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**Section:10**

**Lab assignment: 02**

## Table Creation

Creating Database Named '**assignment\_two**'

```
Query OK, 1 row affected (0.001 sec)
```

```
MariaDB [(none)]> show databases;
```

Database
assignment_one
assignment_two
information_schema
mysql
performance_schema
phpmyadmin
test

Creating a table named '**employees**' with given information

```
MariaDB [assignment_two]> 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));
```

```
Query OK, 0 rows affected (0.013 sec)
```

## Newly Created Table

```
MariaDB [assignment_two]> 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 (0.007 sec)

## Giving Data

```
MariaDB [assignment_two]> INSERT INTO employees VALUES
-> ('EMP001', 'Md Sakib', 'Sadman', 'sakib@mail.com', '555-555-5555', '2021-01-21', 'JOB001', 90000, 15.63, 'MNG001', 'DPT001'),
-> ('EMP002', 'Nahid', 'Hassan', 'nahid@gmail.com', '555-555-5556', '2013-10-29', 'JOB002', 10000, 10.52, 'MNG001', 'DPT003'),
-> ('EMP003', 'Habib Un', 'Hemel', 'hemel@yahoo.com', '555-555-5557', '2022-10-03', 'JOB003', 50000, 8.02, 'MNG002', 'DPT001'),
-> ('EMP004', 'Nida', 'Raisa', 'nida@gmail.com', '555-555-5558', '2017-05-14', 'JOB004', 28000, 12.67, 'MNG002', 'DPT005'),
-> ('EMP005', 'Durjoy', 'Paul', 'durjoy@gmail.com', '555-555-5559', '2015-07-05', 'JOB005', 25000, 18.12, 'MNG001', 'DPT005'),
-> ('EMP006', 'Jaber', 'Hossain', 'jaber@gmail.com', '555-555-5560', '2011-11-06', 'JOB006', 72000, 6.07, 'MNG003', 'DPT003'),
-> ('EMP007', 'Ishrak', 'Hamim', 'ishrak@gmail.com', '555-555-5561', '2023-10-07', 'JOB007', 16000, 13.55, 'MNG003', 'DPT007'),
-> ('EMP008', 'Siam', 'Ferdous', 'siam@yahoo.com', '555-555-5562', '2023-10-18', 'JOB008', 79000, 9.1, 'MNG002', 'DPT007'),
-> ('EMP009', 'Uday', 'Khan', 'uday@yahoo.com', '555-555-5563', '2022-06-09', 'JOB009', 60000, 7, 'MNG002', 'DPT003'),
-> ('EMP010', 'Sirajum', 'Munira', 'munira@yahoo.com', '555-555-5564', '2018-06-06', 'JOB010', 44000, 11.543, 'MNG001', 'DPT001'),
-> ('EMP011', 'Zaynul', 'Abedin', 'abed@gmail.com', '555-555-5565', '2020-07-11', 'JOB011', 59500, 16.06, 'MNG003', 'DPT007'),
-> ('EMP012', 'Syeda', 'Raisa', 'raisaloutlook.com', '555-555-5566', '2023-04-02', 'JOB012', 78300, 19.147, 'MNG002', 'DPT007');
Query OK, 12 rows affected (0.009 sec)
Records: 12 Duplicates: 0 Warnings: 0
```

## Table

```
MariaDB [assignment_two]> SELECT * FROM employees;
```

employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	commission_pct	manager_id	department_id
EMP001	Md Sakib	Sadman	sakib@mail.com	555-555-5555	2021-01-21	JOB001	90000	15.630	MNG001	DPT001
EMP002	Nahid	Hassan	nahid@gmail.com	555-555-5556	2013-10-29	JOB002	10000	10.520	MNG001	DPT003
EMP003	Habib Un	Hemel	hemel@yahoo.com	555-555-5557	2022-10-03	JOB003	50000	8.020	MNG002	DPT001
EMP004	Nida	Raisa	nida@gmail.com	555-555-5558	2017-05-14	JOB004	28000	12.670	MNG002	DPT005
EMP005	Durjoy	Paul	durjoy@gmail.com	555-555-5559	2015-07-05	JOB005	25000	18.120	MNG001	DPT005
EMP006	Jaber	Hossain	jaber@gmail.com	555-555-5560	2011-11-06	JOB006	72000	6.070	MNG003	DPT003
EMP007	Ishrak	Hamim	ishrak@gmail.com	555-555-5561	2023-10-07	JOB007	16000	13.550	MNG003	DPT007
EMP008	Siam	Ferdous	siam@yahoo.com	555-555-5562	2023-10-18	JOB008	79000	9.100	MNG002	DPT007
EMP009	Uday	Khan	uday@yahoo.com	555-555-5563	2022-06-09	JOB009	60000	7.000	MNG002	DPT003
EMP010	Sirajum	Munira	munira@yahoo.com	555-555-5564	2018-06-06	JOB010	44000	11.543	MNG001	DPT001
EMP011	Zaynul	Abedin	abed@gmail.com	555-555-5565	2020-07-11	JOB011	59500	16.060	MNG003	DPT007
EMP012	Syeda	Raisa	raisaloutlook.com	555-555-5566	2023-04-02	JOB012	78300	19.147	MNG002	DPT007

12 rows in set (0.001 sec)

## Task 1

```
MariaDB [assignment_two]> 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 |
+-----+-----+-----+-----+-----+-----+
| Siam       | Ferdous   | siam@yahoo.com | 555-555-5562 | 2023-10-18 | DPT007        |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.001 sec)
```

## Task 2

```
MariaDB [assignment_two]> SELECT first_name, last_name, employee_id, phone_number, salary, department_id
-> FROM employees e1
-> WHERE salary = (
-> SELECT MIN(salary)
-> FROM employees e2
-> WHERE e1.department_id = e2.department_id);
+-----+-----+-----+-----+-----+-----+
| first_name | last_name | employee_id | phone_number | salary | department_id |
+-----+-----+-----+-----+-----+-----+
| Nahid      | Hassan   | EMP002      | 555-555-5556 | 10000 | DPT003        |
| Durjoy     | Paul     | EMP005      | 555-555-5559 | 25000 | DPT005        |
| Ishrak     | Hamim    | EMP007      | 555-555-5561 | 16000 | DPT007        |
| Sirajum    | Munira   | EMP010      | 555-555-5564 | 44000 | DPT001        |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.001 sec)
```

## Task 3

```
MariaDB [assignment_two]> SELECT first_name, last_name, employee_id, commission_pct, department_id
-> FROM employees
-> WHERE department_id = 'DPT007' AND commission_pct <
-> ALL (SELECT commission_pct FROM employees WHERE department_id = 'DPT005' );
+-----+-----+-----+-----+-----+
| first_name | last_name | employee_id | commission_pct | department_id |
+-----+-----+-----+-----+-----+
| Siam       | Ferdous   | EMP008      | 9.100          | DPT007        |
+-----+-----+-----+-----+-----+
1 row in set (0.001 sec)
```

## Task 4

```
MariaDB [assignment_two]> SELECT department_id, COUNT(employee_id) as total_employees
-> FROM employees
-> GROUP BY department_id
-> HAVING MAX(salary) <= 30000;
+-----+-----+
| department_id | total_employees |
+-----+-----+
| DPT005        | 2               |
+-----+-----+
1 row in set (0.001 sec)
```

### Task 5

```
MariaDB [assignment_two]> 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 );
```

department_id	job_id	commission_pct
DPT001	JOB003	8.020
DPT005	JOB004	12.670
DPT003	JOB006	6.070
DPT007	JOB007	13.550
DPT007	JOB008	9.100
DPT003	JOB009	7.000
DPT001	JOB010	11.543
DPT007	JOB011	16.060

8 rows in set (0.001 sec)

### Task 6

```
MariaDB [assignment_two]> SELECT DISTINCT manager_id
-> FROM employees
-> GROUP BY manager_id
-> HAVING MIN(salary) >= 3500;
```

manager_id
MNG001
MNG002
MNG003

3 rows in set (0.000 sec)

## Task 7

```
MariaDB [assignment_two]> SELECT first_name, last_name, employee_id, email, salary, department_id, commission_pct
t
-> FROM employees
-> WHERE (manager_id, commission_pct) IN (
-> SELECT manager_id, MIN(commission_pct)
-> FROM employees
-> GROUP BY manager_id);
```

first_name	last_name	employee_id	email	salary	department_id	commission_pct
Nahid	Hassan	EMP002	nahid@gmail.com	10000	DPT003	10.520
Jaber	Hossain	EMP006	jaber@gmail.com	72000	DPT003	6.070
Uday	Khan	EMP009	uday@yahoo.com	60000	DPT003	7.000

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

## Create Table

```
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 values

```
INSERT INTO employees VALUES
('EMP001', 'Md Sakib', 'Sadman', 'sakib@mail.com', '555-555-5555', '2021-01-21', 'JOB001',
90000, 15.63, 'MNG001', 'DPT001'),
('EMP002', 'Nahid', 'Hassan', 'nahid@gmail.com', '555-555-5556', '2013-10-29', 'JOB002',
10000, 10.52, 'MNG001', 'DPT003'),
('EMP003', 'Habib Un', 'Hemel', 'hemel@yahoo.com', '555-555-5557', '2022-10-03', 'JOB003',
50000, 8.02, 'MNG002', 'DPT001'),
('EMP004', 'Nida', 'Raisa', 'nida@gmail.com', '555-555-5558', '2017-05-14', 'JOB004', 28000,
12.67, 'MNG002', 'DPT005'),
('EMP005', 'Durjoy', 'Paul', 'durjoy@gmail.com', '555-555-5559', '2015-07-05', 'JOB005', 25000,
18.12, 'MNG001', 'DPT005'),
```

('EMP006', 'Jaber', 'Hossain', 'jaber@gmail.com', '555-555-5560', '2011-11-06', 'JOB006',  
 72000, 6.07, 'MNG003', 'DPT003'),  
 ('EMP007', 'Ishrak', 'Hamim', 'ishrak@gmail.com', '555-555-5561', '2023-10-07', 'JOB007',  
 16000, 13.55, 'MNG003', 'DPT007'),  
 ('EMP008', 'Siam', 'Ferdous', 'siam@yahoo.com', '555-555-5562', '2023-10-18', 'JOB008',  
 79000, 9.1, 'MNG002', 'DPT007'),  
 ('EMP009', 'Uday', 'Khan', 'uday@yahoo.com', '555-555-5563', '2022-06-09', 'JOB009', 60000,  
 7, 'MNG002', 'DPT003'),  
 ('EMP010', 'Sirajum', 'Munira', 'munira@yahoo.com', '555-555-5564', '2018-06-06', 'JOB010',  
 44000, 11.543, 'MNG001', 'DPT001'),  
 ('EMP011', 'Zaynul', 'Abedin', 'abed@gmail.com', '555-555-5565', '2020-07-11', 'JOB011',  
 59500, 16.06, 'MNG003', 'DPT007'),  
 ('EMP012', 'Syeda', 'Raisa', 'raisa@outlook.com', '555-555-5566', '2023-04-02', 'JOB012',  
 78300, 19.147, 'MNG002', 'DPT007');

### Task 1

```

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

```

### Task 2

```

SELECT first_name, last_name, employee_id, phone_number, salary, department_id
FROM employees e1
WHERE salary = (
    SELECT MIN(salary)
    FROM employees e2
    WHERE e1.department_id = e2.department_id);

```

### Task 3

```

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

```

### Task 4

```
SELECT department_id, count(*) FROM employees WHERE salary <= 30000 GROUP BY
department_id;
```

#### **Task 5**

```
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 );
```

#### **Task 6**

```
SELECT DISTINCT manager_id
FROM employees
GROUP BY manager_id
HAVING MIN(salary) >= 3500;
```

#### **Task 7**

```
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
    GROUP BY manager_id);
```