PIG Project 3 : Problem Statement

We have employee_details and employee_expenses files.

employee_details.txt

employee_expenses.txt

Use local mode while running Pig and

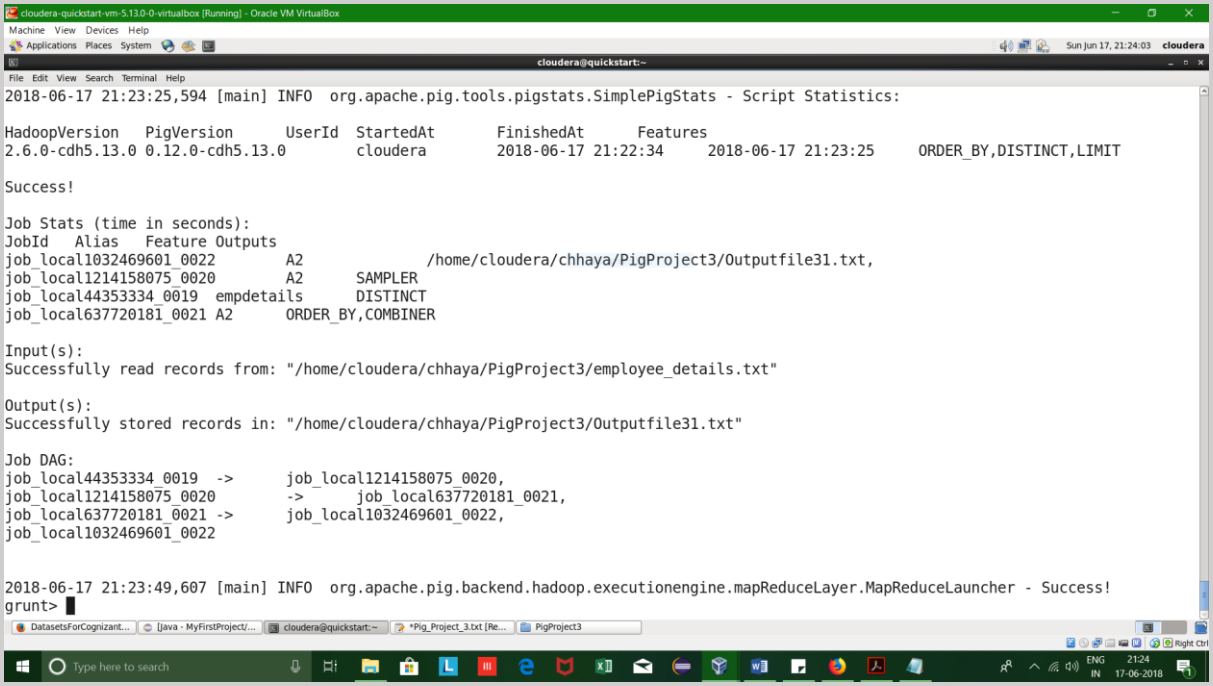
write Pig Latin script to get below results:

(a) Top 5 employees (employee id and employee name) with highest rating. (In case two employees have same rating, employee with name coming first in dictionary should get preference)

Input Commands:

```
A0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_details.txt'
USING PigStorage(',') AS (empid: int, empname:chararray,
empsalary:int, emprating:int);
A1 = DISTINCT A0;
DESCRIBE A1;
ILLUSTRATE A1;
EXPLAIN A1;
DUMP A1;
A2 = ORDER A1 BY emprating asc, empname asc;
A3 = LIMIT A2 5;
STORE A3 INTO
'/home/cloudera/chhaya/PigProject3/Outputfile31.txt' using
PigStorage(',');
```

Output Screenshot:



```
2018-06-17 21:23:25,594 [main] INFO  org.apache.pig.tools.pigstats.SimplePigStats - Script Statistics:

HadoopVersion   PigVersion      UserId  StartedAt       FinishedAt      Features
2.6.0-cdh5.13.0 0.12.0-cdh5.13.0        cloudera        2018-06-17 21:22:34     2018-06-17 21:23:25     ORDER_BY,DISTINCT,LIMIT

Success!

Job Stats (time in seconds):
JobId   Alias   Feature Outputs
job_local1032469601_0022        A2              /home/cloudera/chhaya/PigProject3/Outputfile31.txt,
job_local1214158075_0020        A2      SAMPLER
job_local44353334_0019  empdetails      DISTINCT
job_local637720181_0021 A2      ORDER_BY,COMBINER

Input(s):
Successfully read records from: "/home/cloudera/chhaya/PigProject3/employee_details.txt"

Output(s):
Successfully stored records in: "/home/cloudera/chhaya/PigProject3/Outputfile31.txt"

Job DAG:
job_local44353334_0019  ->      job_local1214158075_0020,
job_local1214158075_0020        ->      job_local637720181_0021,
job_local637720181_0021 ->      job_local1032469601_0022,
job_local1032469601_0022


2018-06-17 21:23:49,607 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success!
grunt>
```

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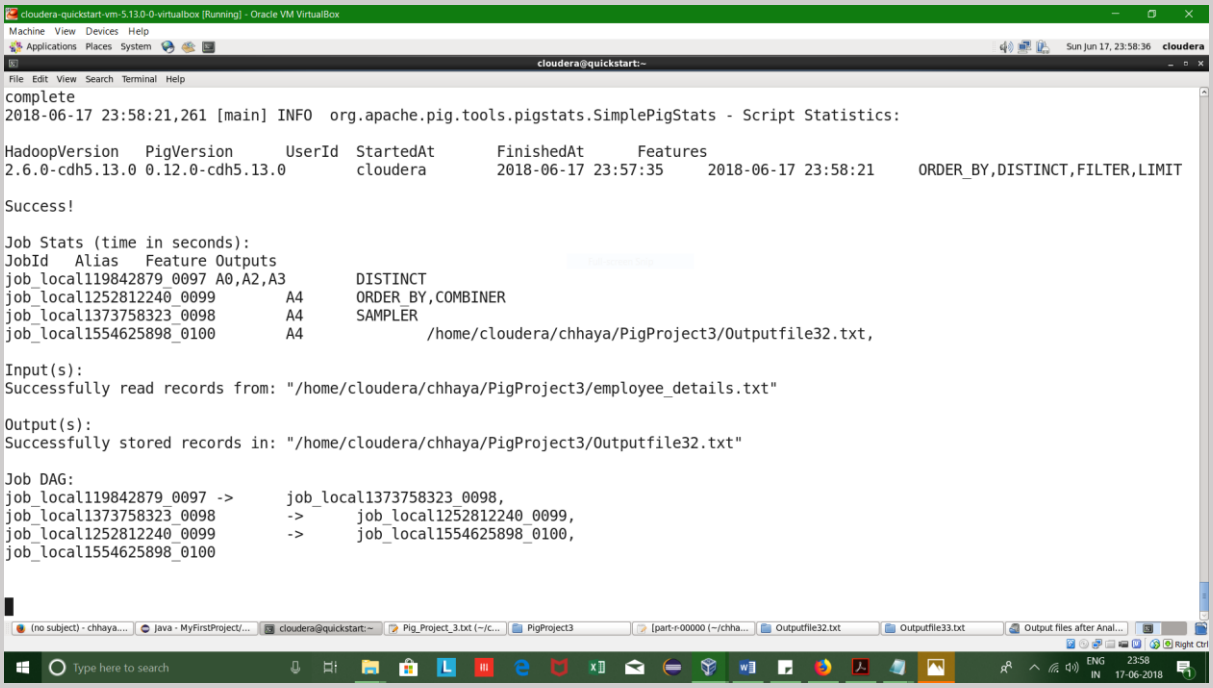
(b) Top 3 employees (employee id and employee name) with highest salary, whose employee id is an odd number. (In case two employees have same salary, employee with name coming first in dictionary should get preference)

Input Commands:

```
A0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_details.txt'
USING PigStorage(',') AS (empid: int, empname:chararray,
empsalary:int, emprating:int);
A1 = DISTINCT A0;
A2 = FOREACH A1 GENERATE empid as id, empname as name,
empsalary as salary;
A3 = FILTER A2 by ((id % 2) != 0);
A4 = ORDER A3 BY salary desc, name asc;
A5 = LIMIT A4 3;
STORE A5 INTO
'/home/cloudera/chhaya/PigProject3/Outputfile32.txt' using
PigStorage(',');
```

Output Screenshot:



```
complete
2018-06-17 23:58:21,261 [main] INFO  org.apache.pig.tools.pigstats.SimplePigStats - Script Statistics:

HadoopVersion   PigVersion      UserId  StartedAt       FinishedAt      Features
2.6.0-cdh5.13.0 0.12.0-cdh5.13.0        cloudera        2018-06-17 23:57:35     2018-06-17 23:58:21     ORDER_BY,DISTINCT,FILTER,LIMIT

Success!

Job Stats (time in seconds):
JobId   Alias   Feature Outputs
job_local119842879_0097 A0,A2,A3        DISTINCT
job_local1252812240_0099        A4      ORDER_BY,COMBINER
job_local1373758323_0098        A4      SAMPLER
job_local1554625898_0100        A4              /home/cloudera/chhaya/PigProject3/Outputfile32.txt,

Input(s):
Successfully read records from: "/home/cloudera/chhaya/PigProject3/employee_details.txt"

Output(s):
Successfully stored records in: "/home/cloudera/chhaya/PigProject3/Outputfile32.txt"

Job DAG:
job_local119842879_0097 ->      job_local1373758323_0098,
job_local1373758323_0098        ->      job_local1252812240_0099,
job_local1252812240_0099        ->      job_local1554625898_0100,
job_local1554625898_0100
```

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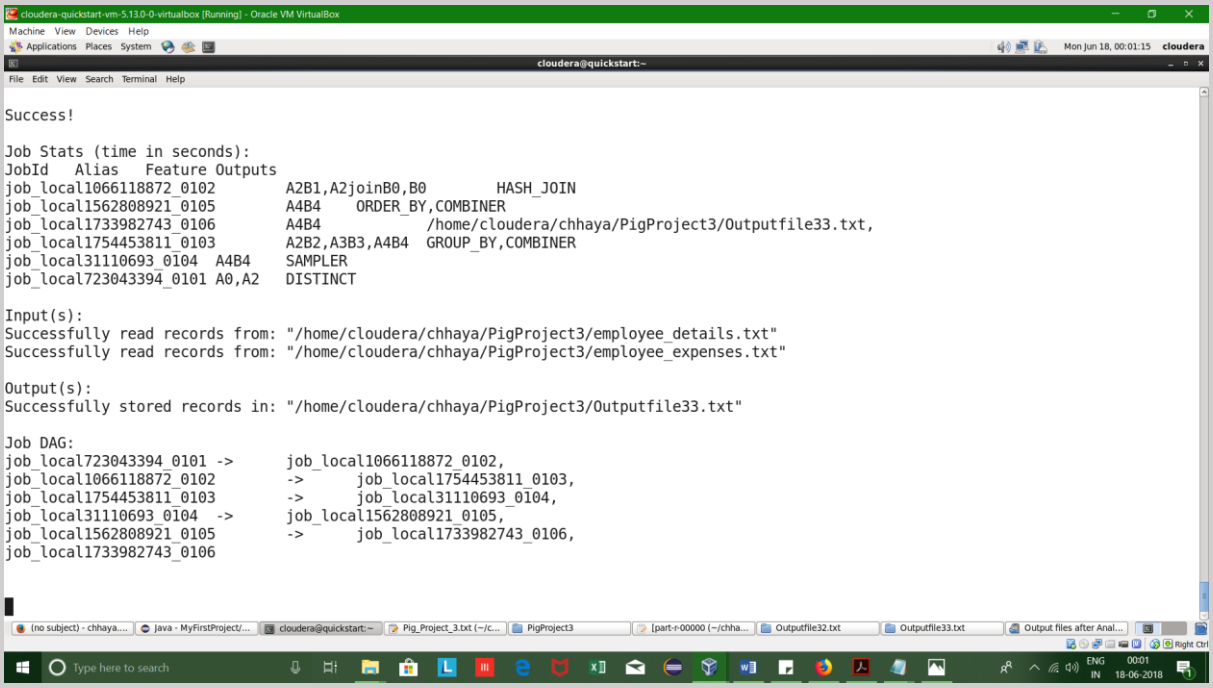
(c) Employee (employee id and employee name) with maximum expense (In case two employees have same expense, employee with name coming first in dictionary should get preference)

Input Commands:

```
B0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_expenses.txt'
USING PigStorage('\t') AS (empid: int, empexpenses: int);
A0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_details.txt'
USING PigStorage(',') AS (empid: int, empname:chararray,
empsalary:int, emprating:int);
A1 = DISTINCT A0;
A2 = FOREACH A1 GENERATE empid, empname ;
A2joinB0 = JOIN A2 BY empid, B0 BY empid;
DESCRIBE A2joinB0;
A2B1 = FOREACH A2joinB0 GENERATE A2::empid as id, A2::empname
as name, B0::empexpenses as exp;
A2B2 = GROUP A2B1 BY (id, name);
```

```
A3B3 = FOREACH A2B2 GENERATE group, SUM(A2B1.exp) as money;
A4B4 = FOREACH A3B3 GENERATE FLATTEN(group) as (id,name),
money;
A4B4 = ORDER A4B4 BY money DESC, name ASC;
A5B5 = LIMIT A4B4 1;
STORE A5B5 INTO
'/home/cloudera/chhaya/PigProject3/Outputfile33.txt' using
PigStorage(',');
```

Output Screenshot:



```
Success!

Job Stats (time in seconds):
JobId   Alias   Feature Outputs
job_local1066118872_0102        A2B1,A2joinB0,B0        HASH_JOIN
job_local1562808921_0105        A4B4    ORDER_BY,COMBINER
job_local1733982743_0106        A4B4            /home/cloudera/chhaya/PigProject3/Outputfile33.txt,
job_local1754453811_0103        A2B2,A3B3,A4B4  GROUP_BY,COMBINER
job_local31110693_0104  A4B4    SAMPLER
job_local723043394_0101 A0,A2   DISTINCT

Input(s):
Successfully read records from: "/home/cloudera/chhaya/PigProject3/employee_details.txt"
Successfully read records from: "/home/cloudera/chhaya/PigProject3/employee_expenses.txt"

Output(s):
Successfully stored records in: "/home/cloudera/chhaya/PigProject3/Outputfile33.txt"

Job DAG:
job_local723043394_0101 ->      job_local1066118872_0102,
job_local1066118872_0102        ->      job_local1754453811_0103,
job_local1754453811_0103        ->      job_local31110693_0104,
job_local31110693_0104  ->      job_local1562808921_0105,
job_local1562808921_0105        ->      job_local1733982743_0106,
job_local1733982743_0106
```

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(d) List of employees (employee id and employee name) having entries in employee_expenses

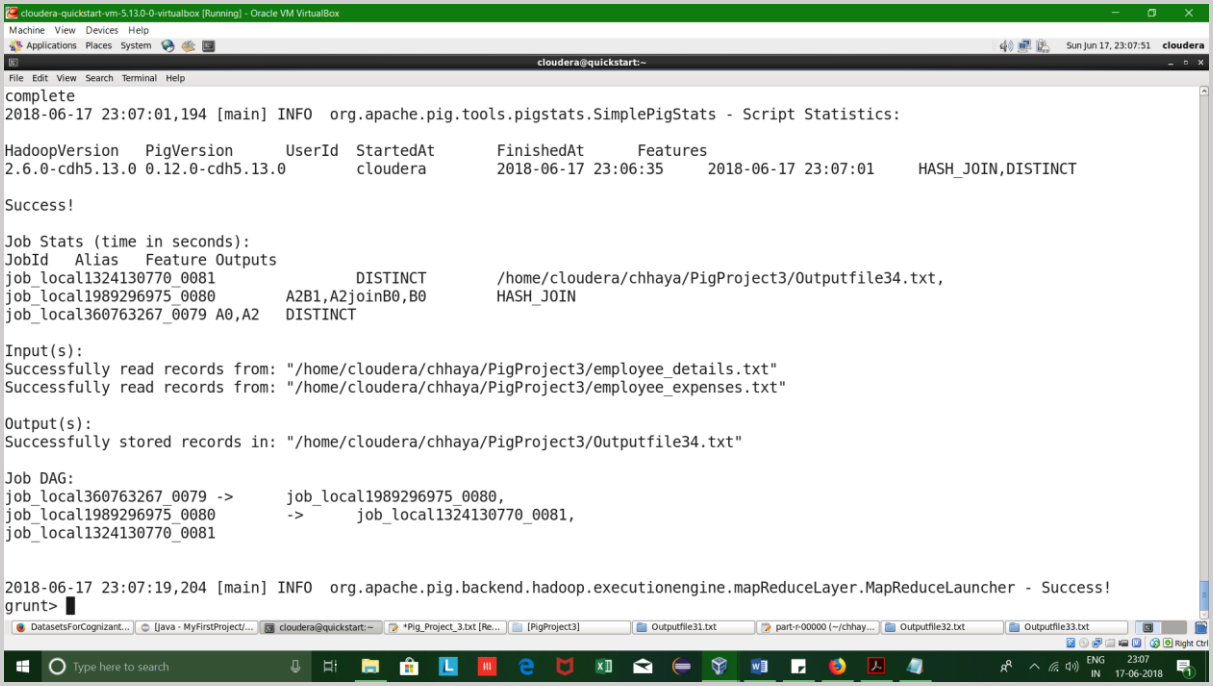
file.

Input Commands:

```
B0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_expenses.txt'
USING PigStorage('\t') AS (empid: int, empexpenses: int);
A0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_details.txt'
```

```
USING PigStorage(',') AS (empid: int, empname:chararray,
empsalary:int, emprating:int);
A1 = DISTINCT A0;
A2 = FOREACH A1 GENERATE empid, empname ;
A2joinB0 = JOIN A2 BY empid, B0 BY empid;
A2B1 = FOREACH A2joinB0 GENERATE A2::empid as id, A2::empname
as name;
A2B2 = DISTINCT A2B1;
DUMP A2B2;
STORE A2B2 INTO
'/home/cloudera/chhaya/PigProject3/Outputfile34.txt' using
PigStorage(',');
```

Output Screenshot:



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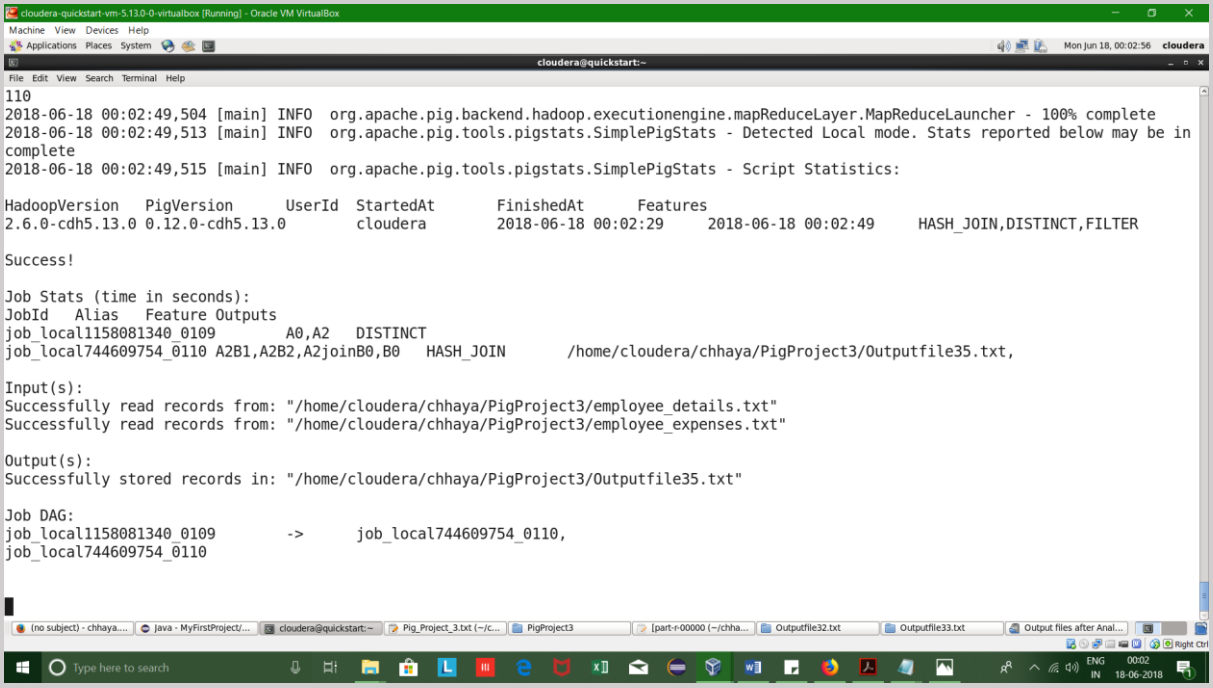
(e) List of employees (employee id and employee name) having no entry in employee_expenses

Input Commands:

```
B0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_expenses.txt'
USING PigStorage('\t') AS (empid: int, empexpenses: int);
```

```
A0 = LOAD
'/home/cloudera/chhaya/PigProject3/employee_details.txt'
USING PigStorage(',') AS (empid: int, empname:chararray,
empsalary:int, emprating:int);
A1 = DISTINCT A0;
A2 = FOREACH A1 GENERATE empid, empname ;
A2joinB0 = JOIN A2 BY empid LEFT OUTER, B0 BY empid;
A2B1 = FILTER A2joinB0 BY B0::empid is NULL;
A2B2 = FOREACH A2B1 GENERATE A2::empid as id, A2::empname as
name;
DUMP A2B2;
STORE A2B2 INTO
'/home/cloudera/chhaya/PigProject3/Outputfile35.txt' using
PigStorage(',');
```

Output Screenshot:



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