Welcome to

INTERNSHIP STUDIO

Module 03 | Lesson 06

Analyzing Data with SQL

Subqueries in SQL

Introduction to Subqueries

- Subqueries are powerful tools in SQL that allow you to nest one query inside another query.

- A subquery is a query that is embedded within the main query and is used to retrieve data based on certain conditions.

Benefits of Subqueries

- Subqueries provide a flexible way to retrieve specific data by incorporating conditional logic.
- They enable complex filtering, aggregation, and comparison of data from multiple tables.
- Subqueries can be used in various parts of a SQL statement, such as the SELECT, FROM, WHERE, and HAVING clauses.

Types of Subqueries

- **Scalar Subqueries**: Retrieve a single value as the result of the subquery.
- **Single-Row Subqueries**: Retrieve a single row as the result of the subquery.
- **Multi-Row Subqueries**: Retrieve multiple rows as the result of the subquery.
- **Correlated Subqueries**: Reference columns from the outer query within the subquery.

Using Subqueries

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- Subqueries can be used in different parts of a SQL statement to perform various tasks.

- They can be used to filter rows, perform calculations, create derived tables, and more.

Subquery Examples

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- Example 1: Retrieve all students with a GPA higher than the average GPA.
- Example 2: Retrieve the major(s) with the highest number of students.
- Example 3: Retrieve all students who have taken courses in a specific department.

Syntax of Subqueries

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- Subqueries can be written using parentheses and placed within the main query.
- The result of the subquery is used in the main query to retrieve the desired data.

SUMMARY

You got this

- Subqueries provide a flexible and powerful way to retrieve data based on specific conditions in SQL.
- They enable complex filtering, aggregation, and comparison of data from multiple tables.
- Understanding how to use subqueries allows for more advanced and targeted data retrieval in SQL.

Next session

Demonstration on Workbench