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**Subject :** Task 2

**Task 2** : Data Insertion and Handling Nulls Objective:

Practice inserting, updating, and deleting data. Tools :DB Fiddle / SQLiteStudio

Deliverables: SQL file with INSERT, UPDATE, DELETE statements

**1.Use INSERT INTO for adding rows**

I give my practical file in github.com

**2.Handle missing values using NULL or default**

I give my practical file in github.com

**3.Use UPDATE and DELETE with WHERE conditions**

I give my practical file in github.com

**Interview Questions:**

**1. Difference between NULL and 0**

* NULL means no value / unknown.
* 0 means a value that is zero (known and valid).

**Example:** Age = NULL (we don’t know), Age = 0 (newborn baby).

**2. What is a DEFAULT constraint?**

* It gives a default value when no value is provided in INSERT.

**Example**: Charge DECIMAL(10,2) DEFAULT 100.00

**3. How does IS NULL work?**

* Used to check if a column has a NULL value.

**Example** : SELECT \* FROM Patient WHERE Phone IS NULL;

**4. How do you update multiple rows?**

* Use UPDATE with a condition matching multiple rows.

**Example** : UPDATE Doctor SET Email = 'test@hospital.com' WHERE HosID = 1;

**5. Can we insert partial values?**

* Yes, if columns are NULL allowed or have a DEFAULT.

**Example** : INSERT INTO Patient (PatID, Name) VALUES (301, 'Amit');

**6. What happens if a NOT NULL field is left empty?**

* Error will occur.

You must provide a value for NOT NULL fields.

**7. How do you rollback a deletion?**

* Use ROLLBACK if inside a transaction:

**Example** : START TRANSACTION;

DELETE FROM Patient WHERE PatID = 201;

ROLLBACK;

**8. Can we insert values into specific columns only?**

* Yes.

**Example** :INSERT INTO Doctor (DrID, Dr\_Name) VALUES (105, 'Dr. Nisha');

**9. How to insert values using SELECT?**

* Insert data from one table into another.

**Example** : INSERT INTO Doctor\_Backup (DrID, Dr\_Name)

SELECT DrID, Dr\_Name FROM Doctor;

**10. What is ON DELETE CASCADE?**

* If a parent row is deleted, related child rows are **automatically deleted**.

**Example** : sql

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FOREIGN KEY (HosID) REFERENCES Hospital(HosID) ON DELETE CASCADE

**DML, Null handling**

**DML – Data Manipulation Language**

DML is used to **manage data** inside tables.  
It includes the following SQL commands:

**Example: INSERT**

**UPDATE**

**DELETE**

**SELECT** this all DML statement**.**

**NULL Handling in SQL**

NULL = **Missing / Unknown value** (not zero or empty string)

**1. IS NULL and IS NOT NULL**

Check if a value is missing or not:

SELECT \* FROM Patient WHERE Phone IS NULL;

SELECT \* FROM Patient WHERE Phone IS NOT NULL;

**2. COALESCE()**

Returns the **first non-NULL value**.

SELECT Name, COALESCE(Phone, 'Not Provided') AS Contact FROM Patient;

**3. IFNULL() or NVL() (depending on DBMS)**

Replace NULL with another value:

-- MySQL

SELECT IFNULL(Email, 'No Email') FROM Doctor;

-- Oracle

SELECT NVL(Email, 'No Email') FROM Doctor;

**4. DEFAULT values**

Set a default for a column when no value is given:

CREATE TABLE Outdoor (

OPDID INT PRIMARY KEY,

Charge DECIMAL(10,2) DEFAULT 100.00

);