SQL Developer Internship - Task 2 Completion

Part 1: Data Manipulation Language (DML) Script

This script uses the EcommerceDB schema (from Task 1) and demonstrates INSERT, UPDATE, DELETE, NULL handling, and constraints.

1. Data Insertion (INSERT INTO)

```
USE EcommerceDB;

INSERT INTO Customer (FirstName, LastName, Email, Phone, Address) VALUES
('Alice', 'Smith', 'alice.smith@example.com', '555-0101', '123 Main St, Anytown'),
('Bob', 'Johnson', 'bob.j@example.com', '555-0102', '456 Oak Ave, Somewhere'),
('Charlie', 'Brown', 'charlie.b@example.com', NULL, '789 Pine Ln, Nowhere');

INSERT INTO Product (Name, Description, Price, StockQuantity) VALUES
('Laptop Pro', 'High-performance laptop', 1200.00, 10),
('Wireless Mouse', 'Ergonomic mouse', 25.50, DEFAULT),
('USB-C Cable', 'Fast charging cable', 8.99, 50);

INSERT INTO `Order` (CustomerID, TotalAmount, OrderStatus) VALUES
(1, 1225.50, 'Shipped');

INSERT INTO `Order` (CustomerID, TotalAmount) VALUES
(2, 17.98);

INSERT INTO OrderItem (OrderID, ProductID, Quantity, PriceAtPurchase) VALUES
(1, 1, 1, 1200.00),
(1, 2, 1, 25.50),
(2, 3, 2, 8.99);
```

2. Data Update (UPDATE)

```
UPDATE Customer SET Phone = '555-1234' WHERE CustomerID = 1;

UPDATE Product SET StockQuantity = StockQuantity + 5 WHERE StockQuantity <= 10;

UPDATE `Order` SET OrderStatus = 'Shipped' WHERE OrderID = 2;
```

3. Data Deletion (DELETE)

```
DELETE FROM Product WHERE ProductID = 3;
```

DELETE FROM `Order` WHERE OrderID = 2;

Part 2: Key Concepts Explanation

• NULL vs 0

NULL = missing/unknown value.

0 = actual numeric value.

• DEFAULT Constraint

Auto-fills a column when no value is provided.

• IS NULL

Used to check missing values.

• Updating Multiple Rows

Any row matching WHERE condition is updated.

• Partial Inserts

Allowed as long as missing columns allow NULL or have DEFAULT.

• NOT NULL Violations

Insert/Update fails if NULL is attempted.

• Rolling Back Deletions

Possible only inside an uncommitted transaction.

• Insert into Specific Columns

INSERT INTO table (col1, col2) VALUES (...).

• INSERT with SELECT

INSERT INTO A SELECT ... FROM B;

• ON DELETE CASCADE

Automatically deletes child rows when parent is deleted.