General Assembly

STUDY GUIDE

JOINING MULTIPLE TABLES IN SQL

##Multiple JOIN Basics

- When JOINing three or more tables together, you can use LEFT JOIN and/or INNER JOIN.
- Construct your JOIN query so it uses all of one type — all LEFT or all INNER.
- If you must use both LEFT and INNER together, you'll have to carefully consider the SQL order of operations and include parentheses where necessary.

##LEFT JOINs

- Useful if you have one starting table that contains the IDs to which you want to JOIN all the other tables.
- Syntax to LEFT JOIN more than two tables:

SELECT column_names

FROM base_table

LEFT JOIN metric_ table1 ON base_ table.ID = metric_ table1.ID

LEFT JOIN metric_ table2 ON base_ table.ID = metric_ table2.ID

LEFT JOIN metric_ table3 ON base_ table.ID = metric_ table3.ID;

##INNER JOINs

- Useful when you need to pull all of the metrics that exist for each ID.
- Syntax for INNER JOIN:

SELECT column_names

FROM base_table

INNER JOIN metric_ table1 ON base_ table.ID = metric_ table1.ID

INNER JOIN metric_ table2 ON base_ table.ID = metric_ table2.ID

INNER JOIN metric_ table3 ON base_ table.ID = metric_ table3.ID;

##Multiple JOIN Best Practices

- Plan out your multiple table JOINs on paper first, carefully checking for any accidental duplication or dropped rows. Once you're sure it's right, then write the query in code.
- Follow these steps to ensure you get the results you need:
    - Step 1: Determine the desired end result.
    - Step 2: Preview the data schema of the database.
    - Step 3: Connect the dots between what your data schema has and what you want as a result.
    - Step 4: Decide which JOIN to use.
        - If it's okay to have incomplete information in your final result, use LEFT JOIN.
        - If you don't want any incomplete information in the final result, use INNER JOIN.
    - Step 5: Code.