

JOINS – Proper Definition, All Types, & Key Concepts (Overview Only)

◆ What are JOINS?

JOINS in SQL are used to:

Combine rows from **two or more tables** based on a **related column** between them.

✦ Most commonly, this relationship is a **foreign key** in one table referencing a **primary key** in another.

🧠 Why Use JOINS?

- To fetch related data spread across multiple tables
 - Normalize database but still retrieve full info
 - Perform reporting, dashboards, analytics
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◆ General JOIN Syntax:

sql

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SELECT columns

FROM Table1

JOIN Table2

ON Table1.common_column = Table2.common_column;

📘 Types of JOINS in SQL:

# JOIN Type	Description
1 INNER JOIN	Only matching rows from both tables
2 LEFT JOIN	All rows from left, matched from right
3 RIGHT JOIN	All rows from right, matched from left
4 FULL OUTER JOIN	All rows from both, with NULLs if no match

# JOIN Type	Description
5 CROSS JOIN	Cartesian product (every combination)
6 SELF JOIN	Table joined with itself

Important JOIN-Related Concepts (just names for now):

Concept

- 7 ON vs USING clause
- 8 NATURAL JOIN
- 9 NULL behavior in JOINS
- 10 Multi-table JOINS
- 11 Join order (left to right)
- 12 Aliasing in joins
- 13 JOIN vs Subquery
- 14 MCQ traps (NULLs, missing ON, etc.)