



CSE 370 LAB

Submitted By:

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Section : 06

Database Creation:

```
CREATE DATABASE Lab2;
```

Database Selection:

```
USE Lab2;
```

Table Creation:

```
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),  
    department_id char(10)
```

```
);
```

Data Insertion:

```
INSERT INTO Employee VALUES
```

```
('EMP001', 'Samiha', 'Aker', 'samiha@gmail.com', '1712345678', '2024-01-15', 'JOB001',  
50000, 0.05, 'MNG001', 'DPT001'),  
( 'EMP002', 'Anika', 'Tasneem', 'anika@gmail.com', '1712345679', '2024-02-29', 'JOB002',  
60000, 0.03, 'MNG002', 'DPT002'),  
( 'EMP003', 'Moona', 'Reeza', 'moona@gmail.com', '1712345680', '2024-01-25', 'JOB003',  
55000, 0.06, 'MNG003', 'DPT003'),  
( 'EMP004', 'Zarin', 'Khan', 'zarin@gmail.com', '1712345681', '2024-02-01', 'JOB001', 52000,  
0.04, 'MNG001', 'DPT007'),  
( 'EMP005', 'Nowsin', 'Neha', 'neha@yahoo.com', '1712345682', '2024-01-09', 'JOB004', 58000,  
0.07, 'MNG002', 'DPT002'),  
( 'EMP006', 'Salma', 'Khatun', 'salma@yahoo.com', '1712345683', '2024-02-29', 'JOB002',  
60000, 0.05, 'MNG003', 'DPT003'),  
( 'EMP007', 'Marzia', 'Mohona', 'marzia@gmail.com', '1712345684', '2024-01-19', 'JOB005',  
53000, 0.03, 'MNG004', 'DPT004'),  
( 'EMP008', 'Safa', 'Kabir', 'safa@yahoo.com', '1712345685', '2024-01-27', 'JOB006', 25000,  
0.06, 'MNG005', 'DPT005'),  
( 'EMP009', 'Arifa', 'Chowdhury', 'arifa@gmail.com', '1712345686', '2024-01-31', 'JOB003',  
15000, 0.04, 'MNG006', 'DPT006'),
```

('EMP010', 'Zoya', 'Tripti', 'zoya@gmail.com', '1712345687', '2024-02-29', 'JOB004', 59000, 0.05, 'MNG007', 'DPT007');

Showing Table:

SELECT * FROM Employee;

```
MariaDB [Lab2]> SELECT * FROM Employee;
```

employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	commission_pct	manager_id	department_id
EMP001	Samiha	Akter	samiha@gmail.com	1712345678	2024-01-15	JOB001	50000	0.050	MNG001	DPT001
EMP002	Anika	Tasneem	anika@gmail.com	1712345679	2024-02-29	JOB002	60000	0.030	MNG002	DPT002
EMP003	Moona	Reeza	moona@gmail.com	1712345680	2024-01-25	JOB003	55000	0.060	MNG003	DPT003
EMP004	Zarin	Khan	zarin@gmail.com	1712345681	2024-02-01	JOB001	52000	0.040	MNG001	DPT007
EMP005	Nowsin	Neha	neha@yahoo.com	1712345682	2024-01-09	JOB004	58000	0.070	MNG002	DPT002
EMP006	Salma	Khatun	salma@yahoo.com	1712345683	2024-02-29	JOB002	60000	0.050	MNG003	DPT003
EMP007	Marzia	Mohona	marzia@gmail.com	1712345684	2024-01-19	JOB005	53000	0.030	MNG004	DPT004
EMP008	Safa	Kabir	safa@yahoo.com	1712345685	2024-01-27	JOB006	25000	0.060	MNG005	DPT005
EMP009	Arifa	Chowdhury	arifa@gmail.com	1712345686	2024-01-31	JOB003	15000	0.040	MNG006	DPT006
EMP010	Zoya	Tripti	zoya@gmail.com	1712345687	2024-02-29	JOB004	59000	0.050	MNG007	DPT007

10 rows in set (0.000 sec)

Task-1:

```
SELECT first_name, last_name, email, phone_number, hire_date, department_id
FROM Employee
WHERE hire_date = (
    SELECT MAX(hire_date)
    FROM Employee
);
```

```
MariaDB [Lab2]> 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
Anika	Tasneem	anika@gmail.com	1712345679	2024-02-29	DPT002
Salma	Khatun	salma@yahoo.com	1712345683	2024-02-29	DPT003
Zoya	Tripti	zoya@gmail.com	1712345687	2024-02-29	DPT007

3 rows in set (0.001 sec)

Task-2:

```
SELECT first_name, last_name, employee_id, phone_number, salary, department_id
FROM Employee
WHERE (department_id, salary) IN (
    SELECT department_id, MIN(salary)
    FROM Employee
    GROUP BY department_id
);
```

```
MariaDB [Lab2]> SELECT first_name, last_name, employee_id, phone_number, salary, department_id
-> FROM Employee
-> WHERE (department_id, salary) IN (
->     SELECT department_id, MIN(salary)
->     FROM Employee
->     GROUP BY department_id
-> );
```

first_name	last_name	employee_id	phone_number	salary	department_id
Samiha	Akter	EMP001	1712345678	50000	DPT001
Moona	Reeza	EMP003	1712345680	55000	DPT003
Zarin	Khan	EMP004	1712345681	52000	DPT007
Nowsin	Neha	EMP005	1712345682	58000	DPT002
Marzia	Mohona	EMP007	1712345684	53000	DPT004
Safa	Kabir	EMP008	1712345685	25000	DPT005
Arifa	Chowdhury	EMP009	1712345686	15000	DPT006

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

Task-3:

```
SELECT first_name, last_name, employee_id, commission_pct, department_id
FROM Employee
WHERE department_id = 'DPT007'
AND commission_pct < (
    SELECT MIN(commission_pct)
    FROM Employee
    WHERE department_id = 'DPT005');
```

```
MariaDB [Lab2]> SELECT first_name, last_name, employee_id, commission_pct, department_id
-> FROM Employee
-> WHERE department_id = 'DPT007'
-> AND commission_pct < (
->     SELECT MIN(commission_pct)
->     FROM Employee
->     WHERE department_id = 'DPT005'
-> );
```

first_name	last_name	employee_id	commission_pct	department_id
Zarin	Khan	EMP004	0.040	DPT007
Zoya	Tripti	EMP010	0.050	DPT007

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

Task-4:

```
SELECT department_id, COUNT(*) AS total_employees
FROM Employee l1
GROUP BY department_id
HAVING 30000 >= ALL (
    SELECT salary
    FROM Employee l2
    WHERE l1.department_id = l2.department_id
);
```

```
MariaDB [Lab2]> SELECT department_id, COUNT(*) AS total_employees
-> FROM Employee l1
-> GROUP BY department_id
-> HAVING 30000 >= ALL (
->     SELECT salary
->     FROM Employee l2
->     WHERE l1.department_id = l2.department_id
-> );
```

department_id	total_employees
DPT005	1
DPT006	1

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

Task-5:

```
SELECT department_id, job_id, commission_pct
FROM Employee l1
WHERE commission_pct < ANY (
    SELECT commission_pct
    FROM Employee l2
    WHERE l1.department_id = l2.department_id
    AND l1.job_id != l2.job_id
);
```

```
MariaDB [Lab2]> SELECT department_id, job_id, commission_pct
-> FROM Employee l1
-> WHERE commission_pct < ANY (
->     SELECT commission_pct
->     FROM Employee l2
->     WHERE l1.department_id = l2.department_id
->     AND l1.job_id != l2.job_id
-> );
```

department_id	job_id	commission_pct
DPT002	JOB002	0.030
DPT007	JOB001	0.040
DPT003	JOB002	0.050

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

Task 6:

```
SELECT DISTINCT manager_id
FROM Employee e1
WHERE NOT EXISTS (
    SELECT 1
    FROM Employee e2
    WHERE e1.manager_id = e2.manager_id AND e2.salary < 3500
);
```

```
MariaDB [Lab2]> SELECT DISTINCT manager_id
-> FROM Employee e1
-> WHERE NOT EXISTS (
->     SELECT 1
->     FROM Employee e2
->     WHERE e1.manager_id = e2.manager_id AND e2.salary < 3500
-> );
```

manager_id
MNG001
MNG002
MNG003
MNG004
MNG005
MNG006
MNG007

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

Task-7:

```
SELECT e1.first_name, e1.last_name, e1.employee_id, e1.email, e1.salary, e1.department_id,
e1.commission_pct
FROM Employee e1
WHERE (e1.manager_id, e1.commission_pct) IN (
    SELECT manager_id, MIN(commission_pct)
    FROM Employee
    GROUP BY manager_id
);
```

```
MariaDB [Lab2]> SELECT e1.first_name, e1.last_name, e1.employee_id, e1.email, e1.salary, e1.department_id, e1.commission_pct
-> FROM Employee e1
-> WHERE (e1.manager_id, e1.commission_pct) IN (
->     SELECT manager_id, MIN(commission_pct)
->     FROM Employee
->     GROUP BY manager_id
-> );
```

first_name	last_name	employee_id	email	salary	department_id	commission_pct
Anika	Tasneem	EMP002	anika@gmail.com	60000	DPT002	0.030
Zarin	Khan	EMP004	zarin@gmail.com	52000	DPT007	0.040
Salma	Khatun	EMP006	salma@yahoo.com	60000	DPT003	0.050
Marzia	Mohona	EMP007	marzia@gmail.com	53000	DPT004	0.030
Safa	Kabir	EMP008	safa@yahoo.com	25000	DPT005	0.060
Arifa	Chowdhury	EMP009	arifa@gmail.com	15000	DPT006	0.040
Zoya	Tripti	EMP010	zoya@gmail.com	59000	DPT007	0.050

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