DATABASE MANAGEMENT AND QUERY PROCESSING LAB EXPERIMENTs

EXPERIMENT 01 : STATEMENTS WITH OUTPUTs.....

```
C:\>cd xampp/mysql/bin

C:\xampp\mysql\bin>mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 8
Server version: 10.4.28-MariaDB mariadb.org binary distribution

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

MariaDB [(none)]> CREATE DATABASE 21co56;
Query OK, 1 row affected (0.008 sec)

MariaDB [(none)]> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| 21co56             |
| information_schema |
| mysql              |
| performance_schema |
| phpmyadmin         |
| test               |
+--------------------+
6 rows in set (0.002 sec)

MariaDB [(none)]> USE 21co56
Database changed
```

```
MariaDB [(none)]> USE 21co56;
Database changed
MariaDB [21co56]>
```

QUERY 01 : Write a SQL statement to create a simple table country including columns country_id, country_name and region_id.

```
MariaDB [21co56]> CREATE TABLE country
    ->            (
    ->                     country_id int(5),
    ->                     country_name varchar(20),
    ->                     region_id int(5)
    ->            );
Query OK, 0 rows affected (0.017 sec)
```

QUERY 02 : Display the structure of country table.

```
MariaDB [21co56]> DESCRIBE country;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(5)      | YES  |     | NULL    |       |
| country_name | varchar(20) | YES  |     | NULL    |       |
| region_id    | int(5)      | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.026 sec)
```

QUERY 03 : Write a SQL statement to create a duplicate copy of countries table including structure and data by name dup_country.

```
MariaDB [21co56]> CREATE TABLE dup_country AS
    ->             SELECT * FROM country;
Query OK, 0 rows affected (0.025 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

QUERY 04 : Display the structure of dup_country table.

```
MariaDB [21co56]> DESCRIBE dup_country;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(5)      | YES  |     | NULL    |       |
| country_name | varchar(20) | YES  |     | NULL    |       |
| region_id    | int(5)      | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.026 sec)
```

QUERY 05 : Write a SQL statement to create a table named jobs including columns job_id(primary key), job_title (Not Null and unique), min_salary, max_salary and check whether the max_salary amount exceeding the upper limit 25000.

```
MariaDB [21co56]> CREATE TABLE jobs
    ->             (
    ->                     job_id int(5) PRIMARY KEY,
    ->                     job_title varchar(20) NOT NULL UNIQUE,
    ->                     min_salary float,
    ->                     max_salary float CHECK (max_salary > 25000)
    ->             );
Query OK, 0 rows affected (0.034 sec)
```

QUERY 06 : Display the structure of jobs table.

```
MariaDB [21co56]> DESCRIBE jobs;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| job_id     | int(5)      | NO   | PRI | NULL    |       |
| job_title  | varchar(20) | NO   | UNI | NULL    |       |
| min_salary | float       | YES  |     | NULL    |       |
| max_salary | float       | YES  |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
4 rows in set (0.027 sec)
```

QUERY 07 : Write a SQL statement to rename the table country to country_new.

```
MariaDB [21co56]> RENAME TABLE country TO country_new;
Query OK, 0 rows affected (0.014 sec)
```

QUERY 08 : Display the structure of country_new table.

```
MariaDB [21co56]> DESCRIBE country_new;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(5)      | YES  |     | NULL    |       |
| country_name | varchar(20) | YES  |     | NULL    |       |
| region_id    | int(5)      | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.028 sec)
```

QUERY 09 : Write a SQL statement to add a column area to the table country_new.

```
MariaDB [21co56]> ALTER TABLE country_new ADD area varchar(20);
Query OK, 0 rows affected (0.032 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

QUERY 10 : Display the structure of country_new table.

```
MariaDB [21co56]> ALTER TABLE country_new ADD PRIMARY KEY (country_id);
Query OK, 0 rows affected (0.038 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

QUERY 11 : Perform the following on country_new table.

a. Add primary key constraint to country_id field.

```
MariaDB [21co56]> ALTER TABLE country_new ADD PRIMARY KEY (country_id);
Query OK, 0 rows affected (0.038 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

b. Display the structure of country_new table**.**

```
MariaDB [21co56]> DESCRIBE country_new;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(5)      | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| region_id    | int(5)      | YES  |     | NULL    |       |
| area         | varchar(20) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
4 rows in set (0.029 sec)
```

c. Modify the length of country_id field to adding more 5 digits.

```
MariaDB [21co56]> ALTER TABLE country_new MODIFY country_id int(10);
Query OK, 0 rows affected (0.025 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

d. Display the structure of country_new table.

```
MariaDB [21co56]> DESCRIBE country_new;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(10)     | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| region_id    | int(5)      | YES  |     | NULL    |       |
| area         | varchar(20) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
4 rows in set (0.024 sec)
```

e. Rename the column name region_id to regionid.

```
MariaDB [21co56]> ALTER TABLE country_new CHANGE region_id regionId int(5);
Query OK, 0 rows affected (0.028 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

f. Display the structure of country_new table.

```
MariaDB [21co56]> DESCRIBE country_new;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(10)     | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| regionId     | int(5)      | YES  |     | NULL    |       |
| area         | varchar(20) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
4 rows in set (0.026 sec)
```

g. Drop column area.

```
MariaDB [21co56]> ALTER TABLE country_new DROP COLUMN area;
Query OK, 0 rows affected (0.029 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

h. Display the structure of country_new table.

```
MariaDB [21co56]> DESCRIBE country_new;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(10)     | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| regionId     | int(5)      | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.029 sec)
```

QUERY 12 : Insert 5 records in country_new table.

```
MariaDB [21co56]> INSERT INTO country (country_id, country_name, region_id)
    ->             VALUES (1, "United States", 1);
Query OK, 1 row affected (0.009 sec)

MariaDB [21co56]> INSERT INTO country (country_id, country_name, region_id)
    ->             VALUES (2, "Canada", 1);
Query OK, 1 row affected (0.003 sec)

MariaDB [21co56]> INSERT INTO country (country_id, country_name, region_id)
    ->             VALUES (3, "United Kingdom", 2);
Query OK, 1 row affected (0.003 sec)

MariaDB [21co56]> INSERT INTO country (country_id, country_name, region_id)
    ->             VALUES (4, "Australia", 3);
Query OK, 1 row affected (0.007 sec)

MariaDB [21co56]> INSERT INTO country (country_id, country_name, region_id)
    ->             VALUES (5, "Germany", 2);
Query OK, 1 row affected (0.007 sec)
```

QUERY 13 : Display the details of country_new table.

```
MariaDB [21co56]> SELECT * FROM country_new;
+------------+----------------+----------+
| country_id | country_name   | regionId |
+------------+----------------+----------+
|          1 | United States  |        1 |
|          2 | Canada         |        1 |
|          3 | United Kingdom |        2 |
|          4 | Australia      |        3 |
|          5 | Germany        |        2 |
+------------+----------------+----------+
5 rows in set (0.001 sec)
```

QUERY 14 : Truncate country_new.

```
MariaDB [21co56]> TRUNCATE TABLE country_new;
Query OK, 0 rows affected (0.025 sec)
```

QUERY 15 : Display the details of country_new table.

```
MariaDB [21co56]> SELECT * FROM country_new;
Empty set (0.001 sec)
```

QUERY 16 : Display the structure of country_new table.

```
MariaDB [21co56]> DESCRIBE country_new;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| country_id   | int(10)     | NO   | PRI | NULL    |       |
| country_name | varchar(20) | NO   |     | NULL    |       |
| regionId     | int(5)      | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.026 sec)
```

QUERY 17 : Drop table country_new.

```
MariaDB [21co56]> DROP TABLE country_new;
Query OK, 0 rows affected (0.015 sec)
```

QUERY 18 : Display the structure of country_new table.

```
MariaDB [21co56]> DESCRIBE country_new;
ERROR 1146 (42S02): Table '21co56.country_new' doesn't exist
MariaDB [21co56]>
```