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2017-11-24 18:51:30,574 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to pro
cess : 1
(110,Priyanka)
grunt> 
```

Task_4:

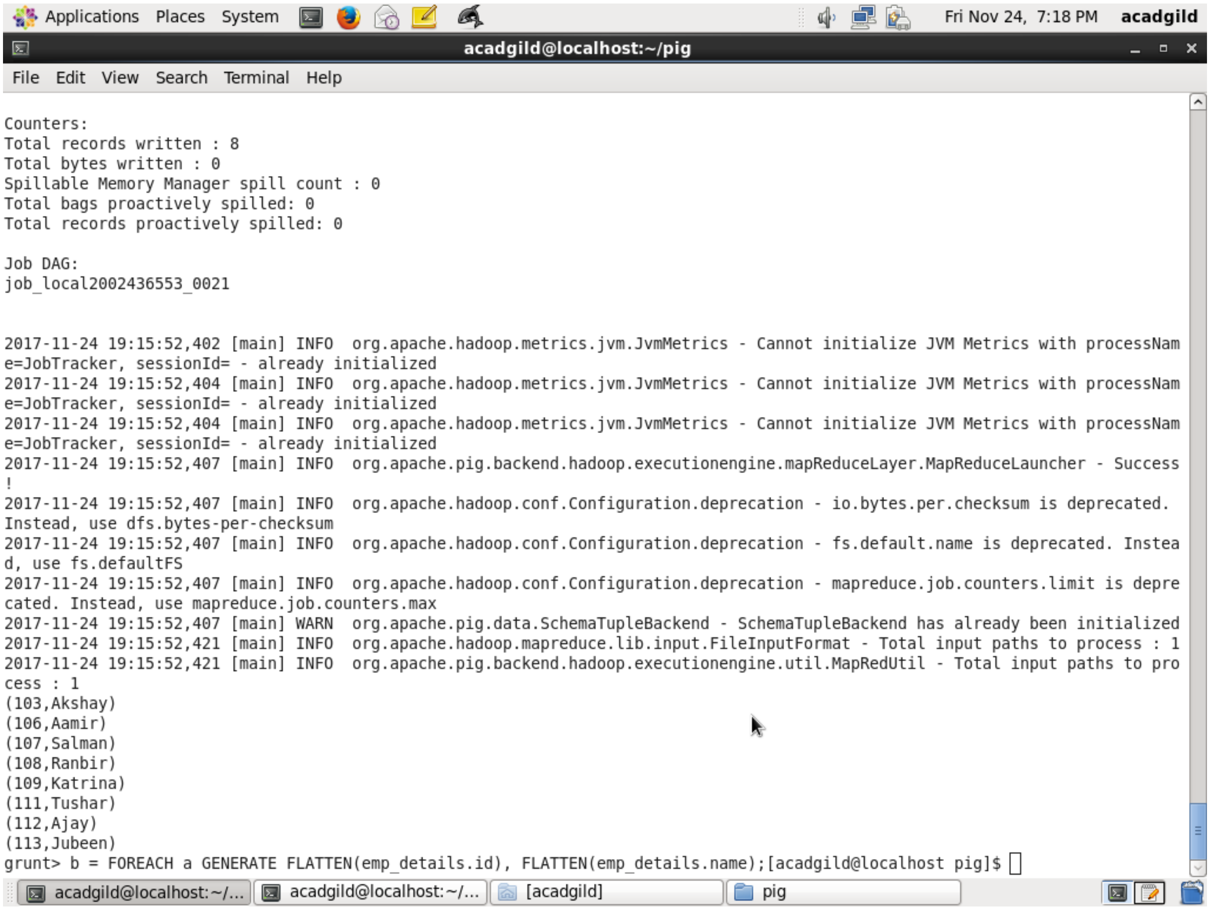
```
grunt> joined = JOIN emp_details BY id, emp_expenses BY id;

grunt> emp = FOREACH joined GENERATE emp_details::id, name;

grunt> emp_data = DISTINCT emp;
```


Applications Places System
Fri Nov 24, 7:05 PM acadgild
acadgild@localhost:~/pig
File Edit View Search Terminal Help
acadgild@localhost:~/...
acadgild@localhost:~/...
[acadgild]
pig

```
Total bags proactively spilled: 0
Total records proactively spilled: 0

Job DAG:
job_local1225736933_0017        ->      job_local56508916_0018,
job_local56508916_0018


2017-11-24 19:05:16,586 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:05:16,587 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:05:16,587 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:05:16,596 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:05:16,601 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:05:16,601 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:05:16,602 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2017-11-24 19:05:16,604 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated.
Instead, use dfs.bytes-per-checksum
2017-11-24 19:05:16,605 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instea
d, use fs.defaultFS
2017-11-24 19:05:16,605 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapreduce.job.counters.limit is depre
cated. Instead, use mapreduce.job.counters.max
2017-11-24 19:05:16,612 [main] WARN  org.apache.pig.data.SchemaTupleBackend - SchemaTupleBackend has already been initialized
2017-11-24 19:05:16,628 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2017-11-24 19:05:16,628 [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> 
```

Task_5:

```
grunt> joined = GROUP emp_details BY id, emp_expenses BY id;

grunt> a= FILTER joined BY IsEmpty(emp_expenses);

grunt> b = FOREACH a GENERATE FLATTEN(emp_details.id), FLATTEN(emp_details.name);
```


Applications Places System
Fri Nov 24, 7:18 PM acadgild
acadgild@localhost:~/pig
File Edit View Search Terminal Help
acadgild@localhost:~/...
acadgild@localhost:~/...
[acadgild]
pig

```
Counters:
Total records written : 8
Total bytes written : 0
Spillable Memory Manager spill count : 0
Total bags proactively spilled: 0
Total records proactively spilled: 0

Job DAG:
job_local2002436553_0021


2017-11-24 19:15:52,402 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:15:52,404 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:15:52,404 [main] INFO  org.apache.hadoop.metrics.jvm.JvmMetrics - Cannot initialize JVM Metrics with processNam
e=JobTracker, sessionId= - already initialized
2017-11-24 19:15:52,407 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success
!
2017-11-24 19:15:52,407 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated.
Instead, use dfs.bytes-per-checksum
2017-11-24 19:15:52,407 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instea
d, use fs.defaultFS
2017-11-24 19:15:52,407 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapreduce.job.counters.limit is depre
cated. Instead, use mapreduce.job.counters.max
2017-11-24 19:15:52,407 [main] WARN  org.apache.pig.data.SchemaTupleBackend - SchemaTupleBackend has already been initialized
2017-11-24 19:15:52,421 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input paths to process : 1
2017-11-24 19:15:52,421 [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> b = FOREACH a GENERATE FLATTEN(emp_details.id), FLATTEN(emp_details.name);[acadgild@localhost pig]$ 
```