SQL LAB – 4

DISTINCT, NOT DISTINCT, WHERE CLAUSE

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QUESTIONS

1. Consider a simple database with one table: BankAccount
   Columns: account_id (Primary Key), account_holder_name, account_balance
2. Write an SQL INSERT statement to insert data into the BankAccount table.
3. Write an SQL SELECT statement to retrieve the account_holder_name and account_balance of all account holders from the BankAccount table.
4. Write an SQL SELECT statement to retrieve the account_holder_name and account_balance where the account_balance is more than 30,000.
5. Write an SQL UPDATE statement to change the account_balance of the account holder whose ID is 101.

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

1. Consider a simple database with one table: BankAccount
   Columns: account_id (Primary Key), account_holder_name, account_balance

Code:

```
mysql> create table BankAccount
    -> (
    -> account_id int not null primary key,
    -> account_holder_name varchar(30) not null,
    -> account_balance int not null
    -> );
Query OK, 0 rows affected (0.89 sec)
```

Output:

```
mysql> desc bankaccount;
+---------------------+-------------+------+-----+---------+-------+
| Field               | Type        | Null | Key | Default | Extra |
+---------------------+-------------+------+-----+---------+-------+
| account_id          | int         | NO   | PRI | NULL    |       |
| account_holder_name | varchar(30) | NO   |     | NULL    |       |
| account_balance     | int         | NO   |     | NULL    |       |
+---------------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

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

Code:

```
mysql> insert into bankaccount
    -> values(101,'John Doe',50000),
    -> (102,'Jane Smith',15000),
    -> (103,'Alice Johnson',20000),
    -> (104,'Bob Brown',75000),
    -> (105,'Carol White',40000);
Query OK, 5 rows affected (0.14 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

Output:

```
mysql> select * from bankaccount;
+------------+---------------------+-----------------+
| account_id | account_holder_name | account_balance |
+------------+---------------------+-----------------+
|        101 | John Doe            |           50000 |
|        102 | Jane Smith          |           15000 |
|        103 | Alice Johnson       |           20000 |
|        104 | Bob Brown           |           75000 |
|        105 | Carol White         |           40000 |
+------------+---------------------+-----------------+
5 rows in set (0.00 sec)
```

3. Write an SQL SELECT statement to retrieve the account_holder_name and account_balance of all account holders from the BankAccount table.

```
mysql> select account_holder_name,account_balance from bankaccount;
+---------------------+-----------------+
| account_holder_name | account_balance |
+---------------------+-----------------+
| John Doe            |           50000 |
| Jane Smith          |           15000 |
| Alice Johnson       |           20000 |
| Bob Brown           |           75000 |
| Carol White         |           40000 |
+---------------------+-----------------+
5 rows in set (0.00 sec)
```

4. Write an SQL SELECT statement to retrieve the account_holder_name and account_balance where the 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 |
+---------------------+-----------------+
| John Doe            |           50000 |
| Bob Brown           |           75000 |
| Carol White         |           40000 |
+---------------------+-----------------+
3 rows in set (0.00 sec)
```

5. Write an SQL UPDATE statement to change the account_balance of the account holder whose ID is 101.

Code:

```
mysql> update bankaccount
    -> set account_balance=12000
    -> where account_id=101;
Query OK, 1 row affected (0.12 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

Output:

```
mysql> select * from bankaccount;
+------------+---------------------+-----------------+
| account_id | account_holder_name | account_balance |
+------------+---------------------+-----------------+
|        101 | John Doe            |           12000 |
|        102 | Jane Smith          |           15000 |
|        103 | Alice Johnson       |           20000 |
|        104 | Bob Brown           |           75000 |
|        105 | Carol White         |           40000 |
+------------+---------------------+-----------------+
5 rows in set (0.00 sec)
```

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.

```sql
SELECT employee_id, employee_name, department, salary
FROM employees
WHERE department = 'Sales'
  AND salary > 50000;
```

Scenario 2: An employee has resigned, and you need to remove their record from the "employees" table. Write an SQL DELETE query for this.

```sql
DELETE FROM employees
WHERE employee_id = [employee_id];
```

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.

```sql
DELETE FROM orders
WHERE order_date < '2022-01-01'
  AND status = 'Pending';
```

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.

```sql
DELETE FROM products
WHERE category = 'Discontinued';
```

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.

```sql
UPDATE employees
SET bonus = bonus + 1000
WHERE department = 'Sales';
```