```
Setting environment for using XAMPP for Windows.
rauf@RAUFBISWAS c:\xampp
# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.32-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]>
```

**Command:**

```
mysql -u root -p


show databases;


create database l3;


use l3;


create table employee
(
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),
```

```sql
department_id char(10)
);

INSERT INTO employee VALUES
('EMP001', 'Ani', 'Otwell', 'aniot@laravel.com', '1234569360',
'2015-06-10', 'JOB002', 30000, 2.000, 'MNG001', 'DPT003'),
('EMP002', 'Ryan', 'Rauf', 'rauf@nodejs.org', '87321633632',
'2021-04-22', 'JOB008', 20000, 0.000, 'MNG002', 'DPT001'),
('EMP003', 'Rafi', 'Resig', 'john@jquery.com', '6546546543',
'2022-06-12', 'JOB018', 5000, 0.002, 'MNG002', 'DPT005'),
('EMP004', 'Khaled', 'Eich', 'eich@javascript.com',
'43278939570', '2021-05-07', 'JOB009', 30000, 0.000, 'MNG001',
'DPT002'),
('EMP005', 'Linus', 'Biswas', 'linus@linux.com', '9879879876',
'2021-08-08', 'JOB015', 2000, 0.050, 'MNG002', 'DPT006'),
('EMP006', 'Evan', 'Me', 'mEe@vuejs.org', '4321876530', '2016-06-
11', 'JOB003', 40000, 8.245, 'MNG002', 'DPT005'),
('EMP007', 'Anymos', 'Lerdorf', 'lerdorf@php.net', '9876637927',
'2020-06-03', 'JOB006', 25000, 0.852, 'MNG001', 'DPT001'),
('EMP008', 'Guido', 'Vanule', 'guido@python.org', '88765438827',
'2020-07-18', 'JOB007', 25000, 1.000, 'MNG002', 'DPT001'),
('EMP009', 'Madroni', 'Holovaty', 'madroni@djangoproject.com',
'12269570724', '2019-05-07', 'JOB004', 50000, 4.205, 'MNG001',
'DPT002'),
('EMP010', 'Simpson', 'Willison', 'simpson@djangoproject.com',
'87432864615', '2015-04-30', 'JOB001', 50000, 12.500, 'MNG002',
'DPT001'),
('EMP011', 'James', 'Gosl', 'james@java.com', '7896549491',
'2020-05-18', 'JOB005', 7000, 0.000, 'MNG002', 'DPT004'),
```

```
('EMP012', 'Kenoi', 'Thomps', 'kenoi@unix.com', '1231231234',
'2021-06-18', 'JOB013', 7000, 0.023, 'MNG002', 'DPT005'),

('EMP013', 'Roddil', 'Johnson', 'roddil@spring.io', '4543601744',
'2021-05-18', 'JOB012', 2000, 0.000, 'MNG002', 'DPT003'),

('EMP014', 'Anderson', 'Hejls', 'anderson@csharp.com',
'7657657654', '2022-05-18', 'JOB017', 1200, 0.230, 'MNG002',
'DPT007'),

('EMP015', 'Faltu', 'Nakami', 'nakami@blockchain.com',
'98165630488', '2021-05-10', 'JOB011', 1500, 0.234, 'MNG001',
'DPT004'),

('EMP016', 'Dennis', 'Rich', 'dennis69@unix.com', '4324324324',
'2021-08-08', 'JOB014', 1000, 0.023, 'MNG002', 'DPT007'),

('EMP017', 'Bjarne', 'Poor', 'bjarne@cpp.com', '8768768765',
'2021-12-25', 'JOB016', 1500, 0.500, 'MNG002', 'DPT007'),

('EMP018', 'Richie', 'Hockey', 'rich@clojure.com', '5435435432',
'2023-10-08', 'JOB019', 1000, 0.009, 'MNG002', 'DPT007'),

('EMP019', 'Yukini', 'Natonumi', 'yukinato690@gmail.com',
'98488840488', '2020-12-10', 'JOB010', 10000, 0.234, 'MNG001',
'DPT005'),

('EMP020', 'Marga', 'Ton', 'marga@apollo.com', '7767767768',
'2023-11-17', 'JOB020', 35000, 0.001, 'MNG002', 'DPT007');
```

- select * from employee;

```
MariaDB [l3]> select * from employee;
+-------------+------------+-----------+------------------------+--------------+------------+--------+--------+----------------+------------+---------------+
| employee_id | first_name | last_name | email                  | phone_number | hire_date  | job_id | salary | commission_pct | manager_id | department_id |
+-------------+------------+-----------+------------------------+--------------+------------+--------+--------+----------------+------------+---------------+
| EMP001      | Ani        | Otwell    | aniot@laravel.com      | 1234569360   | 2015-06-10 | JOB002 | 30000  | 2.000          | MNG001     | DPT003        |
| EMP002      | Ryan       | Rauf      | rauf@nodejs.org        | 87321633632  | 2021-04-22 | JOB008 | 20000  | 0.000          | MNG002     | DPT001        |
| EMP003      | Rafi       | Resig     | john@jquery.io         | 6546546543   | 2022-06-12 | JOB018 | 5000   | 0.002          | MNG002     | DPT005        |
| EMP004      | Khaled     | Eich      | eich@javascript.com    | 43278939570  | 2021-05-07 | JOB009 | 30000  | 0.000          | MNG001     | DPT002        |
| EMP005      | Linus      | Biswas    | linus@linux.com        | 9879879876   | 2021-08-08 | JOB015 | 2000   | 0.050          | MNG002     | DPT006        |
| EMP006      | Evan       | Me        | mEe@vuejs.org          | 4321876530   | 2016-06-11 | JOB003 | 40000  | 8.245          | MNG002     | DPT005        |
| EMP007      | Anymos     | Lerdorf   | lerdorf@php.net        | 9876637927   | 2020-06-03 | JOB006 | 25000  | 0.852          | MNG001     | DPT001        |
| EMP008      | Guido      | Vanule    | guido@python.org       | 88765438827  | 2020-07-18 | JOB007 | 25000  | 1.000          | MNG002     | DPT001        |
| EMP009      | Madroni    | Holovaty  | madroni@djangoprojec   | 12269570724  | 2019-05-07 | JOB004 | 50000  | 4.205          | MNG001     | DPT002        |
| EMP010      | Simpson    | Willison  | simpson@djangoprojec   | 87432864615  | 2015-04-30 | JOB001 | 50000  | 12.500         | MNG001     | DPT001        |
| EMP011      | James      | Gosl      | james@java.com         | 7896549491   | 2020-05-18 | JOB005 | 7000   | 0.000          | MNG002     | DPT004        |
| EMP012      | Kenoi      | Thomps    | kenoi@unix.com         | 1231231234   | 2021-06-18 | JOB013 | 7000   | 0.023          | MNG002     | DPT005        |
| EMP013      | Roddil     | Johnson   | roddil@spring.io       | 45436017744  | 2021-05-18 | JOB012 | 2000   | 0.000          | MNG002     | DPT003        |
| EMP014      | Anderson   | Hejls     | anderson@csharp.com    | 7657657654   | 2022-05-18 | JOB017 | 1200   | 0.230          | MNG002     | DPT007        |
| EMP015      | Faltu      | Nakami    | nakami@blockchain.co   | 98165630488  | 2021-05-10 | JOB011 | 1500   | 0.234          | MNG001     | DPT004        |
| EMP016      | Dennis     | Rich      | dennis69@unix.com      | 4324324324   | 2021-08-08 | JOB014 | 1000   | 0.023          | MNG002     | DPT007        |
| EMP017      | Bjarne     | Poor      | bjarne@cpp.com         | 8768768765   | 2021-12-25 | JOB016 | 1500   | 0.500          | MNG002     | DPT007        |
| EMP018      | Richie     | Hockey    | rich@clojure.com       | 5435435432   | 2023-10-08 | JOB019 | 1000   | 0.009          | MNG002     | DPT007        |
| EMP019      | Yukini     | Natonumi  | yukinato690@gmail.co   | 98488840488  | 2020-12-10 | JOB010 | 10000  | 0.234          | MNG001     | DPT005        |
| EMP020      | Marga      | Ton       | marga@apollo.com       | 7767767768   | 2023-11-17 | JOB020 | 35000  | 0.001          | MNG002     | DPT007        |
+-------------+------------+-----------+------------------------+--------------+------------+--------+--------+----------------+------------+---------------+
20 rows in set (0.001 sec)
```

**Answers of the queries:**

- select first_name, last_name, email, phone_number, hire_date, department_id from employee where hire_date = (select max(hire_date) from employee);

```
MariaDB [l3]> select first_name, last_name, email, phone_number, hire_date, department_id from employee where hire_date = (select max(hire_date) from employee);
+------------+-----------+------------------+--------------+------------+---------------+
| first_name | last_name | email            | phone_number | hire_date  | department_id |
+------------+-----------+------------------+--------------+------------+---------------+
| Marga      | Ton       | marga@apollo.com | 7767767768   | 2023-11-17 | DPT007        |
+------------+-----------+------------------+--------------+------------+---------------+
1 row in set (0.055 sec)
```

- select first_name, last_name, employee_id, phone_number, salary, department_id from employee e1 where salary = (select min(salary) from employee e2 where e1.department_id = e2.department_id);

```
MariaDB [l3]> select first_name, last_name, employee_id, phone_number, salary, department_id from employee e1 where salary = (select min(salary) from employee e2 where e1.department_id = e2.department_id);
+------------+-----------+-------------+--------------+--------+---------------+
| first_name | last_name | employee_id | phone_number | salary | department_id |
+------------+-----------+-------------+--------------+--------+---------------+
| Ryan       | Rauf      | EMP002      | 87321633632  | 20000  | DPT001        |
| Rafi       | Resig     | EMP003      | 6546546543   | 5000   | DPT005        |
| Khaled     | Eich      | EMP004      | 43278939570  | 30000  | DPT002        |
| Linus      | Biswas    | EMP005      | 9879879876   | 2000   | DPT006        |
| Roddil     | Johnson   | EMP013      | 45436017744  | 2000   | DPT003        |
| Faltu      | Nakami    | EMP015      | 98165630488  | 1500   | DPT004        |
| Dennis     | Rich      | EMP016      | 4324324324   | 1000   | DPT007        |
| Richie     | Hockey    | EMP018      | 5435435432   | 1000   | DPT007        |
+------------+-----------+-------------+--------------+--------+---------------+
8 rows in set (0.001 sec)
```

- select first_name, last_name, employee_id, commission_pct, department_id from employee where department_id = 'dpt007' and commission_pct < all(select min(commission_pct) from employee where department_id = 'dpt005');

```
MariaDB [l3]> select first_name, last_name, employee_id, commission_pct, department_id from employee where department_id = 'dpt007' and commission_pct < all(select min(commission_pct) from employee where depar
tment_id = 'dpt005');
+------------+-----------+-------------+----------------+---------------+
| first_name | last_name | employee_id | commission_pct | department_id |
+------------+-----------+-------------+----------------+---------------+
| Marga      | Ton       | EMP020      |          0.001 | DPT007        |
+------------+-----------+-------------+----------------+---------------+
1 row in set (0.007 sec)
```

- select department_id, count(*) from employee group by department_id having max(salary) <= 30000;

```
MariaDB [l3]> select department_id, count(*) from employee group by department_id having max(salary) <= 30000;
+---------------+----------+
| department_id | count(*) |
+---------------+----------+
| DPT003        |        2 |
| DPT004        |        2 |
| DPT006        |        1 |
+---------------+----------+
3 rows in set (0.001 sec)
```

- select department_id, job_id, commission_pct from employee e1 where commission_pct < ( select max(commission_pct) from employee e2 where e1.department_id = e2.department_id and e1.commission_pct < e2.commission_pct );

```
MariaDB [l3]> select department_id, job_id, commission_pct from employee e1 where commission_pct < ( select max(commission_pct) from employee e2 where e1.department_id = e2.department_id and e1.commission_pct
< e2.commission_pct );
+---------------+--------+----------------+
| department_id | job_id | commission_pct |
+---------------+--------+----------------+
| DPT001        | JOB008 |          0.000 |
| DPT005        | JOB018 |          0.002 |
| DPT002        | JOB009 |          0.000 |
| DPT001        | JOB006 |          0.852 |
| DPT001        | JOB007 |          1.000 |
| DPT004        | JOB005 |          0.000 |
| DPT005        | JOB013 |          0.023 |
| DPT003        | JOB012 |          0.000 |
| DPT007        | JOB017 |          0.230 |
| DPT007        | JOB014 |          0.023 |
| DPT007        | JOB019 |          0.009 |
| DPT005        | JOB010 |          0.234 |
| DPT007        | JOB020 |          0.001 |
+---------------+--------+----------------+
13 rows in set (0.001 sec)
```

- select manager_id from employee group by manager_id having min(salary) >= 3500;

```
MariaDB [l3]> select manager_id from employee group by manager_id having min(salary) >= 3500;
Empty set (0.001 sec)
```

- select first_name, last_name, employee_id, email, salary, department_id and commission_pct from employee e1 where commission_pct = (select min(commission_pct) from employee e2 where e1.manager_id = e2.manager_id);

```
MariaDB [l3]> select first_name, last_name, employee_id, email, salary, department_id and commission_pct from employee e1 where commission_pct = (select min(commission_pct) from employee e2 where e1.manager_id
= e2.manager_id);
+------------+-----------+-------------+--------------------+--------+---------------------------------+
| first_name | last_name | employee_id | email              | salary | department_id and commission_pct |
+------------+-----------+-------------+--------------------+--------+---------------------------------+
| Ryan       | Rauf      | EMP002      | rauf@nodejs.org    |  20000 |                               0 |
| Khaled     | Eich      | EMP004      | eich@javascript.com|  30000 |                               0 |
| James      | Gosl      | EMP011      | james@java.com     |   7000 |                               0 |
| Roddil     | Johnson   | EMP013      | roddil@spring.io   |   2000 |                               0 |
+------------+-----------+-------------+--------------------+--------+---------------------------------+
4 rows in set, 4 warnings (0.001 sec)
```

Task 5 and Task 7 are incorrect