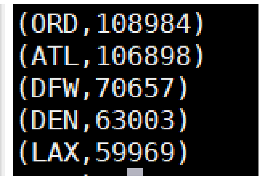
TASK-3

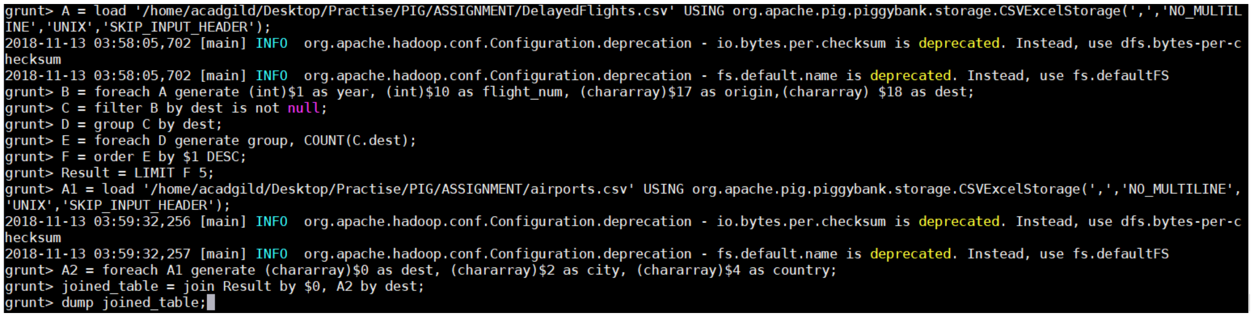
Problem Statement 1 : Find out the top 5 most visited destinations.

grunt> register '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/piggybank-0.17.0.jar';
grunt> A = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/DelayedFlights.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILINE','UNIX','SKIP_INPUT_HEADER');
grunt> B = foreach A generate (int)$1 as year, (int)$10 as flight_num, (chararray)$17 as origin,(chararray) $18 as dest;
grunt> C = filter B by dest is not null;
grunt> D = group C by dest;
grunt> E = foreach D generate group, COUNT(C.dest);
grunt> F = order E by $1 DESC;
grunt> Result = LIMIT F 5;
grunt> dump Result;

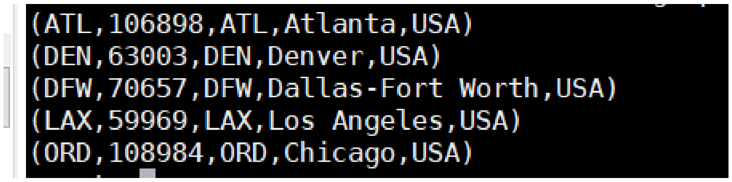


```
(ORD,108984)
(ATL,106898)
(DFW,70657)
(DEN,63003)
(LAX,59969)
```

grunt> A1 = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/airports.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILINE','UNIX','SKIP_INPUT_HEADER');
grunt> A2 = foreach A1 generate (chararray)$0 as dest, (chararray)$2 as city, (chararray)$4 as country;
grunt> joined_table = join Result by $0, A2 by dest;
grunt> dump joined_table;



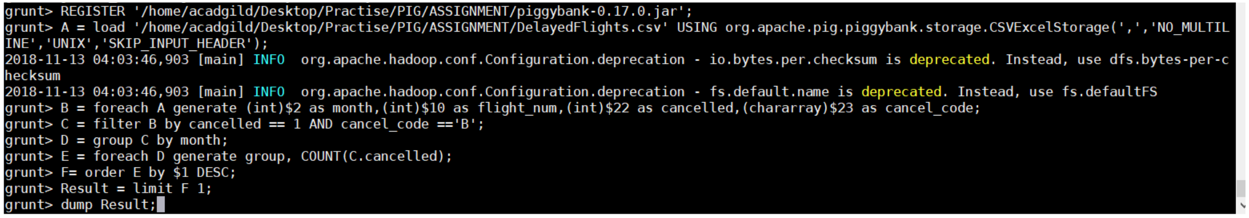
```
grunt> A = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/DelayedFlights.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTIL
INE','UNIX','SKIP_INPUT_HEADER');
2018-11-13 03:58:05,702 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-c
hecksum
2018-11-13 03:58:05,702 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> B = foreach A generate (int)$1 as year, (int)$10 as flight_num, (chararray)$17 as origin,(chararray) $18 as dest;
grunt> C = filter B by dest is not null;
grunt> D = group C by dest;
grunt> E = foreach D generate group, COUNT(C.dest);
grunt> F = order E by $1 DESC;
grunt> Result = LIMIT F 5;
grunt> A1 = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/airports.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILINE',
'UNIX','SKIP_INPUT_HEADER');
2018-11-13 03:59:32,256 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-c
hecksum
2018-11-13 03:59:32,257 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> A2 = foreach A1 generate (chararray)$0 as dest, (chararray)$2 as city, (chararray)$4 as country;
grunt> joined_table = join Result by $0, A2 by dest;
grunt> dump joined_table;
```



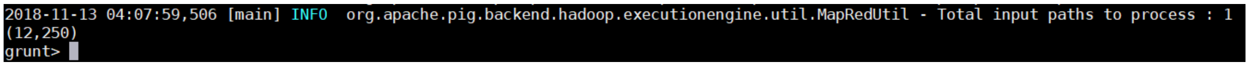
```
(ATL,106898,ATL,Atlanta,USA)
(DEN,63003,DEN,Denver,USA)
(DFW,70657,DFW,Dallas-Fort Worth,USA)
(LAX,59969,LAX,Los Angeles,USA)
(ORD,108984,ORD,Chicago,USA)
```

Problem Statement 2 : Which month has seen the most number of cancellations due to bad weather?

REGISTER '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/piggybank-0.17.0.jar';
A = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/DelayedFlights.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILINE','UNIX','SKIP_INPUT_HEADER');
B = foreach A generate (int)$2 as month,(int)$10 as flight_num,(int)$22 as cancelled,(chararray)$23 as cancel_code;
C = filter B by cancelled == 1 AND cancel_code =='B';
D = group C by month;
E = foreach D generate group, COUNT(C.cancelled);
F= order E by $1 DESC;
Result = limit F 1;
dump Result;



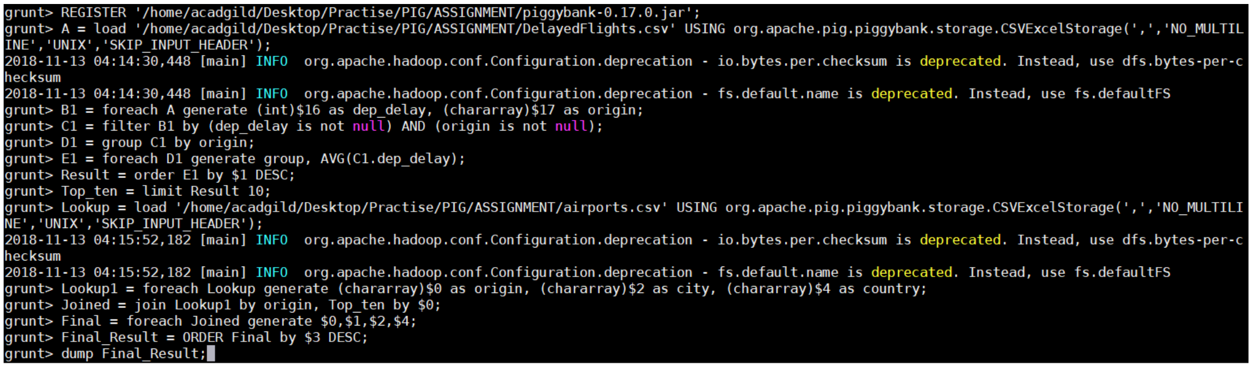
```
grunt> REGISTER '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/piggybank-0.17.0.jar';
grunt> A = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/DelayedFlights.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTIL
INE','UNIX','SKIP_INPUT_HEADER');
2018-11-13 04:03:46,903 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-c
hecksum
2018-11-13 04:03:46,903 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> B = foreach A generate (int)$2 as month,(int)$10 as flight_num,(int)$22 as cancelled,(chararray)$23 as cancel_code;
grunt> C = filter B by cancelled == 1 AND cancel_code =='B';
grunt> D = group C by month;
grunt> E = foreach D generate group, COUNT(C.cancelled);
grunt> F= order E by $1 DESC;
grunt> Result = limit F 1;
grunt> dump Result;
```



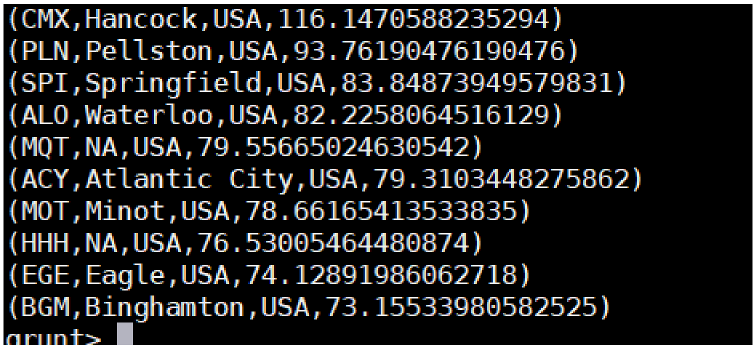
```
2018-11-13 04:07:59,506 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to process : 1
(12,250)
grunt>
```

Problem Statement 3 : Top ten origins with the highest AVG departure delay

REGISTER '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/piggybank-0.17.0.jar';
A = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/DelayedFlights.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILINE','UNIX','SKIP_INPUT_HEADER');
B1 = foreach A generate (int)$16 as dep_delay, (chararray)$17 as origin;
C1 = filter B1 by (dep_delay is not null) AND (origin is not null);
D1 = group C1 by origin;
E1 = foreach D1 generate group, AVG(C1.dep_delay);
Result = order E1 by $1 DESC;
Top_ten = limit Result 10;
Lookup = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/airports.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILINE','UNIX','SKIP_INPUT_HEADER');
Lookup1 = foreach Lookup generate (chararray)$0 as origin, (chararray)$2 as city, (chararray)$4 as country;
Joined = join Lookup1 by origin, Top_ten by $0;
Final = foreach Joined generate $0,$1,$2,$4;
Final_Result = ORDER Final by $3 DESC;
dump Final_Result;



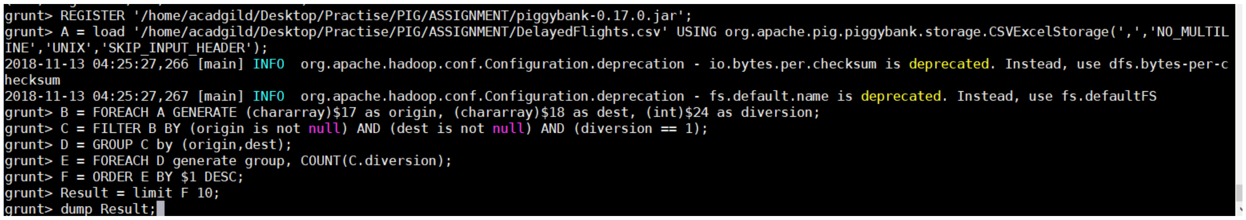
```
grunt> REGISTER '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/piggybank-0.17.0.jar';
grunt> A = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/DelayedFlights.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTIL
INE','UNIX','SKIP_INPUT_HEADER');
2018-11-13 04:14:30,448 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-c
hecksum
2018-11-13 04:14:30,448 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> B1 = foreach A generate (int)$16 as dep_delay, (chararray)$17 as origin;
grunt> C1 = filter B1 by (dep_delay is not null) AND (origin is not null);
grunt> D1 = group C1 by origin;
grunt> E1 = foreach D1 generate group, AVG(C1.dep_delay);
grunt> Result = order E1 by $1 DESC;
grunt> Top_ten = limit Result 10;
grunt> Lookup = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/airports.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILI
NE','UNIX','SKIP_INPUT_HEADER');
2018-11-13 04:15:52,182 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-c
hecksum
2018-11-13 04:15:52,182 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> Lookup1 = foreach Lookup generate (chararray)$0 as origin, (chararray)$2 as city, (chararray)$4 as country;
grunt> Joined = join Lookup1 by origin, Top_ten by $0;
grunt> Final = foreach Joined generate $0,$1,$2,$4;
grunt> Final_Result = ORDER Final by $3 DESC;
grunt> dump Final_Result;
```



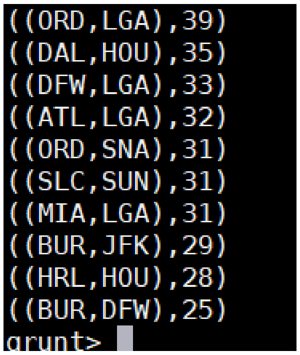
```
(CMX,Hancock,USA,116.1470588235294)
(PLN,Pellston,USA,93.76190476190476)
(SPI,Springfield,USA,83.84873949579831)
(ALO,Waterloo,USA,82.2258064516129)
(MQT,NA,USA,79.55665024630542)
(ACY,Atlantic City,USA,79.3103448275862)
(MOT,Minot,USA,78.66165413533835)
(HHH,NA,USA,76.53005464480874)
(EGE,Eagle,USA,74.12891986062718)
(BGM,Binghamton,USA,73.15533980582525)
grunt>
```

Problem Statement 4 : Which route (origin & destination) has seen the maximum diversion?

```
REGISTER '/home/acadgild/airline_usecase/piggybank.jar';
A = load '/home/acadgild/airline_usecase/DelayedFlights.csv' USING
org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTILINE','UNIX','SKIP_INPUT_HEADER');
B = FOREACH A GENERATE (chararray)$17 as origin, (chararray)$18 as dest, (int)$24 as diversion;
C = FILTER B BY (origin is not null) AND (dest is not null) AND (diversion == 1);
D = GROUP C by (origin,dest);
E = FOREACH D generate group, COUNT(C.diversion);
F = ORDER E BY $1 DESC;
Result = limit F 10;
dump Result;
```



```
grunt> REGISTER '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/piggybank-0.17.0.jar';
grunt> A = load '/home/acadgild/Desktop/Practise/PIG/ASSIGNMENT/DelayedFlights.csv' USING org.apache.pig.piggybank.storage.CSVExcelStorage(',','NO_MULTIL
INE','UNIX','SKIP_INPUT_HEADER');
2018-11-13 04:25:27,266 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-c
hecksum
2018-11-13 04:25:27,267 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> B = FOREACH A GENERATE (chararray)$17 as origin, (chararray)$18 as dest, (int)$24 as diversion;
grunt> C = FILTER B BY (origin is not null) AND (dest is not null) AND (diversion == 1);
grunt> D = GROUP C by (origin,dest);
grunt> E = FOREACH D generate group, COUNT(C.diversion);
grunt> F = ORDER E BY $1 DESC;
grunt> Result = limit F 10;
grunt> dump Result;
```



```
((ORD,LGA),39)
((DAL,HOU),35)
((DFW,LGA),33)
((ATL,LGA),32)
((ORD,SNA),31)
((SLC,SUN),31)
((MIA,LGA),31)
((BUR,JFK),29)
((HRL,HOU),28)
((BUR,DFW),25)
grunt>
```