

CSE370

Lab Assignment-02

CREATE DATABASE cse370_lab02;

USE cse370_lab02;

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)

->);

```
MariaDB [cse370_lab02]> 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)  
  -> );  
Query OK, 0 rows affected (0.039 sec)
```

DESCRIBE Employee;

```
MariaDB [cse370_lab02]> describe Employee;
```

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 (0.018 sec)
```

INSERT INTO Employee VALUES

-> ('EMP001','Tanjid','Tamim','tanjid@yahoo.com','01717218046','2018-09-15','JOB008',20000,3.895,'MNG004','DPT003'),

-> ('EMP002','Soumya','Sarker','soumya@gmail.com','01717234046','2018-08-15','JOB006',60000,7.894,'MNG003','DPT003'),

-> ('EMP003','Litton','Das','litton@outlook.com','01819218096','2018-09-18','JOB0012',75000,8.89,'MNG001','DPT005'),

-> ('EMP004','Nazmul','Shanto','shanto@yahoo.com','01617513246','2018-08-20','JOB0011',80000,15.923,'MNG003','DPT004'),

-> ('EMP005','Shakib','Hasan','shakib@icloud.com','01536784531','2018-09-13','JOB005',980000,25.865,'MNG005','DPT002'),

-> ('EMP006','Tawhid','Hridoy','hridoy@hotmail.com','01811456746','2018-08-13','JOB004',30000,5.895,'MNG002','DPT001'),

-> ('EMP007','Mahmud','Ullah','mahmud@gmail.com','01817218450','2018-09-16','JOB007',80000,21.455,'MNG004','DPT003'),

-> ('EMP008','Jaker','Ali','jaker@gmail.com','01911009876','2018-09-25','JOB001',20000,1.565,'MNG005','DPT001'),

-> ('EMP009','Rishad','Hossain','rishad@yahoo.com','01932213213','2018-08-21','JOB009',30000,5.855,'MNG002','DPT001'),

-> ('EMP0010','Tanjim','Sakib','tanjim@gmail.com','01987433256','2018-08-14','JOB003',20000,5.855,'MNG003','DPT004'),

-> ('EMP0011','Taskin','Ahmed','taskin@yahoo.com','01986654334','2018-09-15','JOB0010',70000,14.345,'MNG005','DPT002'),

-> ('EMP0012','Mustafiz','Rahman','mustafiz@icloud.com','01811008227','2018-09-23','JOB002',650000,12.34,'MNG002','DPT004');

```

MariaDB [cse370_lab02]> INSERT INTO Employee VALUES
-> ('EMP001','Tanjid','Tamim','tanjid@yahoo.com','01717218046','2018-09-15','JOB008',20000,3.895,'MNG004','DPT003'),
-> ('EMP002','Soumya','Sarker','soumya@gmail.com','01717234046','2018-08-15','JOB006',60000,7.894,'MNG003','DPT003'),
-> ('EMP003','Litton','Das','litton@outlook.com','01819218096','2018-09-18','JOB0012',75000,8.89,'MNG001','DPT005'),
-> ('EMP004','Nazmul','Shanto','shanto@yahoo.com','01617513246','2018-08-20','JOB0011',80000,15.923,'MNG003','DPT004'),
-> ('EMP005','Shakib','Hasan','shakib@icloud.com','01536784531','2018-09-13','JOB005',98000,25.865,'MNG005','DPT002'),
-> ('EMP006','Tawhid','Hridoy','hridoy@hotmail.com','01811456746','2018-08-13','JOB004',30000,5.895,'MNG002','DPT001'),
-> ('EMP007','Mahmud','Ullah','mahmud@gmail.com','01817218450','2018-09-16','JOB007',80000,21.455,'MNG004','DPT003'),
-> ('EMP008','Jaker','Ali','jaker@gmail.com','01911009876','2018-09-25','JOB001',20000,1.565,'MNG005','DPT001'),
-> ('EMP009','Rishad','Hossain','rishad@yahoo.com','01932213213','2018-08-21','JOB009',30000,5.855,'MNG002','DPT001'),
-> ('EMP010','Tanjim','Sakib','tanjim@gmail.com','01987433256','2018-08-14','JOB003',20000,5.855,'MNG003','DPT004'),
-> ('EMP011','Taskin','Ahmed','taskin@yahoo.com','01986654334','2018-09-15','JOB010',70000,14.345,'MNG005','DPT002'),
-> ('EMP012','Mustafiz','Rahman','mustafiz@icloud.com','01811008227','2018-09-23','JOB002',65000,12.34,'MNG002','DPT004');
Query OK, 12 rows affected (0.005 sec)
Records: 12 Duplicates: 0 Warnings: 0

```

SELECT * FROM Employee;

```

MariaDB [cse370_lab02]> SELECT * FROM Employee;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| employee_id | first_name | last_name | email | phone_number | hire_date | job_id | salary | commission_pct | manager_id | department_id |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| EMP001 | Tanjid | Tamim | tanjid@yahoo.com | 01717218046 | 2018-09-15 | JOB008 | 20000 | 3.895 | MNG004 | DPT003 |
| EMP002 | Soumya | Sarker | soumya@gmail.com | 01717234046 | 2018-08-15 | JOB006 | 60000 | 7.894 | MNG003 | DPT003 |
| EMP003 | Litton | Das | litton@outlook.com | 01819218096 | 2018-09-18 | JOB0012 | 75000 | 8.890 | MNG001 | DPT005 |
| EMP004 | Nazmul | Shanto | shanto@yahoo.com | 01617513246 | 2018-08-20 | JOB0011 | 80000 | 15.923 | MNG003 | DPT004 |
| EMP005 | Shakib | Hasan | shakib@icloud.com | 01536784531 | 2018-09-13 | JOB005 | 98000 | 25.865 | MNG005 | DPT002 |
| EMP006 | Tawhid | Hridoy | hridoy@hotmail.com | 01811456746 | 2018-08-13 | JOB004 | 30000 | 5.895 | MNG002 | DPT001 |
| EMP007 | Mahmud | Ullah | mahmud@gmail.com | 01817218450 | 2018-09-16 | JOB007 | 80000 | 21.455 | MNG004 | DPT003 |
| EMP008 | Jaker | Ali | jaker@gmail.com | 01911009876 | 2018-09-25 | JOB001 | 20000 | 1.565 | MNG005 | DPT001 |
| EMP009 | Rishad | Hossain | rishad@yahoo.com | 01932213213 | 2018-08-21 | JOB009 | 30000 | 5.855 | MNG002 | DPT001 |
| EMP010 | Tanjim | Sakib | tanjim@gmail.com | 01987433256 | 2018-08-14 | JOB003 | 20000 | 5.855 | MNG003 | DPT004 |
| EMP011 | Taskin | Ahmed | taskin@yahoo.com | 01986654334 | 2018-09-15 | JOB010 | 70000 | 14.345 | MNG005 | DPT002 |
| EMP012 | Mustafiz | Rahman | mustafiz@icloud.com | 01811008227 | 2018-09-23 | JOB002 | 65000 | 12.340 | MNG002 | DPT004 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
12 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 [cse370_lab02]> 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 |
+-----+-----+-----+-----+-----+-----+
| Jaker | Ali | jaker@gmail.com | 01911009876 | 2018-09-25 | DPT001 |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.001 sec)

```

Task-2

SELECT first_name, last_name, employee_id, phone_number, salary, department_id

-> **FROM** Employee L1

-> **WHERE** salary = (**SELECT** MIN(salary) **FROM** Employee L2 **WHERE** L2.department_id = L1.department_id);

```
MariaDB [cse370_lab02]> SELECT first_name, last_name, employee_id, phone_number, salary, department_id
-> FROM Employee L1
-> WHERE salary = (SELECT MIN(salary) from Employee L2 WHERE L2.department_id = L1.department_id);
```

first_name	last_name	employee_id	phone_number	salary	department_id
Tanjid	Tamim	EMP001	01717218046	20000	DPT003
Litton	Das	EMP003	01819218096	75000	DPT005
Jaker	Ali	EMP008	01911009876	20000	DPT001
Tanjim	Sakib	EMP0010	01987433256	20000	DPT004
Taskin	Ahmed	EMP0011	01986654334	70000	DPT002

```
5 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 [cse370_lab02]> 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');
Empty set (0.024 sec)
```

Task-4

```
SELECT department_id, COUNT(*) AS total_employees
```

```
-> FROM Employee
```

```
-> WHERE department_id NOT IN (SELECT department_id
FROM Employee WHERE salary > 30000)
```

```
-> GROUP BY department_id;
```

```
MariaDB [cse370_lab02]> SELECT department_id, COUNT(*) as total_employees
-> FROM Employee
-> WHERE department_id NOT IN (SELECT department_id FROM Employee WHERE salary > 30000)
-> GROUP BY department_id;
```

department_id	total_employees
DPT001	3

```
1 row in set (0.003 sec)
```

Task-5

SELECT department_id, job_id, commission_pct

-> **FROM** Employee L1

-> **WHERE** commission_pct < **ANY** (

-> **SELECT** commission_pct

-> **FROM** Employee L2

-> **WHERE** L2.department_id = L1.department_id **AND** L2.job_id != L1.job_id);

```
MariaDB [cse370_lab02]> SELECT department_id, job_id, commission_pct
-> FROM Employee L1
-> where commission_pct < ANY (
-> SELECT commission_pct
-> FROM Employee L2
-> where L2.department_id = L1.department_id AND L2.job_id != L1.job_id);
```

department_id	job_id	commission_pct
DPT003	JOB008	3.895
DPT003	JOB006	7.894
DPT001	JOB001	1.565
DPT001	JOB009	5.855
DPT004	JOB003	5.855
DPT002	JOB0010	14.345
DPT004	JOB002	12.340

7 rows in set (0.001 sec)

Task-6

SELECT manager_id

-> **FROM** Employee

-> **GROUP BY** manager_id

-> **HAVING** MIN(salary) >= 3500;

```
MariaDB [cse370_lab02]> SELECT manager_id
-> FROM Employee
-> GROUP BY manager_id
-> HAVING MIN(salary) >= 3500;
```

manager_id
MNG001
MNG002
MNG003
MNG004
MNG005

5 rows in set (0.001 sec)

Task-7

SELECT first_name, last_name, employee_id, email, salary, department_id, commission_pct

-> **FROM** Employee L1

-> **WHERE** commission_pct = (SELECT MIN(commission_pct) FROM Employee L2 WHERE
L2.manager_id = L1.manager_id);

```
MariaDB [cse370_lab02]> SELECT first_name, last_name, employee_id, email, salary, department_id, commission_pct
-> FROM Employee L1
-> WHERE commission_pct = (SELECT MIN(commission_pct) FROM Employee L2 WHERE L2.manager_id = L1.manager_id);
```

first_name	last_name	employee_id	email	salary	department_id	commission_pct
Tanjid	Tamim	EMP001	tanjid@yahoo.com	20000	DPT003	3.895
Litton	Das	EMP003	litton@outlook.com	75000	DPT005	8.890
Jaker	Ali	EMP008	jaker@gmail.com	20000	DPT001	1.565
Rishad	Hossain	EMP009	rishad@yahoo.com	30000	DPT001	5.855
Tanjim	Sakib	EMP0010	tanjim@gmail.com	20000	DPT004	5.855

5 rows in set (0.001 sec)