SQLite JOIN Types - Visual Guide

# 🔁 Visual Diagrams for JOIN Types

## INNER JOIN

Returns only rows with matching values in both tables

A B  
 ┌────┐ ┌────┐  
 │ 1 │ │ 1 │  
 │ 2 │ │ 2 │  
 │ 3 │ │ 4 │  
 └────┘ └────┘  
 JOIN → Only 1, 2

## LEFT JOIN

All rows from left table + matched rows from right (NULL if no match)

A B  
 ┌────┐ ┌────┐  
 │ 1 │ │ 1 │  
 │ 2 │ │ 2 │  
 │ 3 │ │ 4 │  
 └────┘ └────┘  
 JOIN → 1, 2, 3 (NULL)

## RIGHT JOIN (not in SQLite)

Use LEFT JOIN by flipping tables

SQLite does not support RIGHT JOIN directly. Use LEFT JOIN with reversed order.

## FULL OUTER JOIN

All rows from both tables (matched and unmatched)

Not supported directly in SQLite. Can be simulated with UNION of LEFT and RIGHT JOIN.

🧪 Pre-Built SQLite Test Queries

# 🧾 SQL Examples:

## Create Customers Table

CREATE TABLE customers (id INTEGER PRIMARY KEY, name TEXT);

## Create Orders Table

CREATE TABLE orders (id INTEGER PRIMARY KEY, customer\_id INTEGER, product TEXT);

## Insert Sample Customers

INSERT INTO customers (id, name) VALUES (1, 'Alice'), (2, 'Bob'), (3, 'Carol');

## Insert Sample Orders

INSERT INTO orders (id, customer\_id, product) VALUES (1, 1, 'Oil'), (2, 2, 'Lube');

## Test INNER JOIN

SELECT c.name, o.product FROM customers c INNER JOIN orders o ON c.id = o.customer\_id;

## Test LEFT JOIN

SELECT c.name, o.product FROM customers c LEFT JOIN orders o ON c.id = o.customer\_id;

## Simulated FULL OUTER JOIN

SELECT c.name, o.product  
 FROM customers c LEFT JOIN orders o ON c.id = o.customer\_id  
 UNION  
 SELECT c.name, o.product  
 FROM customers c RIGHT JOIN orders o ON c.id = o.customer\_id;