

WEEK 6



THE DATA ARCHIVES

# Understanding **SQL** **commands** and **components**

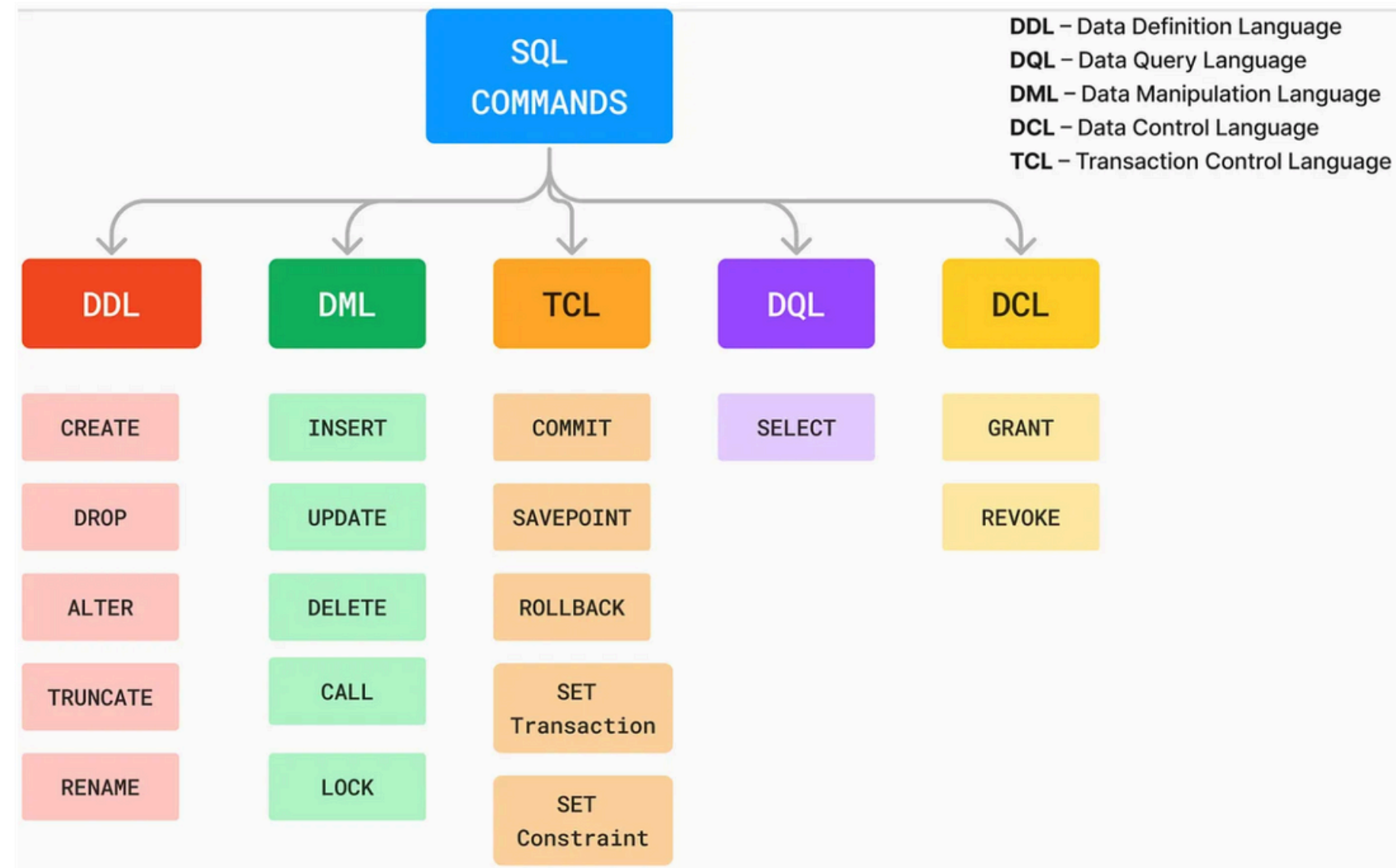
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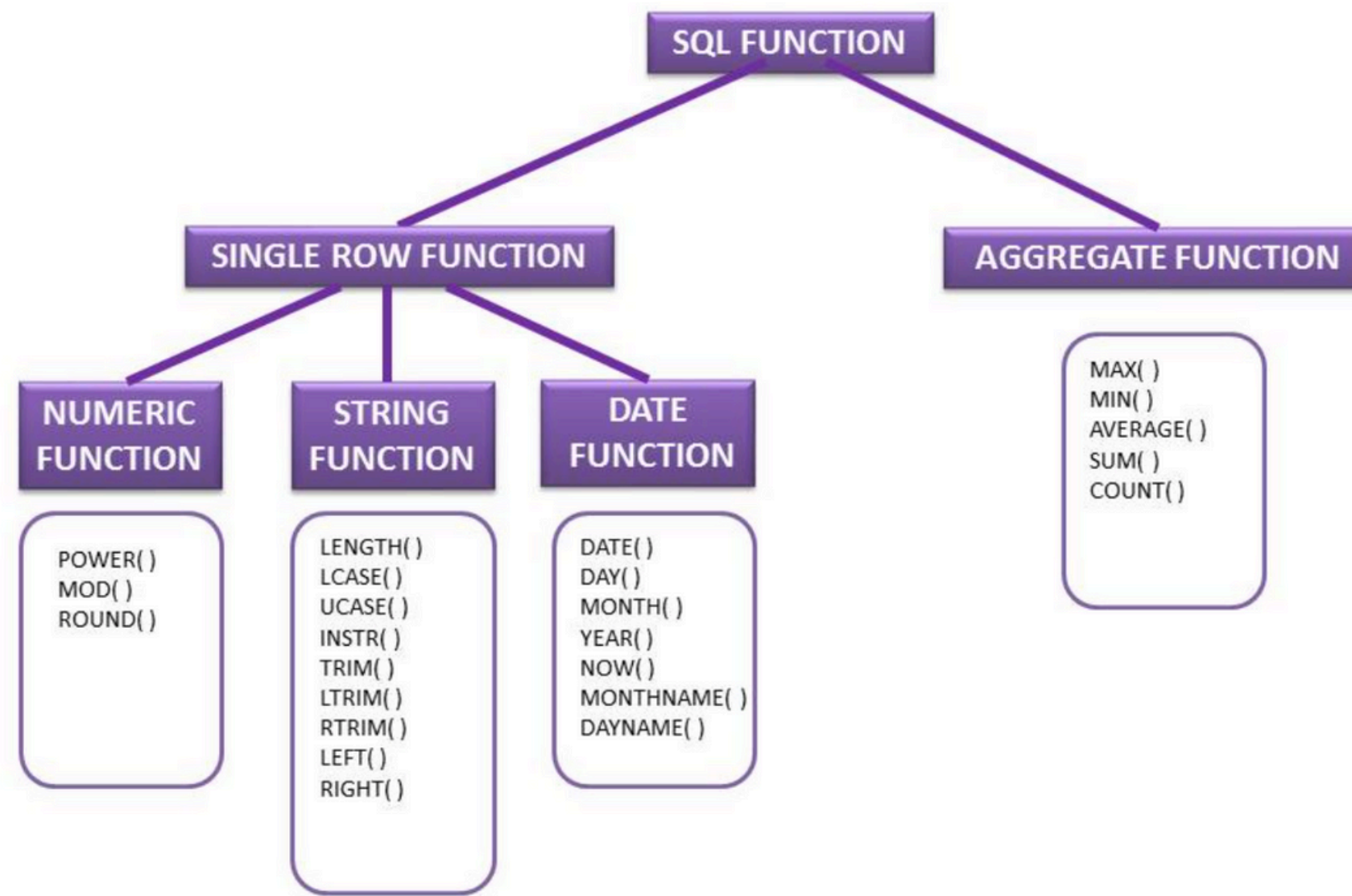
# SQL Commands

An SQL command, is essentially the action you're trying to take, and is typically found at the start of a statement.



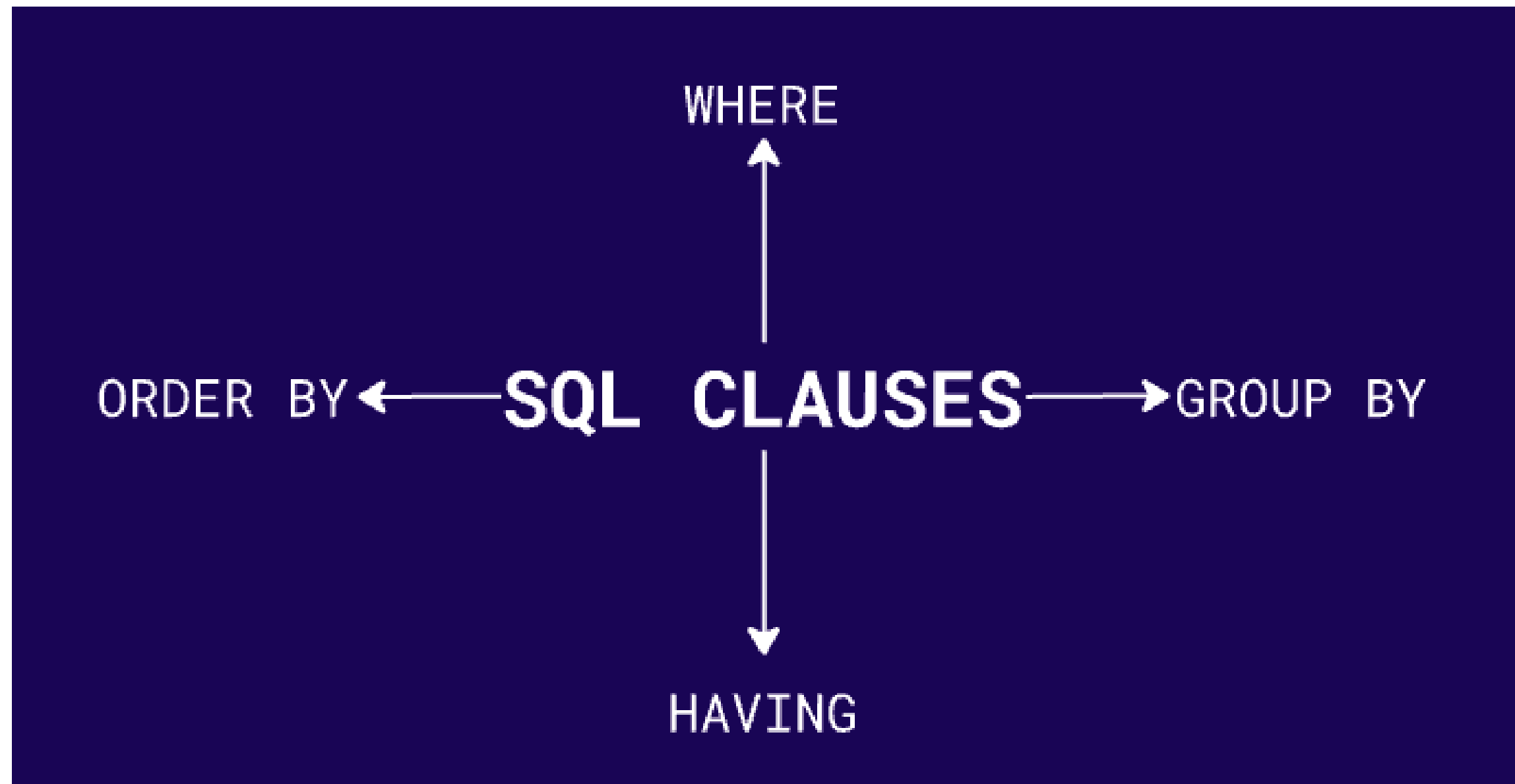
# SQL Functions

SQL functions are built-in or user-defined routines that perform calculations/ aggregations, transformations or extractions.



# SQL Clauses

In SQL, clauses are components of SQL statements that define the conditions, or filters to be applied to the data. They control the behaviour of SQL statements, and specify what data to retrieve, modify, or operate on.



# SQL Operators

SQL operators are symbols or keywords used to perform data operations such as comparisons, as well as arithmetic and logical operations.

## SQL Comparison Operators

Operator	Description
=	Equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to
<>	Not equal to

## SQL Arithmetic Operators

Operator	Description
+	Add
-	Subtract
*	Multiply
/	Divide
%	Modulo

## SQL Logical Operators

Operator	Description
ALL	TRUE if all of the subquery values meet the condition
AND	TRUE if all the conditions separated by AND is TRUE
ANY	TRUE if any of the subquery values meet the condition
BETWEEN	TRUE if the operand is within the range of comparisons
EXISTS	TRUE if the subquery returns one or more records
IN	TRUE if the operand is equal to one of a list of expressions
LIKE	TRUE if the operand matches a pattern
NOT	Displays a record if the condition(s) is NOT TRUE
OR	TRUE if any of the conditions separated by OR is TRUE
SOME	TRUE if any of the subquery values meet the condition

# SQL Statement & Query

An SQL statement is a complete instruction in SQL that performs an action. A query is a specific type of SQL statement that uses a Data Query Language (DQL) command, most commonly SELECT, and is used to retrieve data—usually producing an output.

**Note:** All queries are statements but not all statements are queries.

```
UPDATE table_a  
SET column_1 = 'value_b'  
WHERE column_1 = 'value_a';
```

```
SELECT *  
FROM table_a
```

# Next Steps

- Summary:
  - SQL is the backbone of database management.
  - Mastering commands, functions, clauses, and operators empowers efficient database operations.
  - A solid understanding of SQL structures enhances performance in real-world database tasks.
- Homework:
  - Work on “Week 6 Quiz”