

EXPERIMENT 3

EASY:-

```
MariaDB [(none)]> create database duplicate;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]> use duplicate;
Database changed
MariaDB [duplicate]> CREATE TABLE Employee ( EMP_ID INT);
Query OK, 0 rows affected (0.106 sec)

MariaDB [duplicate]> INSERT INTO Employee (EMP_ID) VALUES (2), (4), (4), (6), (6), (7), (8), (8), (8);
Query OK, 9 rows affected (0.023 sec)
Records: 9 Duplicates: 0 Warnings: 0

MariaDB [duplicate]> SELECT MAX(EMP_ID) AS MaxEmpID FROM Employee WHERE EMP_ID NOT IN ( SELECT EMP_ID FROM Employee GROUP BY EMP_ID HAVING COUNT(*)>1);
+-----+
| MaxEmpID |
+-----+
|         7 |
+-----+
1 row in set (0.029 sec)
```

MEDIUM:-

```
(sunny@sunny)-[~] apt-get install mariadb-server
$ sudo mariadb
[sudo] password for sunny: asbareAD... LPS: Google S... Topmate: You...
Sorry, try again.
[sudo] password for sunny:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 37
Server version: 11.8.3-MariaDB-1+b1 from Debian -- Please help get to 10k stars at https://github.com/MariaDB/Server

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

MariaDB [(none)]> CREATE DATABASE EXP3;
Query OK, 1 row affected (0.001 sec)

MariaDB [(none)]> USE EXP3;
Database changed
MariaDB [EXP3]> CREATE TABLE Department (
  ID INT PRIMARY KEY,
  DEPT_NAME VARCHAR(50)
);
Query OK, 0 rows affected (0.114 sec)

MariaDB [EXP3]> CREATE TABLE Employee (
  ID INT,
  NAME VARCHAR(50),
  SALARY INT,
  DEPT_ID INT,
  FOREIGN KEY (DEPT_ID) REFERENCES Department(ID)
);
Query OK, 0 rows affected (0.108 sec)

MariaDB [EXP3]> INSERT INTO Department (ID, DEPT_NAME) VALUES
  (1, 'IT'),
  (2, 'SALES');
Query OK, 2 rows affected (0.018 sec)
Records: 2 Duplicates: 0 Warnings: 0
MariaDB [EXP3]> INSERT INTO Employee (ID, NAME, SALARY, DEPT_ID) VALUES
  (1, 'JOE', 70000, 1),
  (2, 'JIM', 90000, 1),
  (3, 'HENRY', 80000, 2),
  (4, 'SAM', 60000, 2),
  (5, 'MAX', 90000, 1);
Query OK, 5 rows affected (0.010 sec)
Records: 5 Duplicates: 0 Warnings: 0

MariaDB [EXP3]> SELECT
  D.DEPT_NAME,
  E.NAME,
  E.SALARY
  FROM Employee AS E
  INNER JOIN Department AS D
    ON D.ID = E.DEPT_ID
  WHERE E.SALARY IN (
    SELECT MAX(E2.SALARY)
    FROM Employee AS E2
    WHERE E2.DEPT_ID = E.DEPT_ID
  )
  GROUP BY D.DEPT_NAME;
+-----+-----+-----+
| DEPT_NAME | NAME | SALARY |
+-----+-----+-----+
| IT        | JIM  | 90000  |
| IT        | MAX  | 90000  |
| SALES     | HENRY | 80000  |
+-----+-----+-----+
3 rows in set (0.002 sec)

MariaDB [EXP3]>
```

HARD:-

```
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MariaDB [EXP3]> CREATE DATABASE EXP3;
ERROR 1007 (HY000): Can't create database 'EXP3'; database exists
MariaDB [EXP3]> USE EXP3;
Database changed
MariaDB [EXP3]>
MariaDB [EXP3]> -- Create two source legacy tables as per input.
MariaDB [EXP3]> CREATE TABLE TableA (
  → EmpID INT,
  → Ename VARCHAR(50),
  → Salary INT
  → );
ERROR 1050 (42501): Table 'TableA' already exists
MariaDB [EXP3]>
MariaDB [EXP3]> CREATE TABLE TableB (
  → EmpID INT,
  → Ename VARCHAR(50),
  → Salary INT
  → );
ERROR 1050 (42501): Table 'TableB' already exists
MariaDB [EXP3]>
MariaDB [EXP3]> -- Input data provided.
MariaDB [EXP3]> INSERT INTO TableA (EmpID, Ename, Salary) VALUES
  → (1, 'AA', 1000),
  → (2, 'BB', 300);
Query OK, 2 rows affected (0.008 sec)
Records: 2 Duplicates: 0 Warnings: 0

MariaDB [EXP3]>
MariaDB [EXP3]> INSERT INTO TableB (EmpID, Ename, Salary) VALUES
  → (2, 'BB', 400),
  → (3, 'CC', 100);
Query OK, 2 rows affected (0.022 sec)
Records: 2 Duplicates: 0 Warnings: 0

MariaDB [EXP3]> WITH AllEmployees AS (
  → SELECT * FROM TableA
  → UNION ALL
  → SELECT * FROM TableB
  → )
  → SELECT
  → A.EmpID, A.Ename, A.Salary
  → FROM AllEmployees AS A
  → JOIN (
  → SELECT EmpID, MIN(SALARY) AS MinSalary
  → FROM AllEmployees
  → GROUP BY EmpID
  → ) AS B
  → ON A.EmpID = B.EmpID
  → AND A.Salary = B.MinSalary
  → ORDER BY A.EmpID;
+----+-----+-----+
| EmpID | Ename | Salary |
+----+-----+-----+
| 1 | AA | 1000 |
| 1 | AA | 1000 |
| 2 | BB | 300 |
| 2 | BB | 400 |
| 3 | CC | 100 |
| 3 | CC | 100 |
+----+-----+-----+
6 rows in set (0.003 sec)
```