SQL NOTES

- AITHA. DINESH

1. Create a table of employee (empId, name, dept)

```
-- create
CREATE TABLE EMPLOYEE (
  empId INTEGER PRIMARY KEY,
  name TEXT NOT NULL,
  dept TEXT NOT NULL
);
-- insert
INSERT INTO EMPLOYEE VALUES (0001, 'Dinesh', 'CSE');
INSERT INTO EMPLOYEE VALUES (0002, 'Varun', 'ECE');
INSERT INTO EMPLOYEE VALUES (0003, 'Kiran', 'Mech');
INSERT INTO EMPLOYEE VALUES (0004, 'CVRaman', 'Civil');
INSERT INTO EMPLOYEE VALUES (0005, 'Manish', 'Biotech');
-- fetch
SELECT * FROM EMPLOYEE;
```

Output:

empId	name	dept
1	Dinesh	CSE
2	Varun	ECE
3	Kiran	Mech
4	CVRaman	Civil
5	Manish	Biotech

2. Adding the additional entities into employee table

```
Alter table EMPLOYEE
Add phone_number VARCHAR(10);
Select * from EMPLOYEE;
```

empId	name	dept	phone_number
1	Dinesh	CSE	NULL
2	Varun	ECE	NULL
3	Kiran	Mech	NULL
4	CVRaman	Civil	NULL
5	Manish	Biotech	NULL

3**. Rename the name field into email**

Alter table EMPLOYEE
Rename column name to email;
Select * from EMPLOYEE;

empId	email	dept
1	Dinesh	CSE
2	Varun	ECE
3	Kiran	Mech
4	CVRaman	Civil
5	Manish	Biotech

4. Change the positions of the column
Alter table EMPLOYEE
MODIFY dept varchar(50)
After empId;
Select * from EMPLOYEE;

empId	dept	name
1	CSE	Dinesh
2	ECE	Varun
3	Mech	Kiran
4	Civil	CVRaman
5	Biotech	Manish

5. Delete the respective columns
Alter table EMPLOYEE
Drop column empId;
Select * from EMPLOYEE;

name	dept
Dinesh	CSE
Varun	ECE
Kiran	Mech
CVRaman	Civil
Manish	Biotech

6. Inserting the new element into the table and providing the respective details of the employee data

```
Insert into EMPLOYEE(empId, name)
VALUES (0006, 'Murali');
Select * from EMPLOYEE;
```

empId	name	dept
1	Dinesh	CSE
2	Varun	ECE
3	Kiran	Mech
4	CVRaman	Civil
5	Manish	Biotech
6	Murali	NULL

7. Selecting only some columns and displaying them

```
Select empId, name
From EMPLOYEE;
```

empId	name
1	Dinesh
2	Varun
3	Kiran
4	CVRaman
5	Manish

8. Selecting the employee with respective id

```
Select * from EMPLOYEE
where empId=0001;
```

empId	name	dept
1	Dinesh	CSE

9. Selecting the employee with name

```
Select * from EMPLOYEE
where name='CVRaman';
```

```
+-------+---------+-------+
| empId | name    | dept  |
+-------+---------+-------+
|     4 | CVRaman | Civil |
+-------+---------+-------+
```

10. Selecting all the employees in a specific range from their empID's

```
Select * from EMPLOYEE
where empId>0002;
```

```
+-------+---------+---------+
| empId | name    | dept    |
+-------+---------+---------+
|     3 | Kiran   | Mech    |
|     4 | CVRaman | Civil   |
|     5 | Manish  | Biotech |
+-------+---------+---------+
```

Update employee details

11. Update the employee details and their specific values of data

```
Update EMPLOYEE
set dept="Instrumental",
name="Umesh"
Where empId=5;
Select * from EMPLOYEE;
```

```
+-------+---------+--------------+
| empId | name    | dept         |
+-------+---------+--------------+
|     1 | Dinesh  | CSE          |
|     2 | Varun   | ECE          |
|     3 | Kiran   | Mech         |
|     4 | CVRaman | Civil        |
|     5 | Umesh   | Instrumental |
+-------+---------+--------------+
```

12. fetch the present time date time and datetime

```
-- create
CREATE TABLE test (
  my_date date,
  my_time time,
  my_datetime datetime
);
-- fetch
insert into test
values(current_date(), current_time(), now());
Select * from test;
```

```
+------------+----------+---------------------+
| my_date    | my_time  | my_datetime         |
+------------+----------+---------------------+
| 2025-07-04 | 10:58:18 | 2025-07-04 10:58:18 |
+------------+----------+---------------------+
```

Unique constraints

13. Only allows unique elements not duplicate elements

```
-- create
CREATE TABLE product (
  product_id INT,
  product_name varchar(50) unique,
  price decimal(4,2)
);
-- fetch
insert into product
values  (1, "Chair", 12.99),
      (2, "Table", 10.99),
      (3, "Almara", 19.99),
      (4, "Almara", 11.99),
      (5, "Refrigirator", 82.9);
Select * from product;
```

Output:

ERROR 1062 (23000) at line 15: Duplicate entry 'Almara' for key 'product.product_name'

As the product name Almara as repeated 2 times an error occurred.

14. Another name is given in place of Almara

```
insert into product
values  (1, "Chair", 12.99),
      (2, "Table", 10.99),
      (3, "Almara", 19.99),
      (4, "Bat", 11.99),
      (5, "Refrigirator", 82.9);
Select * from product;
```

```
+------------+--------------+-------+
| product_id | product_name | price |
+------------+--------------+-------+
|          1 | Chair        | 12.99 |
|          2 | Table        | 10.99 |
|          3 | Almara       | 19.99 |
|          4 | Bat          | 11.99 |
|          5 | Refrigirator | 82.90 |
+------------+--------------+-------+
```

15. Not Null constraint

```
Select * from product;
insert into product
Values(6, "Washing Machine", NULL);
```

ERROR 1048 (23000) at line 20: Column 'price' cannot be null

Encounters an error

16. Deleting the products data at a specific range

```
DELETE FROM product
WHERE product_id > 3;
SELECT * FROM product;
```

product_id	product_name	price
1	Chair	12.99
2	Table	10.99
3	Almara	19.99

17. Set default method

Assigning 0.00 where the new values are entered and set as default in the sql command

```
ALTER TABLE product
MODIFY price DECIMAL(10,2) DEFAULT 0.0;
INSERT INTO product(product_id, product_name)
VALUES
  (6, 'TV'),
  (7, 'Air conditioner'),
  (8, 'Microwave oven'),
  (9, 'Wet grinder'),
  (10, 'Water heater');
Select * from product;
```

product_id	product_name	price
1	Chair	12.99
2	Table	10.99
3	Almara	19.99
4	Bat	11.99
5	Refrigirator	82.90
6	TV	0.00
7	Air conditioner	0.00
8	Microwave oven	0.00
9	Wet grinder	0.00
10	Water heater	0.00