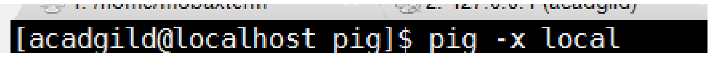
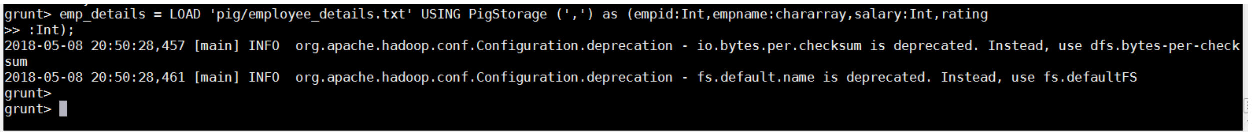
We have employee_details and employee_expenses files. Use local mode while running Pig and
write Pig Latin script to get below results:
employee_details (EmpID,Name,Salary,DepartmentID)
https://github.com/prateekATacadgild/DatasetsForCognizant/blob/master/employee_details.txt
employee_expenses(EmpID,Expence)
https://github.com/prateekATacadgild/DatasetsForCognizant/blob/master/employee_expenses.txt
(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)

- ⇨ Task : 1

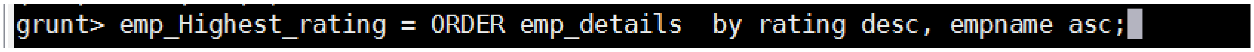


```
[acadgild@localhost pig]$ pig -x local
```

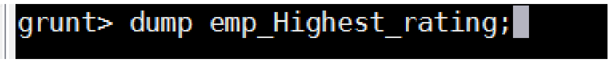


```
grunt> emp_details = LOAD 'pig/employee_details.txt' USING PigStorage (',') as (empid:Int,empname:chararray,salary:Int,rating
>> :Int);
2018-05-08 20:50:28,457 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-check
sum
2018-05-08 20:50:28,461 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt>
grunt>
```

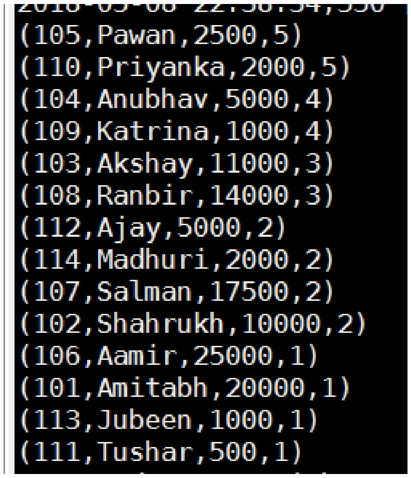
```
emp_details = LOAD 'pig/employee_details.txt' USING PigStorage (',') as
(empid:Int,empname:chararray,salary:Int,rating:Int);

emp_expenses= LOAD ' pig /employee_expenses.txt' USING PigStorage(' ')
AS(empId:int,empexpenses:int);

emp_Highest_rating = ORDER emp_details  by rating desc, empname asc;

dump emp_Highest_rating;

emp_top5_sal = LIMIT emp_Highest_rating 5;

dump emp_top5_sal;
```



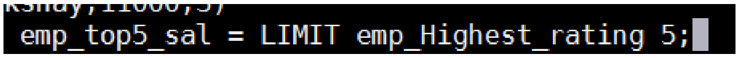
```
grunt> emp_Highest_rating = ORDER emp_details  by rating desc, empname asc;
```



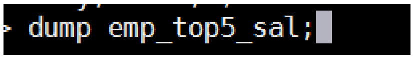
```
grunt> dump emp_Highest_rating;
```



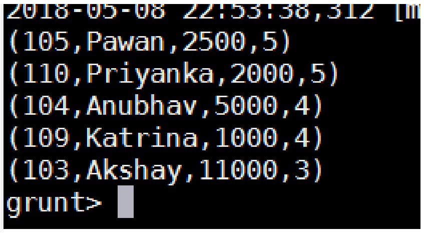
```
2018-05-08 22:58:54,550
(105,Pawan,2500,5)
(110,Priyanka,2000,5)
(104,Anubhav,5000,4)
(109,Katrina,1000,4)
(103,Akshay,11000,3)
(108,Ranbir,14000,3)
(112,Ajay,5000,2)
(114,Madhuri,2000,2)
(107,Salman,17500,2)
(102,Shahrukh,10000,2)
(106,Aamir,25000,1)
(101,Amitabh,20000,1)
(113,Jubeen,1000,1)
(111,Tushar,500,1)
```



```
kshay,11000,3)
 emp_top5_sal = LIMIT emp_Highest_rating 5;
```



```
> dump emp_top5_sal;
```



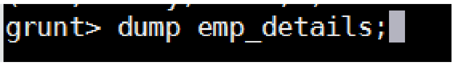
```
2018-05-08 22:53:38,312 [m
(105,Pawan,2500,5)
(110,Priyanka,2000,5)
(104,Anubhav,5000,4)
(109,Katrina,1000,4)
(103,Akshay,11000,3)
grunt>
```

(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)

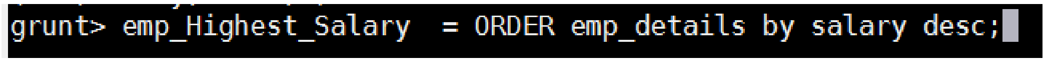
Task : 2

emp_details = LOAD 'pig/employee_details.txt' USING PigStorage (',') as (empid:Int,empname:chararray,salary:Int,rating:Int);

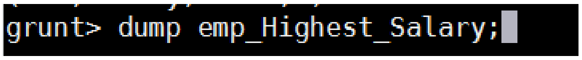
```
emp_Highest_Salary  = ORDER emp_details by salary desc,empname asc;

empid_oddF = FILTER emp_Highest_Salary BY $0%2==1;

emp_top3_sal = LIMIT empid_oddF 3;
```



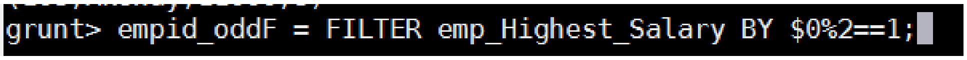
```
grunt> dump emp_details;
```



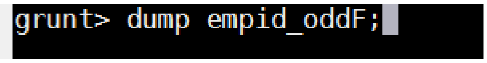
```
grunt> emp_Highest_Salary  = ORDER emp_details by salary desc;
```



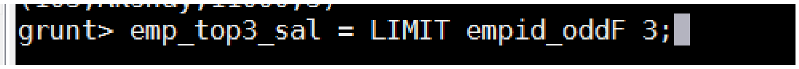
```
grunt> dump emp_Highest_Salary;
```



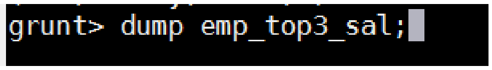
```
grunt> empid_oddF = FILTER emp_Highest_Salary BY $0%2==1;
```



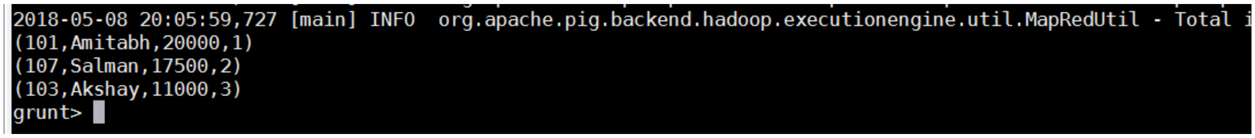
```
grunt> dump empid_oddF;
```



```
grunt> emp_top3_sal = LIMIT empid_oddF 3;
```



```
grunt> dump emp_top3_sal;
```



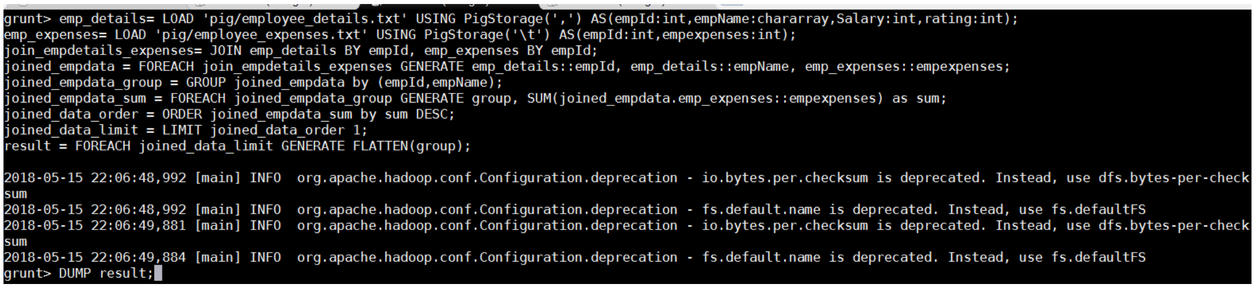
```
2018-05-08 20:05:59,727 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total i
(101,Amitabh,20000,1)
(107,Salman,17500,2)
(103,Akshay,11000,3)
grunt>
```

(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)

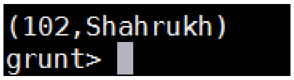
Task 3:

```
emp_details= LOAD 'pig/employee_details.txt' USING PigStorage(',')
AS(empId:int,empName:chararray,Salary:int,rating:int);

emp_expenses= LOAD 'pig/employee_expenses.txt' USING PigStorage('\t')
AS(empId:int,empexpenses:int);

join_empdetails_expenses= JOIN emp_details BY empId, emp_expenses BY empId;

joined_empdata = FOREACH join_empdetails_expenses GENERATE emp_details::empId,
emp_details::empName, emp_expenses::empexpenses;

joined_empdata_group = GROUP joined_empdata by (empId,empName);

joined_empdata_sum = FOREACH joined_empdata_group GENERATE group,
SUM(joined_empdata.emp_expenses::empexpenses) as sum;

joined_data_order = ORDER joined_empdata_sum by sum DESC;

joined_data_limit = LIMIT joined_data_order 1;

result = FOREACH joined_data_limit GENERATE FLATTEN(group);
```

DUMP result;



```
grunt> emp_details= LOAD 'pig/employee_details.txt' USING PigStorage(',') AS(empId:int,empName:chararray,Salary:int,rating:int);
emp_expenses= LOAD 'pig/employee_expenses.txt' USING PigStorage('\t') AS(empId:int,empexpenses:int);
join_empdetails_expenses= JOIN emp_details BY empId, emp_expenses BY empId;
joined_empdata = FOREACH join_empdetails_expenses GENERATE emp_details::empId, emp_details::empName, emp_expenses::empexpenses;
joined_empdata_group = GROUP joined_empdata by (empId,empName);
joined_empdata_sum = FOREACH joined_empdata_group GENERATE group, SUM(joined_empdata.emp_expenses::empexpenses) as sum;
joined_data_order = ORDER joined_empdata_sum by sum DESC;
joined_data_limit = LIMIT joined_data_order 1;
result = FOREACH joined_data_limit GENERATE FLATTEN(group);

2018-05-15 22:06:48,992 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-check
sum
2018-05-15 22:06:48,992 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2018-05-15 22:06:49,881 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-check
sum
2018-05-15 22:06:49,884 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> DUMP result;
```



```
(102,Shahrukh)
grunt>
```

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

Task 4:

emp_details = LOAD 'pig/employee_details.txt' USING PigStorage (',') as (empid:Int,empname:chararray,salary:Int,rating:Int);

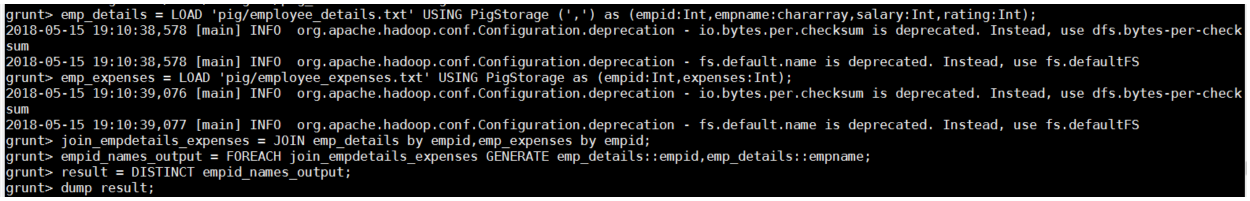
emp_expenses = LOAD 'pig/employee_expenses.txt' USING PigStorage as (empid:Int,expenses:Int);

join_empdetails_expenses = JOIN emp_details by empid,emp_expenses by empid;

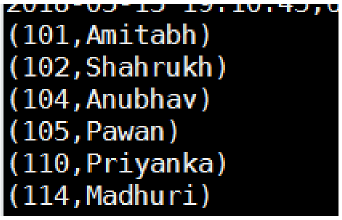
empid_names_output = FOREACH join_empdetails_expenses GENERATE emp_details::empid,emp_details::empname;

result = DISTINCT empid_names_output;

dump result;



```
grunt> emp_details = LOAD 'pig/employee_details.txt' USING PigStorage (',') as (empid:Int,empname:chararray,salary:Int,rating:Int);
2018-05-15 19:10:38,578 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-check
sum
2018-05-15 19:10:38,578 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> emp_expenses = LOAD 'pig/employee_expenses.txt' USING PigStorage as (empid:Int,expenses:Int);
2018-05-15 19:10:39,076 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-check
sum
2018-05-15 19:10:39,077 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> join_empdetails_expenses = JOIN emp_details by empid,emp_expenses by empid;
grunt> empid_names_output = FOREACH join_empdetails_expenses GENERATE emp_details::empid,emp_details::empname;
grunt> result = DISTINCT empid_names_output;
grunt> dump result;
```



```
2018-05-15 19:10:45,0
(101,Amitabh)
(102,Shahrukh)
(104,Anubhav)
(105,Pawan)
(110,Priyanka)
(114,Madhuri)
```

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

Task 5:

emp_details = LOAD 'pig_input_assignment5/employee_details.txt' USING PigStorage (',') as (empid:Int,empname:chararray,salary:Int,rating

:Int);

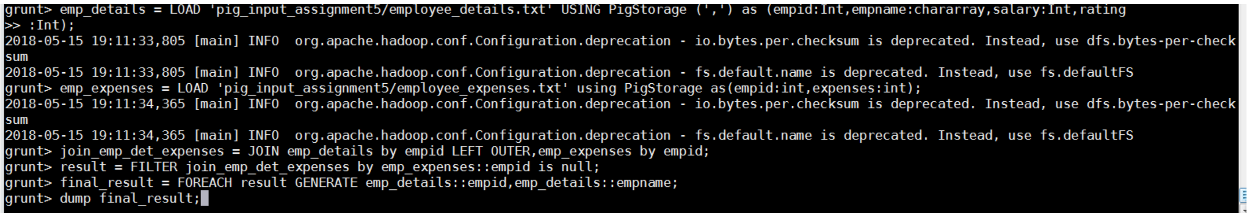
emp_expenses = LOAD 'pig_input_assignment5/employee_expenses.txt' using PigStorage as(empid:int,expenses:int);

join_emp_det_expenses = JOIN emp_details by empid LEFT OUTER,emp_expenses by empid;

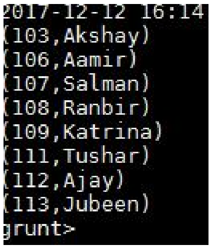
result = FILTER join_emp_det_expenses by emp_expenses::empid is null;

final_result = FOREACH result GENERATE emp_details::empid,emp_details::empname;

dump final_result;



```
grunt> emp_details = LOAD 'pig_input_assignment5/employee_details.txt' USING PigStorage (',') as (empid:Int,empname:chararray,salary:Int,rating
>> :Int);
2018-05-15 19:11:33,805 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-check
sum
2018-05-15 19:11:33,805 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> emp_expenses = LOAD 'pig_input_assignment5/employee_expenses.txt' using PigStorage as(empid:int,expenses:int);
2018-05-15 19:11:34,365 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - io.bytes.per.checksum is deprecated. Instead, use dfs.bytes-per-check
sum
2018-05-15 19:11:34,365 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
grunt> join_emp_det_expenses = JOIN emp_details by empid LEFT OUTER,emp_expenses by empid;
grunt> result = FILTER join_emp_det_expenses by emp_expenses::empid is null;
grunt> final_result = FOREACH result GENERATE emp_details::empid,emp_details::empname;
grunt> dump final_result;
```



```
2017-12-12 16:14
(103,Akshay)
(106,Aamir)
(107,Salman)
(108,Ranbir)
(109,Katrina)
(111,Tushar)
(112,Ajay)
(113,Jubeen)
grunt>
```