

### \*\*\*Initial Query:

1. create database employee;

```
MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| developers |
| information_schema |
| mysql |
| performance_schema |
| phpmyadmin |
| test |
+-----+
6 rows in set (0.022 sec)
```

```
MariaDB [(none)]> create database employee;
Query OK, 1 row affected (0.002 sec)
```

```
MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| developers |
| employee |
| information_schema |
| mysql |
| performance_schema |
| phpmyadmin |
| test |
+-----+
7 rows in set (0.000 sec)
```

2. use employee;

```
MariaDB [(none)]> use employee;
Database changed
MariaDB [employee]> show tables;
Empty set (0.002 sec)
```

3. 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)  
);

4. Show tables;

5. Describe employees;

```
MariaDB [employee]> create table employees ( employee_id char(10) ,first_name varchar(20) ,last_name va  
rchar(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) );  
Query OK, 0 rows affected (0.017 sec)  
  
MariaDB [employee]> show tables;  
+-----+  
| Tables_in_employee |  
+-----+  
| employees          |  
+-----+  
1 row in set (0.000 sec)
```

```
MariaDB [employee]> describe employees;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type          | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| employee_id | char(10)      | YES  |     | NULL    |       |  
| first_name  | varchar(20)   | YES  |     | NULL    |       |  
| last_name   | varchar(20)   | YES  |     | NULL    |       |  
| email       | varchar(60)   | YES  |     | NULL    |       |  
| phone_number | char(14)      | YES  |     | NULL    |       |  
| hire_date   | date          | YES  |     | NULL    |       |  
| job_id      | char(10)      | YES  |     | NULL    |       |  
| salary      | int(11)       | YES  |     | NULL    |       |  
| commission_pct | decimal(5,3) | YES  |     | NULL    |       |  
| manager_id  | char(10)      | YES  |     | NULL    |       |  
| department_id | char(10)     | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
11 rows in set (0.013 sec)
```

6. 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', 'Sakib', 'AlHasan', 'sakib75@gmail.com', '0183438434', '2023-03-21',  
'JOB001', 25000, 5.2, 'MNG001', 'DPT003'),  
( 'EMP002', 'Taskin', 'Rahman', 'tskin225@gmail.com', '0123939439', '2023-08-01',  
'JOB003', 55000, 15.0, 'MNG003', 'DPT001'),  
( 'EMP003', 'Mushfiqur', 'Rahim', 'mushi200@gmail.com', '0174507454', '2023-07-11',  
'JOB002', 30000, 10.0, 'MNG003', 'DPT001'),  
( 'EMP004', 'Mahmudul', 'Hasan', 'mahmud00@gmail.com', '0138283442',  
'2023-05-24', 'JOB001', 22000, 3.5, 'MNG002', 'DPT002'),  
( 'EMP005', 'Moshiur', 'Rahman', 'moshiurkk@gmail.com', '0190958085', '2023-05-19',  
'JOB001', 25000, 5.0, 'MNG001', 'DPT003'),

```
( 'EMP006', 'Injamul', 'Hasan', 'hasan105@gmail.com', '0178548584', '2023-04-01',
'JOB002', 30000, 5.2, 'MNG002', 'DPT003'),
( 'EMP007', 'Donald', 'Trump', 'trumpt2b@gmail.com', '0174574774', '2023-03-08',
'JOB003', 42000, 5.5, 'MNG001', 'DPT001'),
( 'EMP008', 'Mike', 'Tyson', 'mt605@gmail.com', '0134838545', '2023-11-29',
'JOB003', 50000, 10.2, 'MNG003', 'DPT002'),
( 'EMP009', 'Kabir', 'Ahsan', 'kahsan91@gmail.com', '0174577445', '2023-06-05',
'JOB001', 22000, 5.0, 'MNG002', 'DPT002'),
( 'EMP010', 'MD', 'Fahim', 'fahimmd@gmail.com', '0157457445', '2023-03-10',
'JOB002', 27000, 2.5, 'MNG002', 'DPT001');
```

## 7. Select \* from employees;

```
MariaDB [employee]> INSERT INTO employees (employee_id, first_name, last_name, email, phone_number, hir
e_date, job_id, salary, commission_pct, manager_id, department_id)
-> VALUES
-> ('EMP001', 'Sakib', 'AlHasan', 'sakib75@gmail.com', '0183438434', '2023-03-21', 'JOB001', 25000,
5.2, 'MNG001', 'DPT003'),
-> ('EMP002', 'Taskin', 'Rahman', 'tskin225@gmail.com', '0123939439', '2023-08-01', 'JOB003', 55000
, 15.0, 'MNG003', 'DPT001'),
-> ('EMP003', 'Mushfiqur', 'Rahim', 'mushi200@gmail.com', '0174507454', '2023-07-11', 'JOB002', 300
00, 10.0, 'MNG003', 'DPT001'),
-> ('EMP004', 'Mahmudul', 'Hasan', 'mahmud00@gmail.com', '0138283442', '2023-05-24', 'JOB001', 2200
0, 3.5, 'MNG002', 'DPT002'),
-> ('EMP005', 'Moshiur', 'Rahman', 'moshiurkk@gmail.com', '0190958085', '2023-05-19', 'JOB001', 250
00, 5.0, 'MNG001', 'DPT003'),
-> ('EMP006', 'Injamul', 'Hasan', 'hasan105@gmail.com', '0178548584', '2023-04-01', 'JOB002', 30000
, 5.2, 'MNG002', 'DPT003'),
-> ('EMP007', 'Donald', 'Trump', 'trumpt2b@gmail.com', '0174574774', '2023-03-08', 'JOB003', 42000,
5.5, 'MNG001', 'DPT001'),
-> ('EMP008', 'Mike', 'Tyson', 'mt605@gmail.com', '0134838545', '2023-11-29', 'JOB003', 50000, 10.2
, 'MNG003', 'DPT002'),
-> ('EMP009', 'Kabir', 'Ahsan', 'kahsan91@gmail.com', '0174577445', '2023-06-05', 'JOB001', 22000,
5.0, 'MNG002', 'DPT002'),
-> ('EMP010', 'MD', 'Fahim', 'fahimmd@gmail.com', '0157457445', '2023-03-10', 'JOB002', 27000, 2.5,
'MNG002', 'DPT001');
Query OK, 10 rows affected (0.038 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
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	Sakib	AlHasan	sakib75@gmail.com	0183438434	2023-03-21	JOB001	25000	5.200	MNG001	DPT003
EMP002	Taskin	Rahman	tskin225@gmail.com	0123939439	2023-08-01	JOB003	55000	15.000	MNG003	DPT001
EMP003	Mushfiqur	Rahim	mushi200@gmail.com	0174507454	2023-07-11	JOB002	30000	10.000	MNG003	DPT001
EMP004	Mahmudul	Hasan	mahmud00@gmail.com	0138283442	2023-05-24	JOB001	22000	3.500	MNG002	DPT002
EMP005	Moshiur	Rahman	moshiurkk@gmail.com	0190958085	2023-05-19	JOB001	25000	5.000	MNG001	DPT003
EMP006	Injamul	Hasan	hasan105@gmail.com	0178548584	2023-04-01	JOB002	30000	5.200	MNG002	DPT003
EMP007	Donald	Trump	trumpt2b@gmail.com	0174574774	2023-03-08	JOB003	42000	5.500	MNG001	DPT001
EMP008	Mike	Tyson	mt605@gmail.com	0134838545	2023-11-29	JOB003	50000	10.200	MNG003	DPT002
EMP009	Kabir	Ahsan	kahsan91@gmail.com	0174577445	2023-06-05	JOB001	22000	5.000	MNG002	DPT002
EMP010	MD	Fahim	fahimmd@gmail.com	0157457445	2023-03-10	JOB002	27000	2.500	MNG002	DPT001

10 rows in set (0.001 sec)

### \*\*\*Answer to the Questions:

1. Find 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 order by hire\_date desc;

```
MariaDB [employee]> select first_name, last_name, email, phone_number, hire_date, department_id from employees order by hire_date desc;
```

first_name	last_name	email	phone_number	hire_date	department_id
Mike	Tyson	mt605@gmail.com	0134838545	2023-11-29	DPT002
Taskin	Rahman	tskin225@gmail.com	0123939439	2023-08-01	DPT001
Mushfiqur	Rahim	mushi200@gmail.com	0174507454	2023-07-11	DPT001
Kabir	Ahsan	kahsan91@gmail.com	0174577445	2023-06-05	DPT002
Mahmudul	Hasan	mahmud00@gmail.com	0138283442	2023-05-24	DPT002
Moshiur	Rahman	moshiurkk@gmail.com	0190958085	2023-05-19	DPT003
Injamul	Hasan	hasan105@gmail.com	0178548584	2023-04-01	DPT003
Sakib	AlHasan	sakib75@gmail.com	0183438434	2023-03-21	DPT003
MD	Fahim	fahimmd@gmail.com	0157457445	2023-03-10	DPT001
Donald	Trump	trumpt2b@gmail.com	0174574774	2023-03-08	DPT001

10 rows in set (0.000 sec)

2. Find 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, min(salary) as Lowest\_Salary from employees group by department\_id ;

```
MariaDB [employee]> select first_name, last_name, employee_id, phone_number, salary, department_id, min(salary) as Lowest_Salary from employees group by department_id ;
```

first_name	last_name	employee_id	phone_number	salary	department_id	Lowest_Salary
Taskin	Rahman	EMP002	0123939439	55000	DPT001	27000
Mahmudul	Hasan	EMP004	0138283442	22000	DPT002	22000
Sakib	AlHasan	EMP001	0183438434	25000	DPT003	25000

3 rows in set (0.001 sec)

3. Find 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 department 'DPT005' employees.

- select first\_name, last\_name, employee\_id, commission\_pct, department\_id from employees where e.department\_id = 'DPT007' and commission\_pct < (select min(commission\_pct) from employees where department\_id = 'DPT005') ;

```
MariaDB [employee]> select e.first_name, e.last_name, e.employee_id, e.commission_pct, e.department_id
  from employees as e where e.department_id = 'DPT007' and e.commission_pct < (select min(commission_p
ct) from employees where department_id = 'DPT005' );
Empty set (0.000 sec)

MariaDB [employee]> |
```

```
MariaDB [employee]> select e.first_name, e.last_name, e.employee_id, e.commission_pct, e.department_id
  from employees as e where e.department_id = 'DPT005' and e.commission_pct < (select min(commission_p
ct) from employees where department_id = 'DPT007' );
+-----+-----+-----+-----+-----+
| first_name | last_name | employee_id | commission_pct | department_id |
+-----+-----+-----+-----+-----+
| Moin       | Ali       | EMP015      | 5.500          | DPT005        |
| Mike       | Peterson  | EMP018      | 6.200          | DPT005        |
+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)
```

\*\*\* Here i had inserted at first only 10 rows ,but according to this particular question i don't have DPT005 and DPT007 id in my table so i need to insert more 10 rows in total 20 rows now in the table and here it is :

```
- INSERT INTO employees
  (employee_id, first_name, last_name, email, phone_number, hire_date, job_id,
  salary, commission_pct, manager_id, department_id)
VALUES
('EMP011', 'Kl', 'Rahul', 'kl200@gmail.com', '0184840534', '2023-12-21', 'JOB005',
30000, 2.0, 'MNG004', 'DPT004'),
('EMP012', 'Ms', 'Dhoni', 'mahicool@gmail.com', '0176767678', '2023-08-21',
'JOB005', 35000, 9.0, 'MNG003', 'DPT005'),
('EMP013', 'Rubel', 'Hossain', 'rb4374@gmail.com', '0156547676', '2023-08-11',
'JOB004', 30000, 12.0, 'MNG001', 'DPT007'),
('EMP014', 'Mahi', 'Hasan', 'mahiB100@gmail.com', '0165656642', '2023-05-24',
'JOB001', 25000, 13.5, 'MNG004', 'DPT007'),
('EMP015', 'Moin', 'Ali', 'maali99@gmail.com', '01475675885', '2023-04-19', 'JOB003',
55000, 5.5, 'MNG001', 'DPT005'),
('EMP016', 'Injamamul', 'Haque', 'ihaque2@gmail.com', '0165674584', '2023-09-01',
'JOB002', 40000, 8.2, 'MNG002', 'DPT007'),
('EMP017', 'Don', 'Jonson', 'dj333@gmail.com', '0165644774', '2023-03-18',
'JOB005', 42000, 12.5, 'MNG003', 'DPT004'),
('EMP018', 'Mike', 'Peterson', 'mkp109@gmail.com', '0145658545', '2023-01-09',
'JOB004', 35000, 6.2, 'MNG003', 'DPT005'),
('EMP019', 'Khan', 'jahan', 'jkhan202@gmail.com', '01454677445', '2023-09-05',
'JOB004', 32000, 2.0, 'MNG004', 'DPT004'),
('EMP020', 'Mir', 'Amir', 'amirmir@gmail.com', '0154557445', '2023-06-30', 'JOB003',
20000, 2.5, 'MNG002', 'DPT006');
```

```

MariaDB [employee]> INSERT INTO employees
-> (employee_id, first_name, last_name, email, phone_number, hire_date, job_id, salary, commission_pct, manager_id, department_id)
-> VALUES
-> ('EMP0011', 'Kl', 'Rahul', 'kl200@gmail.com', '0184840534', '2023-12-21', 'JOB005', 30000, 2.0, 'MNG004', 'DPT004'),
-> ('EMP012', 'Ms', 'Dhoni', 'mahicool@gmail.com', '0176767678', '2023-08-21', 'JOB005', 35000, 9.0, 'MNG003', 'DPT005'),
-> ('EMP013', 'Rubel', 'Hossain', 'rb4374@gmail.com', '0156547676', '2023-08-11', 'JOB004', 30000, 12.0, 'MNG001', 'DPT007'),
-> ('EMP014', 'Mahi', 'Hasan', 'mahi8100@gmail.com', '0165656642', '2023-05-24', 'JOB001', 25000, 13.5, 'MNG004', 'DPT007'),
-> ('EMP015', 'Moin', 'Ali', 'maali99@gmail.com', '01475675885', '2023-04-19', 'JOB003', 55000, 5.5, 'MNG001', 'DPT005'),
-> ('EMP016', 'Injamamul', 'Haque', 'ihaque2@gmail.com', '0165674584', '2023-09-01', 'JOB002', 40000, 8.2, 'MNG002', 'DPT007'),
-> ('EMP017', 'Don', 'Jonson', 'dj333@gmail.com', '0165644774', '2023-03-18', 'JOB005', 42000, 12.5, 'MNG003', 'DPT004'),
-> ('EMP018', 'Mike', 'Peterson', 'mkp109@gmail.com', '0145658545', '2023-01-09', 'JOB004', 35000, 6.2, 'MNG003', 'DPT005'),
-> ('EMP019', 'Khan', 'Jahan', 'jkhan202@gmail.com', '01454677445', '2023-09-05', 'JOB004', 32000, 2.0, 'MNG004', 'DPT004'),
-> ('EMP020', 'Mir', 'Amir', 'amirmir@gmail.com', '0154557445', '2023-06-30', 'JOB003', 20000, 2.5, 'MNG002', 'DPT006');
ERROR 2006 (HY000): MySQL server has gone away
No connection. Trying to reconnect...
Connection id: 12
Current database: employee

Query OK, 10 rows affected (0.007 sec)
Records: 10 Duplicates: 0 Warnings: 0

```

```

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 | Sakib | AlHasan | sakib75@gmail.com | 0183438434 | 2023-03-21 | JOB001 | 25000 | 5.200 | MNG001 | DPT003 |
| EMP002 | Taskin | Rahman | tskin225@gmail.com | 0123939439 | 2023-08-01 | JOB003 | 55000 | 15.000 | MNG003 | DPT001 |
| EMP003 | Mushfiqur | Rahim | mushi200@gmail.com | 0174507454 | 2023-07-11 | JOB002 | 30000 | 10.000 | MNG003 | DPT001 |
| EMP004 | Mahmudul | Hasan | mahmud00@gmail.com | 0138283442 | 2023-05-24 | JOB001 | 22000 | 3.500 | MNG002 | DPT002 |
| EMP005 | Moshir | Rahman | moshirkk@gmail.com | 0190958085 | 2023-05-19 | JOB001 | 25000 | 5.000 | MNG001 | DPT003 |
| EMP006 | Injamul | Hasan | hasan105@gmail.com | 0178548584 | 2023-04-01 | JOB002 | 30000 | 5.200 | MNG002 | DPT003 |
| EMP007 | Donald | Trump | trump2b@gmail.com | 0174574774 | 2023-03-08 | JOB003 | 42000 | 5.500 | MNG001 | DPT001 |
| EMP008 | Mike | Tyson | mt605@gmail.com | 0134838545 | 2023-11-29 | JOB003 | 50000 | 10.200 | MNG003 | DPT002 |
| EMP009 | Kabir | Ahsan | kahsan91@gmail.com | 0174577445 | 2023-06-05 | JOB001 | 22000 | 5.000 | MNG002 | DPT002 |
| EMP010 | MD | Fahim | fahimmd@gmail.com | 0157457445 | 2023-03-10 | JOB002 | 27000 | 2.500 | MNG002 | DPT001 |
| EMP011 | Kl | Rahul | kl200@gmail.com | 0184840534 | 2023-12-21 | JOB005 | 30000 | 2.000 | MNG004 | DPT004 |
| EMP012 | Ms | Dhoni | mahicool@gmail.com | 0176767678 | 2023-08-21 | JOB005 | 35000 | 9.000 | MNG003 | DPT005 |
| EMP013 | Rubel | Hossain | rb4374@gmail.com | 0156547676 | 2023-08-11 | JOB004 | 30000 | 12.000 | MNG001 | DPT007 |
| EMP014 | Mahi | Hasan | mahi8100@gmail.com | 0165656642 | 2023-05-24 | JOB001 | 25000 | 13.500 | MNG004 | DPT007 |
| EMP015 | Moin | Ali | maali99@gmail.com | 01475675885 | 2023-04-19 | JOB003 | 55000 | 5.500 | MNG001 | DPT005 |
| EMP016 | Injamamul | Haque | ihaque2@gmail.com | 0165674584 | 2023-09-01 | JOB002 | 40000 | 8.200 | MNG002 | DPT007 |
| EMP017 | Don | Jonson | dj333@gmail.com | 0165644774 | 2023-03-18 | JOB005 | 42000 | 12.500 | MNG003 | DPT004 |
| EMP018 | Mike | Peterson | mkp109@gmail.com | 0145658545 | 2023-01-09 | JOB004 | 35000 | 6.200 | MNG003 | DPT005 |
| EMP019 | Khan | Jahan | jkhan202@gmail.com | 01454677445 | 2023-09-05 | JOB004 | 32000 | 2.000 | MNG004 | DPT004 |
| EMP020 | Mir | Amir | amirmir@gmail.com | 0154557445 | 2023-06-30 | JOB003 | 20000 | 2.500 | MNG002 | DPT006 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
20 rows in set (0.001 sec)

MariaDB [employee]> update employees set employee_id = 'EMP011' where employee_id = 'EMP0011';
Query OK, 1 row affected (0.006 sec)
Rows matched: 1 Changed: 1 Warnings: 0

```

```

MariaDB [employee]> update employees set employee_id = 'EMP011' where employee_id = 'EMP0011';
Query OK, 1 row affected (0.006 sec)
Rows matched: 1 Changed: 1 Warnings: 0

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 | Sakib | AlHasan | sakib75@gmail.com | 0183438434 | 2023-03-21 | JOB001 | 25000 | 5.200 | MNG001 | DPT003 |
| EMP002 | Taskin | Rahman | tskin225@gmail.com | 0123939439 | 2023-08-01 | JOB003 | 55000 | 15.000 | MNG003 | DPT001 |
| EMP003 | Mushfiqur | Rahim | mushi200@gmail.com | 0174507454 | 2023-07-11 | JOB002 | 30000 | 10.000 | MNG003 | DPT001 |
| EMP004 | Mahmudul | Hasan | mahmud00@gmail.com | 0138283442 | 2023-05-24 | JOB001 | 22000 | 3.500 | MNG002 | DPT002 |
| EMP005 | Moshir | Rahman | moshirkk@gmail.com | 0190958085 | 2023-05-19 | JOB001 | 25000 | 5.000 | MNG001 | DPT003 |
| EMP006 | Injamul | Hasan | hasan105@gmail.com | 0178548584 | 2023-04-01 | JOB002 | 30000 | 5.200 | MNG002 | DPT003 |
| EMP007 | Donald | Trump | trump2b@gmail.com | 0174574774 | 2023-03-08 | JOB003 | 42000 | 5.500 | MNG001 | DPT001 |
| EMP008 | Mike | Tyson | mt605@gmail.com | 0134838545 | 2023-11-29 | JOB003 | 50000 | 10.200 | MNG003 | DPT002 |
| EMP009 | Kabir | Ahsan | kahsan91@gmail.com | 0174577445 | 2023-06-05 | JOB001 | 22000 | 5.000 | MNG002 | DPT002 |
| EMP010 | MD | Fahim | fahimmd@gmail.com | 0157457445 | 2023-03-10 | JOB002 | 27000 | 2.500 | MNG002 | DPT001 |
| EMP011 | Kl | Rahul | kl200@gmail.com | 0184840534 | 2023-12-21 | JOB005 | 30000 | 2.000 | MNG004 | DPT004 |
| EMP012 | Ms | Dhoni | mahicool@gmail.com | 0176767678 | 2023-08-21 | JOB005 | 35000 | 9.000 | MNG003 | DPT005 |
| EMP013 | Rubel | Hossain | rb4374@gmail.com | 0156547676 | 2023-08-11 | JOB004 | 30000 | 12.000 | MNG001 | DPT007 |
| EMP014 | Mahi | Hasan | mahi8100@gmail.com | 0165656642 | 2023-05-24 | JOB001 | 25000 | 13.500 | MNG004 | DPT007 |
| EMP015 | Moin | Ali | maali99@gmail.com | 01475675885 | 2023-04-19 | JOB003 | 55000 | 5.500 | MNG001 | DPT005 |
| EMP016 | Injamamul | Haque | ihaque2@gmail.com | 0165674584 | 2023-09-01 | JOB002 | 40000 | 8.200 | MNG002 | DPT007 |
| EMP017 | Don | Jonson | dj333@gmail.com | 0165644774 | 2023-03-18 | JOB005 | 42000 | 12.500 | MNG003 | DPT004 |
| EMP018 | Mike | Peterson | mkp109@gmail.com | 0145658545 | 2023-01-09 | JOB004 | 35000 | 6.200 | MNG003 | DPT005 |
| EMP019 | Khan | Jahan | jkhan202@gmail.com | 01454677445 | 2023-09-05 | JOB004 | 32000 | 2.000 | MNG004 | DPT004 |
| EMP020 | Mir | Amir | amirmir@gmail.com | 0154557445 | 2023-06-30 | JOB003 | 20000 | 2.500 | MNG002 | DPT006 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
20 rows in set (0.000 sec)

```

- select e.first\_name, e.last\_name, e.employee\_id, e.commission\_pct, e.department\_id from employees as e where e.department\_id = 'DPT005' and e.commission\_pct < (select min(commission\_pct) from employees where department\_id = 'DPT007') ;

```
MariaDB [employee]> select e.first_name, e.last_name, e.employee_id, e.commission_pct, e.department_id
  from employees as e where e.department_id = 'DPT005' and e.commission_pct < (select min(commission_p
ct) from employees where department_id = 'DPT007' ) ;
```

first_name	last_name	employee_id	commission_pct	department_id
Moin	Ali	EMP015	5.500	DPT005
Mike	Peterson	EMP018	6.200	DPT005

```
2 rows in set (0.001 sec)
```

4. Find 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\_number\_of\_employees from employees where department\_id not in (select department\_id from employees where salary > 30000) group by department\_id;

```
MariaDB [employee]> select department_id, count(*) as total_number_of_employees from employees where d
epartment_id not in (select department_id from employees where salary > 30000) group by department_id;
```

department_id	total_number_of_employees
DPT003	3
DPT006	1

```
2 rows in set (0.004 sec)
```

5. For each department, find the department\_id, job\_id and commission\_pct with commission\_pct less than at least one other job\_id in that department.

- select department\_id, job\_id, commission\_pct from employees as emp1 where commission\_pct < (select max(commission\_pct) from employees as emp2 where emp1.department\_id = emp2.department\_id and emp1.job\_id = emp2.job\_id) group by department\_id;

```
MariaDB [employee]> select department_id, job_id, commission_pct from employees as emp1 where commissi
on_pct < (select max(commission_pct) from employees as emp2 where emp1.department_id = emp2.department_
id and emp1.job_id = emp2.job_id) group by department_id;
```

department_id	job_id	commission_pct
DPT001	JOB003	5.500
DPT002	JOB001	3.500
DPT003	JOB001	5.000
DPT004	JOB005	2.000

```
4 rows in set (0.001 sec)
```

6. Find the manager\_id who does not have any employee under them with a salary less than 3500.

- select manager\_id from employees where manager\_id is not null group by manager\_id having min(salary) > 3500;

```
MariaDB [employee]>
MariaDB [employee]> select manager_id from employees where manager_id is not null group by manager_id
having min(salary) > 3500;
+-----+
| manager_id |
+-----+
| MNG001     |
| MNG002     |
| MNG003     |
| MNG004     |
+-----+
4 rows in set (0.000 sec)
```

## 7. Find the first\_name, last\_name, employee\_id, email, salary, department\_id and commission\_pct of the employee with the lowest commission\_pct under each manager

- select manager\_id , first\_name, last\_name, employee\_id, email, salary, department\_id , commission\_pct from employees where ( manager\_id , commission\_pct ) in (select manager\_id ,min(commission\_pct) from employees where manager\_id is not null group by manager\_id);

```
MariaDB [employee]> select first_name, last_name, employee_id, email, salary, department_id , commission_
pct from employees where ( manager_id , commission_pct ) in (select manager_id ,min(commission_pct) from
employees where manager_id is not null group by manager_id);
+-----+-----+-----+-----+-----+-----+-----+
| first_name | last_name | employee_id | email | salary | department_id | commission_pct |
+-----+-----+-----+-----+-----+-----+-----+
| Moshirur | Rahman | EMP005 | moshirurkk@gmail.com | 25000 | DPT003 | 5.000 |
| MD | Fahim | EMP010 | fahimmd@gmail.com | 27000 | DPT001 | 2.500 |
| KL | Rahul | EMP011 | kl200@gmail.com | 30000 | DPT004 | 2.000 |
| Mike | Peterson | EMP018 | mkp109@gmail.com | 35000 | DPT005 | 6.200 |
| Khan | jahan | EMP019 | jkhan202@gmail.com | 32000 | DPT004 | 2.000 |
| Mir | Amir | EMP020 | amirmir@gmail.com | 20000 | DPT006 | 2.500 |
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.001 sec)
```

- select manager\_id , first\_name, last\_name, employee\_id, email, salary, department\_id , commission\_pct ,min(commission\_pct) from employees group by manager\_id;

```
MariaDB [employee]> select manager_id , first_name, last_name, employee_id, email, salary, department_id , commission_pct
,min(commission_pct) from employees group by manager_id;
+-----+-----+-----+-----+-----+-----+-----+-----+
| manager_id | first_name | last_name | employee_id | email | salary | department_id | commission_pct | min(c
ommission_pct) |
+-----+-----+-----+-----+-----+-----+-----+-----+
| MNG001 | Sakib | AlHasan | EMP001 | sakib75@gmail.com | 25000 | DPT003 | 5.200 | 5.000 |
| MNG002 | Mahmudul | Hasan | EMP004 | mahmud00@gmail.com | 22000 | DPT002 | 3.500 | 2.500 |
| MNG003 | Taskin | Rahman | EMP002 | tskin225@gmail.com | 55000 | DPT001 | 15.000 | 6.200 |
| MNG004 | KL | Rahul | EMP011 | kl200@gmail.com | 30000 | DPT004 | 2.000 | 2.000 |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.000 sec)
```