Cheat Sheet for Lesson 2B: JOINS and UNIONS

This cheat sheet is designed to provide a quick reference to the key concepts of JOINS and UNIONS in SQL, helping you to efficiently combine and manipulate data from multiple tables in a relational database.

JOINS Overview
JOINS are used to combine rows from two or more tables based on a related column between them.

INNER JOIN
- Syntax: `SELECT  FROM table1 INNER JOIN table2 ON table1.column = table2.column;`
- Returns rows when there is at least one match in both tables.

LEFT JOIN (LEFT OUTER JOIN)
- Syntax: `SELECT  FROM table1 LEFT JOIN table2 ON table1.column = table2.column;`
- Returns all rows from the left table, and matched rows from the right table. Unmatched rows will show NULL on the right side.

RIGHT JOIN (RIGHT OUTER JOIN)
- Syntax: `SELECT  FROM table1 RIGHT JOIN table2 ON table1.column = table2.column;`
- Returns all rows from the right table, and matched rows from the left table. Unmatched rows will show NULL on the left side.

FULL JOIN (FULL OUTER JOIN)
- Syntax: `SELECT  FROM table1 FULL JOIN table2 ON table1.column = table2.column;`
- Returns rows when there is a match in one of the tables. Unmatched rows from both tables will show NULL for the other table's columns.

UNIONS Overview
- UNIONS are used to combine the result sets of two or more `SELECT` statements.

UNION
- Syntax: `SELECT column FROM table1 UNION SELECT column FROM table2;`
- Combines results and removes duplicate rows.

UNION ALL
- Syntax: `SELECT column FROM table1 UNION ALL SELECT column FROM table2;`
- Combines results and includes all duplicate rows.

Best Practices and Tips
- Use Aliases: Aliases can simplify your SQL queries and make them more readable, especially when dealing with multiple JOINS.
- Be Specific with SELECT: Instead of using `SELECT `, specify the column names to improve query performance and clarity.
- Optimize with WHERE: Apply `WHERE` clauses before JOIN operations to reduce the size of the result set and increase efficiency.
- Choose the Right JOIN: Carefully consider which type of JOIN best suits your data retrieval needs to ensure accurate and efficient results.

Keep this cheat sheet handy as you work through SQL queries involving JOINS and UNIONS, and you'll find yourself navigating complex data relationships with greater ease and confidence.