SQL LAB – 3

UPDATE, SELECT

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QUESTIONS

Update the Student table with the following information:

- Change the email to 'jane_Smith@example.com' where FirstName is 'Jane' and LastName is 'Smith';
- Change the email to 'rogerwhite@example.com' where FirstName of the instructor is 'Roger' and LastName is 'White';
- Delete student/students records from the Student table where last name is Smith.
- List the student whose first name starts with J.

Consider a simple database with one tables: Employee Table:
Columns: emp_id (Primary Key), first_name, last_name, age, email

- Write an SQL INSERT statement to insert data into the Employee table.
- Write an SQL SELECT statement to retrieve the first_name and last_name of all employees from the Employee table.
- Write an SQL SELECT statement to retrieve the first_name, last_name, and age of employees who are older than 30 years.
- Write an SQL UPDATE statement to increase the age of employees by 1 year for all employees older than 25.

ChatGPT Exercise

Using ChatGPT generates SQL queries to update the Employee salary.

Scenario:

Due to a pricing adjustment, the company decided to increase the salary of all employees by 10%. Create an SQL update query to apply this change selectively to employees with a specific job title, say 'Manager'

1. Change the email to 'jane_Smith@example.com' where FirstName is 'Jane' and LastName is 'Smith'.

   Code:

```
mysql> update student set Email='jane_Smith@example.com' where firstname='Jane' and lastname='smith';
Query OK, 1 row affected (0.09 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

   Output:

```
mysql> select * from student;
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
| StudentID | FirstName | LastName | DateOfBirth | Gender | Email                   | Phone      |
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
|         1 | Alice     | Johnson  | 1995-03-18  | Female | alice.johnson@gmail.com | 1234567890 |
|         2 | Bob       | Smith    | 1998-07-22  | Male   | bob.smith@gmail.com     | 2345678901 |
|         3 | Carol     | Taylor   | 2000-11-11  | Female | carol.taylor@yahoo.com  | 3456789012 |
|         4 | David     | Brown    | 1997-02-05  | Male   | david.brown@gmail.com   | 4567890123 |
|         5 | Eva       | Davis    | 1999-05-09  | Female | eva.davis@yahoo.com     | 5678901234 |
|         6 | Jane      | Smith    | 1998-06-01  | Male   | jane_Smith@example.com  | 4567321786 |
|         7 | Roger     | White    | 2000-08-21  | Male   | roger.white@gmail.com   | 9876543210 |
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
7 rows in set (0.00 sec)
```

2. Change the email to 'rogerwhite@example.com' where FirstName of the instructor is 'Roger' and LastName is 'White';

Code:

```
mysql> update student set Email='rogerwhite@example.com' where firstname='roger' and lastname='white';
Query OK, 1 row affected (0.74 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

Output:

```
mysql> select * from student;
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
| StudentID | FirstName | LastName | DateOfBirth | Gender | Email                   | Phone      |
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
|         1 | Alice     | Johnson  | 1995-03-18  | Female | alice.johnson@gmail.com | 1234567890 |
|         2 | Bob       | Smith    | 1998-07-22  | Male   | bob.smith@gmail.com     | 2345678901 |
|         3 | Carol     | Taylor   | 2000-11-11  | Female | carol.taylor@yahoo.com  | 3456789012 |
|         4 | David     | Brown    | 1997-02-05  | Male   | david.brown@gmail.com   | 4567890123 |
|         5 | Eva       | Davis    | 1999-05-09  | Female | eva.davis@yahoo.com     | 5678901234 |
|         6 | Jane      | Smith    | 1998-06-01  | Male   | jane_Smith@example.com  | 4567321786 |
|         7 | Roger     | White    | 2000-08-21  | Male   | rogerwhite@example.com  | 9876543210 |
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
7 rows in set (0.00 sec)
```

3. Delete student/students records from the Student table where last name is Smith.

Code:

```
mysql> delete from student where lastname='smith';
Query OK, 2 rows affected (0.11 sec)
```

Output:

```
mysql> select * from student;
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
| StudentID | FirstName | LastName | DateOfBirth | Gender | Email                   | Phone      |
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
|         1 | Alice     | Johnson  | 1995-03-18  | Female | alice.johnson@gmail.com | 1234567890 |
|         3 | Carol     | Taylor   | 2000-11-11  | Female | carol.taylor@yahoo.com  | 3456789012 |
|         4 | David     | Brown    | 1997-02-05  | Male   | david.brown@gmail.com   | 4567890123 |
|         5 | Eva       | Davis    | 1999-05-09  | Female | eva.davis@yahoo.com     | 5678901234 |
|         7 | Roger     | White    | 2000-08-21  | Male   | rogerwhite@example.com  | 9876543210 |
+-----------+-----------+----------+-------------+--------+-------------------------+------------+
5 rows in set (0.00 sec)
```

4. List the student whose first name starts with J.

```
mysql> select concat(firstname,' ',lastname) as FullName from student
    -> where firstname='J%';
Empty set (0.07 sec)
```

Task 2 :

Consider a simple database with one tables: Employee Table:
Columns: emp_id (Primary Key), first_name, last_name, age, email

Code:

```
mysql> create table employee
    -> (
    -> emp_id int not null primary key,
    -> first_name varchar(20)  not null,
    -> last_name varchar(20) not null,
    -> age int not null,
    -> email varchar(255) not null
    -> );
Query OK, 0 rows affected (0.75 sec)
```

Output:

```
mysql> desc employee;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| emp_id     | int          | NO   | PRI | NULL    |       |
| first_name | varchar(20)  | NO   |     | NULL    |       |
| last_name  | varchar(20)  | NO   |     | NULL    |       |
| age        | int          | NO   |     | NULL    |       |
| email      | varchar(255) | NO   |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

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

   Code:

```
mysql> insert into employee
    -> values(1, 'John', 'Doe', 28, 'john.doe@example.com'),
    -> (2, 'Jane', 'Smith', 32, 'jane.smith@example.com'),
    -> (3, 'Emily', 'Jones', 24, 'emily.jones@example.com'),
    -> (4, 'Michael', 'Brown', 40, 'michael.brown@example.com'),
    -> (5, 'David', 'Davis', 36, 'david.davis@example.com');
Query OK, 5 rows affected (0.06 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

   Output:

```
mysql> select * from employee;
+--------+------------+-----------+-----+---------------------------+
| emp_id | first_name | last_name | age | email                     |
+--------+------------+-----------+-----+---------------------------+
|      1 | John       | Doe       |  28 | john.doe@example.com      |
|      2 | Jane       | Smith     |  32 | jane.smith@example.com    |
|      3 | Emily      | Jones     |  24 | emily.jones@example.com   |
|      4 | Michael    | Brown     |  40 | michael.brown@example.com |
|      5 | David      | Davis     |  36 | david.davis@example.com   |
+--------+------------+-----------+-----+---------------------------+
5 rows in set (0.00 sec)
```

2. Write an SQL SELECT statement to retrieve the first_name and last_name of all employees from the Employee table.

```
mysql> select first_name as 'First Name',
    -> last_name as 'Last Name' from employee;
+------------+-----------+
| First Name | Last Name |
+------------+-----------+
| John       | Doe       |
| Jane       | Smith     |
| Emily      | Jones     |
| Michael    | Brown     |
| David      | Davis     |
+------------+-----------+
5 rows in set (0.00 sec)
```

3. Write an SQL SELECT statement to retrieve the first_name, last_name, and age of employees who are older than 30 years.

```
mysql> select first_name as 'First Name',
    -> last_name as 'Last Name', age from employee where age>30;
+------------+-----------+-----+
| First Name | Last Name | age |
+------------+-----------+-----+
| Jane       | Smith     |  32 |
| Michael    | Brown     |  40 |
| David      | Davis     |  36 |
+------------+-----------+-----+
3 rows in set (0.00 sec)
```

4. Write an SQL UPDATE statement to increase the age of employees by 1 year for all employees older than 25.

   Code;

```
mysql> update employee set age=age+1 where age>25;
Query OK, 4 rows affected (0.10 sec)
Rows matched: 4  Changed: 4  Warnings: 0
```

   Output:

```
mysql> select * from employee;
+--------+------------+-----------+-----+---------------------------+
| emp_id | first_name | last_name | age | email                     |
+--------+------------+-----------+-----+---------------------------+
|      1 | John       | Doe       |  29 | john.doe@example.com      |
|      2 | Jane       | Smith     |  33 | jane.smith@example.com    |
|      3 | Emily      | Jones     |  24 | emily.jones@example.com   |
|      4 | Michael    | Brown     |  41 | michael.brown@example.com |
|      5 | David      | Davis     |  37 | david.davis@example.com   |
+--------+------------+-----------+-----+---------------------------+
5 rows in set (0.00 sec)
```

ChatGPT Exercise

Using ChatGPT generates SQL queries to update the Employee salary.

Scenario:

Due to a pricing adjustment, the company decided to increase the salary of all employees by 10%. Create an SQL update query to apply this change selectively to employees with a specific job title, say 'Manager'

Output:

```
UPDATE Employees
SET salary = salary * 1.10
WHERE job_title = 'Manager';
```