-- SAFETY RESET: Drop all dependent tables to avoid FK conflicts

DROP TABLE IF EXISTS OrderDetails;

DROP TABLE IF EXISTS Orders;

DROP TABLE IF EXISTS Customers;

DROP TABLE IF EXISTS StagingProducts;

DROP TABLE IF EXISTS Products;

-- --------------------------------------------

-- PART A: Recursive CTE to Generate Calendar

-- --------------------------------------------

WITH RECURSIVE Calendar(DateValue) AS (

SELECT DATE('2025-01-01')

UNION ALL

SELECT DATE(DateValue, '+1 day')

FROM Calendar

WHERE DateValue < '2025-01-05'

)

SELECT \* FROM Calendar;

-- --------------------------------------------

-- PART B: Simulate MERGE Safely

-- --------------------------------------------

-- Create Products table

CREATE TABLE Products (

ProductID INTEGER PRIMARY KEY,

Name TEXT,

Category TEXT,

Price REAL

);

-- Insert original products

INSERT INTO Products VALUES (1, 'Phone', 'Electronics', 700);

INSERT INTO Products VALUES (2, 'Chair', 'Furniture', 150);

-- Create StagingProducts table

CREATE TABLE StagingProducts (

ProductID INTEGER,

Name TEXT,

Category TEXT,

Price REAL

);

-- Insert updates and new entries into staging

INSERT INTO StagingProducts VALUES

(1, 'Phone', 'Electronics', 750), -- Update price

(3, 'Tablet', 'Electronics', 400); -- New insert

-- Perform safe MERGE simulation

-- Step 1: Delete existing ProductIDs that match

DELETE FROM Products

WHERE ProductID IN (SELECT ProductID FROM StagingProducts);

-- Step 2: Insert updated/new rows

INSERT INTO Products

SELECT \* FROM StagingProducts;

-- View updated Products table

SELECT \* FROM Products;



