CSE370
Lab Assignment: 03

Submitted by:
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Section: 5 (Theory, Lab)
Semester: Spring' 23

Task 1

Finding the **first name, last name, email, phone number, hire date** and **department id** of all the employees with the latest **hire date**:

```
select first_name, last_name, email, phone_number, hire_date, department_id
from employees where hire_date = (select max(hire_date) from employees);
```

```
MariaDB [my_370_database]> select first_name, last_name, email, phone_number, hire_date, department_id from employees where hire_date = (select max(hire_date) from employees);
+------------+-----------+-------------------+--------------+-----------+---------------+
| first_name | last_name | email             | phone_number | hire_date | department_id |
+------------+-----------+-------------------+--------------+-----------+---------------+
| Michael    | Scott     | mscott@example.com | 555-555-5559 | 2023-01-24 | DPT005        |
+------------+-----------+-------------------+--------------+-----------+---------------+
1 row in set (0.000 sec)
```

Task 2

Finding the ***first name, last name, employee id, phone number, salary*** and ***department id*** of all the employees with the lowest **salary** in each department:

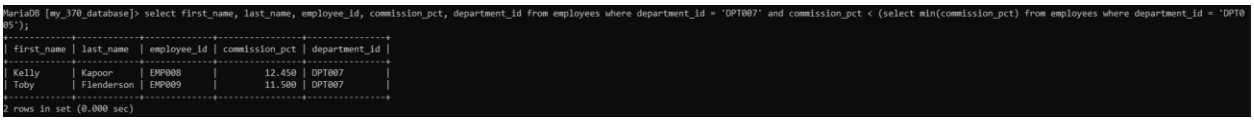
```
select first_name, last_name, employee_id, phone_number, salary,
department_id from employees where (department_id, salary) in (select
department_id, min(salary) from employees group by department_id) order by
department_id;
```

```
MariaDB [my_370_database]> select first_name, last_name, employee_id, phone_number, salary, department_id from employees where (department_id, salary) in (select department_id, min(salary) from employees group by department_id) order by
department_id;
+------------+-----------+-------------+--------------+--------+---------------+
| first_name | last_name | employee_id | phone_number | salary | department_id |
+------------+-----------+-------------+--------------+--------+---------------+
| Oscar      | Martinez  | EMP001      | 555-555-5555 |  35000 | DPT001        |
| Pam        | Beesly    | EMP002      | 555-555-5556 |  25500 | DPT003        |
| Jim        | Halpert   | EMP004      | 555-555-5558 |  36500 | DPT005        |
| Angela     | Martin    | EMP006      | 555-555-5560 |  47500 | DPT006        |
| Toby       | Flenderson | EMP009     | 555-555-5563 |  29000 | DPT007        |
| Ryan       | Howard    | EMP007      | 555-555-5561 |  38000 | DPT009        |
| Jan        | Levinson  | EMP010      | 555-555-5564 |  39500 | DPT010        |
+------------+-----------+-------------+--------------+--------+---------------+
7 rows in set (0.000 sec)
```

Task 3

Finding the ***first name***, ***last name***, ***employee id***, ***commission pct*** *and* ***department id*** of all the employees in the department 'DPT007' who have a lower commission pct than all of the employees of the department 'DPT005':

```
select first_name, last_name, employee_id, commission_pct, department_id from employees where department_id = 'DPT007' and commission_pct < (select min(commission_pct) from employees where department_id = 'DPT005')
```

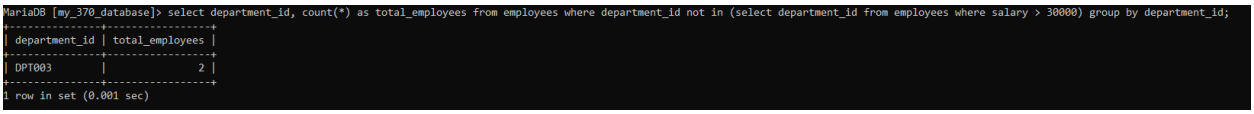


```
MariaDB [my_370_database]> select first_name, last_name, employee_id, commission_pct, department_id from employees where department_id = 'DPT007' and commission_pct < (select min(commission_pct) from employees where department_id = 'DPT0
05');
+------------+-----------+-------------+----------------+---------------+
| first_name | last_name | employee_id | commission_pct | department_id |
+------------+-----------+-------------+----------------+---------------+
| Kelly      | Kapoor    | EMP008      |         12.450 | DPT007        |
| Toby       | Flenderson| EMP009      |         11.500 | DPT007        |
+------------+-----------+-------------+----------------+---------------+
2 rows in set (0.000 sec)
```

Task 4

Finding the **department_id** and total number of employees of each department which does not have a single employee under it with a **salary** more than 30,000:

```
select department_id, count(*) as total_employees from employees where department_id not in (select department_id from employees where salary > 30000) group by department_id;
```

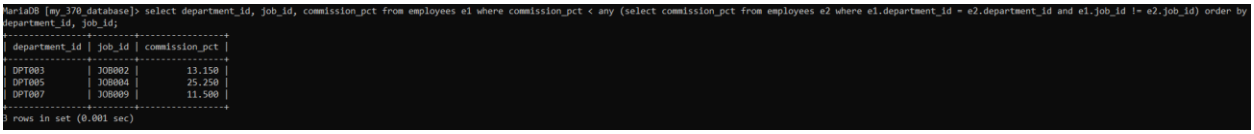


```
MariaDB [my_370_database]> select department_id, count(*) as total_employees from employees where department_id not in (select department_id from employees where salary > 30000) group by department_id;
+---------------+-----------------+
| department_id | total_employees |
+---------------+-----------------+
| DPT003        |               2 |
+---------------+-----------------+
1 row in set (0.001 sec)
```

Task 5

Finding the ***department_id***, ***job_id*** and ***commission_pct*** with ***commission_pct*** less than at least one other ***job_id*** in that department for each of the departments:

```
select department_id, job_id, commission_pct from employees e1 where
commission_pct < any (select commission_pct from employees e2 where
e1.department_id = e2.department_id and e1.job_id != e2.job_id) order by
department_id, job_id;
```

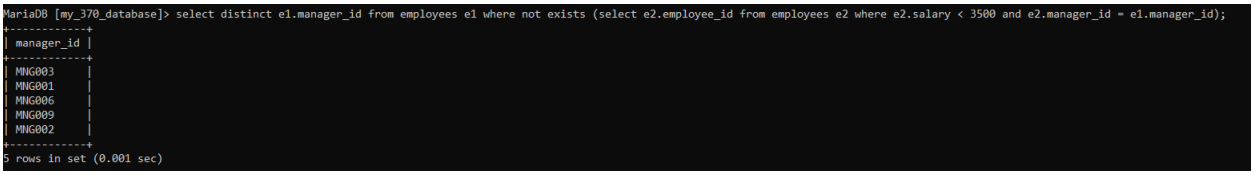


```
MariaDB [my_370_database]> select department_id, job_id, commission_pct from employees e1 where commission_pct < any (select commission_pct from employees e2 where e1.department_id = e2.department_id and e1.job_id != e2.job_id) order by
department_id, job_id;
+---------------+--------+----------------+
| department_id | job_id | commission_pct |
+---------------+--------+----------------+
| DPT003        | JOB002 |         13.150 |
| DPT005        | JOB004 |         25.250 |
| DPT007        | JOB009 |         11.500 |
+---------------+--------+----------------+
3 rows in set (0.001 sec)
```

Task 6

Finding the ***manager_id*** who does not have any employee under them with a ***salary*** less than 3500:

```
select distinct e1.manager_id from employees e1 where not exists (select
e2.employee_id from employees e2 where e2.salary < 3500 and e2.manager_id =
e1.manager_id);
```

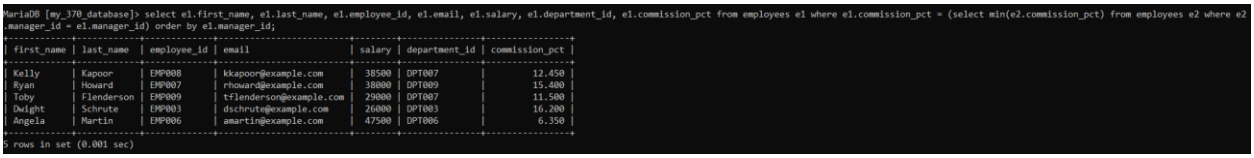


```
MariaDB [my_370_database]> select distinct e1.manager_id from employees e1 where not exists (select e2.employee_id from employees e2 where e2.salary < 3500 and e2.manager_id = e1.manager_id);
+------------+
| manager_id |
+------------+
| MNG003     |
| MNG001     |
| MNG006     |
| MNG009     |
| MNG002     |
+------------+
5 rows in set (0.001 sec)
```

Task 7

Finding the ***first name***, ***last name***, ***employee id***, ***email***, ***salary***, ***department id*** *and* ***commission pct*** of the employee who has the lowest ***commission pct*** under each manager:

```
select e1.first_name, e1.last_name, e1.employee_id, e1.email, e1.salary,
e1.department_id, e1.commission_pct from employees e1 where e1.commission_pct
= (select min(e2.commission_pct) from employees e2 where e2.manager_id =
e1.manager_id) order by e1.manager_id;
```



```
MariaDB [my_370_database]> select e1.first_name, e1.last_name, e1.employee_id, e1.email, e1.salary, e1.department_id, e1.commission_pct from employees e1 where e1.commission_pct = (select min(e2.commission_pct) from employees e2 where e2
.manager_id = e1.manager_id) order by e1.manager_id;
+------------+-----------+-------------+-----------------------+--------+---------------+----------------+
| first_name | last_name | employee_id | email                 | salary | department_id | commission_pct |
+------------+-----------+-------------+-----------------------+--------+---------------+----------------+
| Kelly      | Kapoor    | EMP008      | kkapoor@example.com   |  38500 | DPT007        |         12.450 |
| Ryan       | Howard    | EMP007      | rhoward@example.com   |  38000 | DPT009        |         15.400 |
| Toby       | Flenderson| EMP009      | tflenderson@example.com|  29000 | DPT007        |         11.500 |
| Dwight     | Schrute   | EMP003      | dschrute@example.com  |  26000 | DPT003        |         16.200 |
| Angela     | Martin    | EMP006      | amartin@example.com   |  47500 | DPT006        |          6.350 |
+------------+-----------+-------------+-----------------------+--------+---------------+----------------+
5 rows in set (0.001 sec)
```