SQL MODULE LAB – 4

BY

S MOHAMMED SHARFUDDIN

AF0366347

QUESTIONS

Lab 1: Database Schema:

Consider a simple database with one tables: BankAccount BankAccount Table:

● Columns: account_id (Primary Key), account_holder_name, account_balance

Task 1: Insert Data

Write an SQL INSERT statement to insert data into the BankAccount table.

Task 2: Retrieving Data

Write an SQL SELECT statement to retrieve the account_holder_name and account_balance

of all account holders from the BankAccount table.

Task 3: Filtering Data

Write an SQL SELECT statement to retrieve the account_holder_name and account_balance

where the account_balance is more than 30,000.

Task 4: Updating Data

Write an SQL UPDATE statement to change the account_balance of the account holder whose

ID is 101.

Submission:

Create an SQL script file containing your solutions for all tasks (queries). Name the file

lab_assignment1.sql" Provide comments above each query to indicate the task number and

the query's purpose.

ChatGPT Exercise

Using ChatGPT generates SQL queries of the below problem .

Scenario 1: In an employee database, you want to retrieve information about employees who

belong to the "Sales" department and have a salary greater than 50,000.

Scenario 2: An employee has resigned, and you need to remove their record from the

"employees" table. Write an SQL DELETE query for this.

Scenario 3: You want to delete all orders placed before '2022-01-01' that are still in the 'Pending'

status. Write an SQL DELETE query for this.

Scenario 4: You want to remove all products from the "Discontinued" category as they are no

longer available. Write an SQL DELETE query for this.

Scenario 5: Employees in the "Sales" department are getting a bonus, and you want to add

1000 to the bonus column for all employees in that department. Write an SQL

UPDATE query for this

Task 1: Insert Data

Inserting data into the BankAccount table

```
mysql> INSERT INTO BankAccount (account_id, account_holder_name, account_balance)
    -> VALUES (101, 'Sharfuddin Shaik', 50000),
    ->        (102, 'Ameer Khan', 25000),
    ->        (103, 'Imran Ali', 40000);
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

Task 2: Retrieving Data Retrieving account_holder_name and account_balance from the BankAccount table

```
mysql> select * from BankAccount;
+------------+---------------------+-----------------+
| account_id | account_holder_name | account_balance |
+------------+---------------------+-----------------+
|        101 | Sharfuddin Shaik    |        50000.00 |
|        102 | Ameer Khan          |        25000.00 |
|        103 | Imran Ali           |        40000.00 |
+------------+---------------------+-----------------+
3 rows in set (0.00 sec)
```

Task 3: Filtering Data Retrieving account_holder_name and account_balance where account_balance is more than 30,000

```
mysql> SELECT account_holder_name, account_balance
    -> FROM BankAccount
    -> WHERE account_balance > 30000;
+---------------------+-----------------+
| account_holder_name | account_balance |
+---------------------+-----------------+
| Sharfuddin Shaik    |        50000.00 |
| Imran Ali           |        40000.00 |
+---------------------+-----------------+
2 rows in set (0.00 sec)
```

Task 4: Updating Data Updating the account_balance for the account holder with account_id 101

```
mysql> UPDATE BankAccount
    -> SET account_balance = 55000
    -> WHERE account_id = 101;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> Select * from Bankaccount;
+------------+---------------------+-----------------+
| account_id | account_holder_name | account_balance |
+------------+---------------------+-----------------+
|        101 | Sharfuddin Shaik    |        55000.00 |
|        102 | Ameer Khan          |        25000.00 |
|        103 | Imran Ali           |        40000.00 |
+------------+---------------------+-----------------+
3 rows in set (0.00 sec)
```

Using ChatGPT generates SQL queries of the below problem .

Scenario 1: In an employee database, you want to retrieve information about employees who

belong to the "Sales" department and have a salary greater than 50,000.

```
mysql> SELECT *
    -> FROM employees
    -> WHERE department = 'Sales' AND salary > 50000;
+-------------+------------------+------------+----------+---------+
| employee_id | employee_name    | department | salary   | bonus   |
+-------------+------------------+------------+----------+---------+
|           1 | Ahmed Khan       | Sales      | 60000.00 | 5000.00 |
|           3 | Imran Ali        | Sales      | 52000.00 | 4000.00 |
|           5 | Sharfuddin Shaik | Sales      | 70000.00 | 6000.00 |
+-------------+------------------+------------+----------+---------+
3 rows in set (0.00 sec)
```

Scenario 2: An employee has resigned, and you need to remove their record from the

"employees" table. Write an SQL DELETE query for this.

```
mysql> DELETE FROM employees
    -> WHERE employee_id = 2;
Query OK, 1 row affected (0.01 sec)

mysql> select * from employees;
+-------------+------------------+------------+----------+----------+
| employee_id | employee_name    | department | salary   | bonus    |
+-------------+------------------+------------+----------+----------+
|           1 | Ahmed Khan       | Sales      | 60000.00 | 5000.00  |
|           3 | Imran Ali        | Sales      | 52000.00 | 4000.00  |
|           4 | Aisha Siddiqui   | HR         | 48000.00 | 3500.00  |
|           5 | Sharfuddin Shaik | Sales      | 70000.00 | 6000.00  |
+-------------+------------------+------------+----------+----------+
4 rows in set (0.00 sec)
```

Scenario 3: You want to delete all orders placed before '2022-01-01' that are still in the 'Pending'

status. Write an SQL DELETE query for this.

```
mysql> DELETE FROM orders
    -> WHERE order_date < '2022-01-01' AND status = 'Pending';
Query OK, 1 row affected (0.01 sec)

mysql> select * from orders;
+----------+------------+-----------+
| order_id | order_date | status    |
+----------+------------+-----------+
|      102 | 2021-11-10 | Completed |
|      103 | 2022-02-20 | Pending   |
+----------+------------+-----------+
2 rows in set (0.00 sec)
```

Scenario 4: You want to remove all products from the "Discontinued" category as they are no

longer available. Write an SQL DELETE query for this.

```
mysql> DELETE FROM products
    -> WHERE category = 'Discontinued';
Query OK, 2 rows affected (0.01 sec)

mysql> select * from products;
+------------+--------------+----------+
| product_id | product_name | category |
+------------+--------------+----------+
|        202 | Product B    | Active   |
+------------+--------------+----------+
1 row in set (0.00 sec)
```

Scenario 5: Employees in the "Sales" department are getting a bonus, and you want to add

1000 to the bonus column for all employees in that department. Write an SQL

UPDATE query for this

```
mysql> UPDATE employees
    -> SET bonus = bonus + 1000
    -> WHERE department = 'Sales';
Query OK, 3 rows affected (0.01 sec)
Rows matched: 3  Changed: 3  Warnings: 0

mysql> select * from employees;
+-------------+-----------------+------------+----------+---------+
| employee_id | employee_name   | department | salary   | bonus   |
+-------------+-----------------+------------+----------+---------+
|           1 | Ahmed Khan      | Sales      | 60000.00 | 6000.00 |
|           3 | Imran Ali       | Sales      | 52000.00 | 5000.00 |
|           4 | Aisha Siddiqui  | HR         | 48000.00 | 3500.00 |
|           5 | Sharfuddin Shaik| Sales      | 70000.00 | 7000.00 |
+-------------+-----------------+------------+----------+---------+
4 rows in set (0.00 sec)
```

The End