CSE370
Lab Homework:03

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Section: 08

#Table

Command:

```sql
CREATE TABLE employees (
  employee_id char(10),
  first_name varchar(20),
  last_name varchar(20),
  email varchar(60),
  phone_number char(14),
  hire_date date,
  job_id char(10),
  salary int,
  commission_pct decimal(5,3),
  manager_id char(10),
  department_id char(10)
);


INSERT INTO employees (employee_id, first_name, last_name, email, phone_number,
hire_date, job_id, salary, commission_pct, manager_id, department_id)
VALUES
  ('EMP001', 'Tamim', 'Iqbal', 'tamim.iqbal@example.com', '+8801712345678',
'2022-01-01', 'JOB001', 50000, 0.100, 'MNG001', 'DPT001'),
  ('EMP002', 'Liton', 'Das', 'lto.das@example.com', '+8801812345678', '2022-02-15',
'JOB002', 60000, 0.075, 'MNG002', 'DPT002'),
  ('EMP003', 'Nazmul', 'Santo', 'nazmul.santo@example.com', '+8801912345678',
'2022-03-30', 'JOB003', 45000, 0.050, 'MNG003', 'DPT003'),
  ('EMP004', 'Tawhid', 'Hridoy', 'tawhid.hridoy@example.com', '+8801812345678',
'2022-04-10', 'JOB004', 55000, 0.150, 'MNG004', 'DPT004'),
  ('EMP005', 'Shakibl', 'Al Hasan', 'sakb.al.hasan@example.com', '+8801912345678',
'2022-05-20', 'JOB005', 70000, 0.200, 'MNG005', 'DPT005'),
  ('EMP006', 'Musfiqur', 'Rahim', 'musiqur.rahim@example.com', '+8801812345678',
'2022-06-05', 'JOB006', 65000, 0.080, 'MNG006', 'DPT006'),
  ('EMP007', 'Mehedi', 'Miraz', 'mehedi.miraz@example.com', '+8801912345678',
'2022-07-15', 'JOB007', 48000, 0.025, 'MNG007', 'DPT007'),
  ('EMP008', 'Afif', 'Hossain Drubo', 'afif.hossai.drubo@example.com',
'+8801812345678', '2022-08-01', 'JOB008', 52000, 0.100, 'MNG008', 'DPT008'),
  ('EMP009', 'Taskin', 'Ahmed', 'taski.ahmed@example.com', '+8801912345678',
'2022-09-10', 'JOB009', 58000, 0.120, 'MNG009', 'DPT009'),
  ('EMP010', 'Mustaizur', 'Rahman', 'Mustaizur.Rahman@example.com',
'+8801812345678', '2022-10-25', 'JOB010', 52000, 0.030, 'MNG010', 'DPT0010');
```

Screenshot:

```
MariaDB [employee]> Select * from employees;
+-------------+------------+--------------+-------------------------------+----------------+------------+--------+--------+----------------+------------+---------------+
| employee_id | first_name | last_name    | email                         | phone_number   | hire_date  | job_id | salary | commission_pct | manager_id | department_id |
+-------------+------------+--------------+-------------------------------+----------------+------------+--------+--------+----------------+------------+---------------+
| EMP001      | Tamim      | Iqbal        | tamim.iqbal@example.com       | +8801712345678 | 2022-01-01 | JOB001 | 50000  | 0.100          | MNG001     | DPT001        |
| EMP002      | Liton      | Das          | lto.das@example.com           | +8801812345678 | 2022-02-15 | JOB002 | 60000  | 0.075          | MNG002     | DPT002        |
| EMP003      | Nazmul     | Santo        | nazmul.santo@example.com      | +8801912345678 | 2022-03-30 | JOB003 | 45000  | 0.050          | MNG003     | DPT003        |
| EMP004      | Tawhid     | Hridoy       | tawhid.hridoy@example.com     | +8801812345678 | 2022-04-10 | JOB004 | 55000  | 0.150          | MNG004     | DPT004        |
| EMP005      | Shakibl    | Al Hasan     | sakb.al.hasan@example.com     | +8801912345678 | 2022-05-20 | JOB005 | 70000  | 0.200          | MNG005     | DPT005        |
| EMP006      | Musfiqur   | Rahim        | musiqur.rahim@example.com     | +8801812345678 | 2022-06-05 | JOB006 | 65000  | 0.080          | MNG006     | DPT006        |
| EMP007      | Mehedi     | Miraz        | mehedi.miraz@example.com      | +8801912345678 | 2022-07-15 | JOB007 | 48000  | 0.025          | MNG007     | DPT007        |
| EMP008      | Afif       | Hossain Drubo| afif.hossai.drubo@example.com | +8801812345678 | 2022-08-01 | JOB008 | 52000  | 0.100          | MNG008     | DPT008        |
| EMP009      | Taskin     | Ahmed        | taski.ahmed@example.com       | +8801812345678 | 2022-09-10 | JOB009 | 58000  | 0.120          | MNG009     | DPT009        |
| EMP010      | Mustaizur  | Rahman       | Mustaizur.Rahman@example.com  | +8801812345678 | 2022-10-25 | JOB010 | 52000  | 0.030          | MNG010     | DPT0010       |
+-------------+------------+--------------+-------------------------------+----------------+------------+--------+--------+----------------+------------+---------------+
10 rows in set (0.000 sec)

MariaDB [employee]>
```

#Task_01

Command:

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

Screenshot:

```
MariaDB [employee]> 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 |
+------------+-----------+------------------------------+----------------+------------+---------------+
| Mustaizur  | Rahman    | Mustaizur.Rahman@example.com | +8801812345678 | 2022-10-25 | DPT0010       |
+------------+-----------+------------------------------+----------------+------------+---------------+
1 row in set (0.000 sec)

MariaDB [employee]>
```

#Task_02

Command:

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

Screenshot:

```
MariaDB [employee]> Select first_name,last_name,salary,employee_id,phone_number,salary,department_id from employees where salary in (select min(salary) from employees group by department_id);
+------------+--------------+--------+-------------+----------------+--------+---------------+
| first_name | last_name    | salary | employee_id | phone_number   | salary | department_id |
+------------+--------------+--------+-------------+----------------+--------+---------------+
| Tamim      | Iqbal        | 50000  | EMP001      | +8801712345678 | 50000  | DPT001        |
| Liton      | Das          | 60000  | EMP002      | +8801812345678 | 60000  | DPT002        |
| Nazmul     | Santo        | 45000  | EMP003      | +8801912345678 | 45000  | DPT003        |
| Tawhid     | Hridoy       | 55000  | EMP004      | +8801812345678 | 55000  | DPT004        |
| Shakibl    | Al Hasan     | 70000  | EMP005      | +8801912345678 | 70000  | DPT005        |
| Musfiqur   | Rahim        | 65000  | EMP006      | +8801812345678 | 65000  | DPT006        |
| Mehedi     | Miraz        | 48000  | EMP007      | +8801912345678 | 48000  | DPT007        |
| Afif       | Hossain Drubo| 52000  | EMP008      | +8801812345678 | 52000  | DPT008        |
| Taskin     | Ahmed        | 58000  | EMP009      | +8801912345678 | 58000  | DPT009        |
| Mustaizur  | Rahman       | 52000  | EMP010      | +8801812345678 | 52000  | DPT0010       |
+------------+--------------+--------+-------------+----------------+--------+---------------+
10 rows in set (0.000 sec)
```

#Task_03

Command:

SELECT first_name, last_name, employee_id, commission_pct, department_id FROM employees WHERE department_id = 'DPT007' AND commission_pct < (SELECT MAX(commission_pct) FROM employees WHERE department_id = 'DPT005');

Screenshot:

```
MariaDB [employee]> SELECT first_name, last_name, employee_id, commission_pct, department_id FROM
    -> employees WHERE department_id = 'DPT007' AND commission_pct < (SELECT
    -> MAX(commission_pct) FROM employees WHERE department_id = 'DPT005');
+------------+-----------+-------------+----------------+---------------+
| first_name | last_name | employee_id | commission_pct | department_id |
+------------+-----------+-------------+----------------+---------------+
| Mehedi     | Miraz     | EMP007      |          0.025 | DPT007        |
+------------+-----------+-------------+----------------+---------------+
1 row in set (0.000 sec)

MariaDB [employee]>
```

#Task_04

Command:

SELECT department_id, COUNT(*) AS total_employees
FROM employees
WHERE department_id NOT IN (
SELECT DISTINCT department_id
 FROM employees
 WHERE salary > 30000
)
GROUP BY department_id;

Screenshot:

```
MariaDB [employee]> SELECT department_id, COUNT(*) AS total_employees
    -> FROM employees
    -> WHERE department_id NOT IN (
    ->    SELECT DISTINCT department_id
    ->    FROM employees
    ->    WHERE salary > 30000
    -> )
    -> GROUP BY department_id;
Empty set (0.000 sec)

MariaDB [employee]>
```
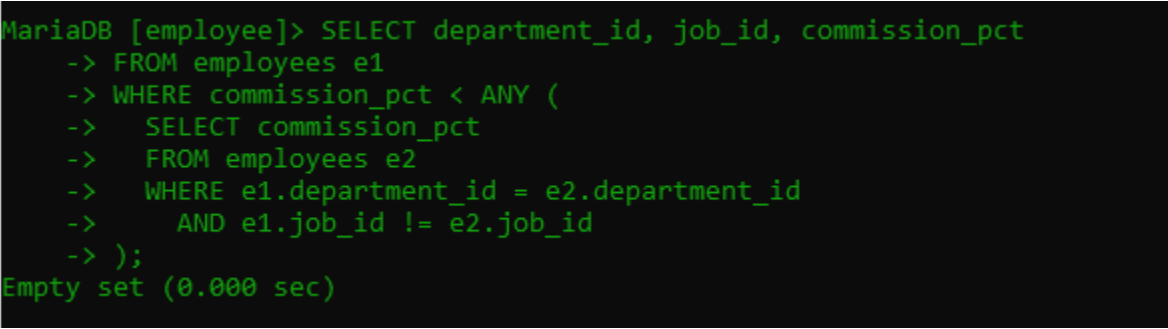
#Task_05

Command:

    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
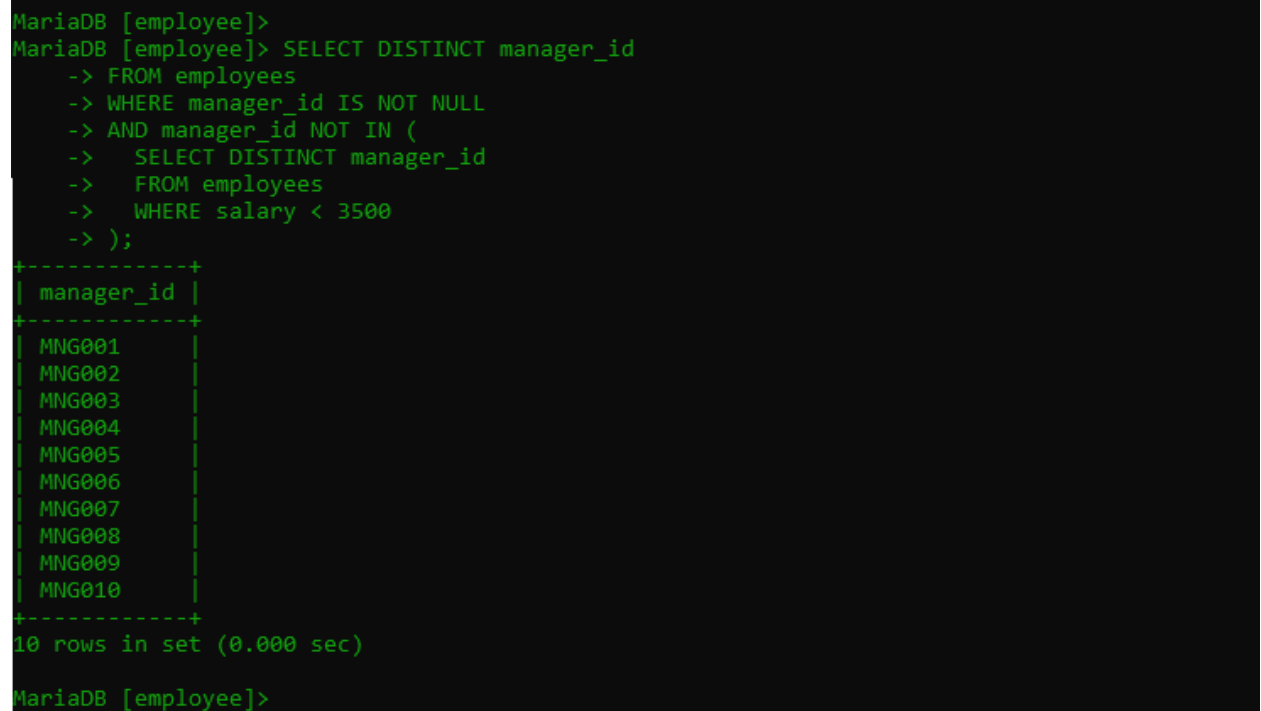   );

Screenshot:

```
MariaDB [employee]> 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
    -> );
Empty set (0.000 sec)
```

#Task_06
Command:

> SELECT DISTINCT manager_id
> FROM employees
> WHERE manager_id IS NOT NULL
> AND manager_id NOT IN (
> SELECT DISTINCT manager_id
> FROM employees
> WHERE salary < 3500
>);

Screenshot:

```
MariaDB [employee]>
MariaDB [employee]> SELECT DISTINCT manager_id
    -> FROM employees
    -> WHERE manager_id IS NOT NULL
    -> AND manager_id NOT IN (
    ->    SELECT DISTINCT manager_id
    ->    FROM employees
    ->    WHERE salary < 3500
    -> );
+------------+
| manager_id |
+------------+
| MNG001     |
| MNG002     |
| MNG003     |
| MNG004     |
| MNG005     |
| MNG006     |
| MNG007     |
| MNG008     |
| MNG009     |
| MNG010     |
+------------+
10 rows in set (0.000 sec)

MariaDB [employee]>
```

#Task_07

Command:

SELECT DISTINCT manager_id
FROM employees
WHERE manager_id IS NOT NULL
AND manager_id NOT IN (
SELECT DISTINCT manager_id
FROM employees
WHERE salary < 3500
);

Screenshot:

```
MariaDB [employee]> 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(commission_pct)
    ->   FROM employees e2
    ->   WHERE e2.manager_id = e1.manager_id
    -> );
+------------+--------------+-------------+-------------------------------+--------+---------------+----------------+
| first_name | last_name    | employee_id | email                         | salary | department_id | commission_pct |
+------------+--------------+-------------+-------------------------------+--------+---------------+----------------+
| Tamim      | Iqbal        | EMP001      | tamim.iqbal@example.com       |  50000 | DPT001        |          0.100 |
| Liton      | Das          | EMP002      | lto.das@example.com           |  60000 | DPT002        |          0.075 |
| Nazmul     | Santo        | EMP003      | nazmul.santo@example.com      |  45000 | DPT003        |          0.050 |
| Tawhid     | Hridoy       | EMP004      | tawhid.hridoy@example.com     |  55000 | DPT004        |          0.150 |
| Shakibl    | Al Hasan     | EMP005      | sakb.al.hasan@example.com     |  70000 | DPT005        |          0.200 |
| Musfiqur   | Rahim        | EMP006      | musiqur.rahim@example.com     |  65000 | DPT006        |          0.080 |
| Mehedi     | Miraz        | EMP007      | mehedi.miraz@example.com      |  48000 | DPT007        |          0.025 |
| Afif       | Hossain Drubo| EMP008      | afif.hossai.drubo@example.com |  52000 | DPT008        |          0.100 |
| Taskin     | Ahmed        | EMP009      | taski.ahmed@example.com       |  58000 | DPT009        |          0.120 |
| Mustaizur  | Rahman       | EMP010      | Mustaizur.Rahman@example.com  |  52000 | DPT0010       |          0.030 |
+------------+--------------+-------------+-------------------------------+--------+---------------+----------------+
10 rows in set (0.000 sec)

MariaDB [employee]>
```