Advanced SQL Queries

Learning Outcomes

By the end of this unit, you will be able to:

01 Create aggregate queries.

02 Create subqueries for further data exploration.

03 Create views from tables.

Instructor Demonstration
Import Data

Aggregate Functions

Aggregate Functions

Aggregate functions allow you to perform a calculation on a set of values to return a single value.

The most commonly used aggregate functions are:

AVG: calculates the average of a set values

COUNT: counts the rows in a specific table or view

MIN: returns the minimum value in a set of values

MAX: returns the maximum value in a set of values

SUM: calculates the sum of a set of values

Aggregate Functions

Aggregate functions are often used with:
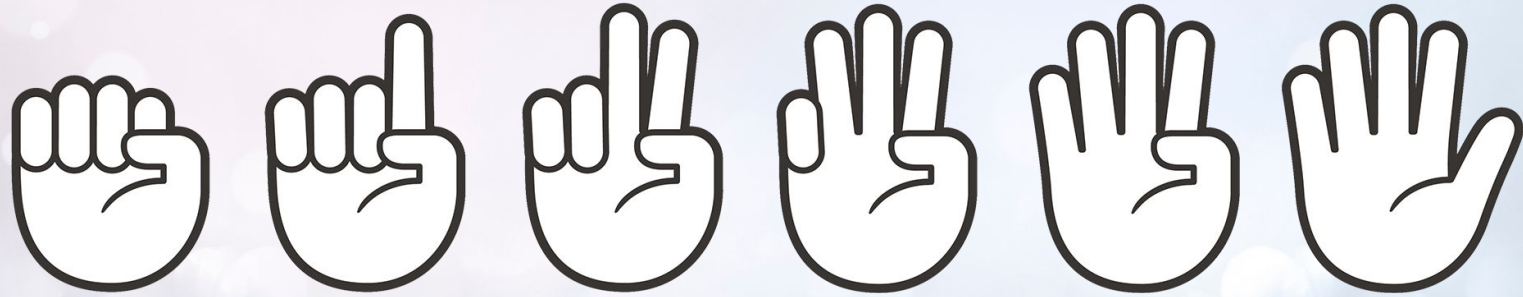
The **GROUP BY** clause

The **HAVING** clause

The **SELECT** statement

<Time to Code>

Take a Break!

FIST TO FIVE:

How well did you follow Aggregate Functions ?

Subqueries

Subqueries

A subquery is nested inside a larger query. Subqueries occur in:
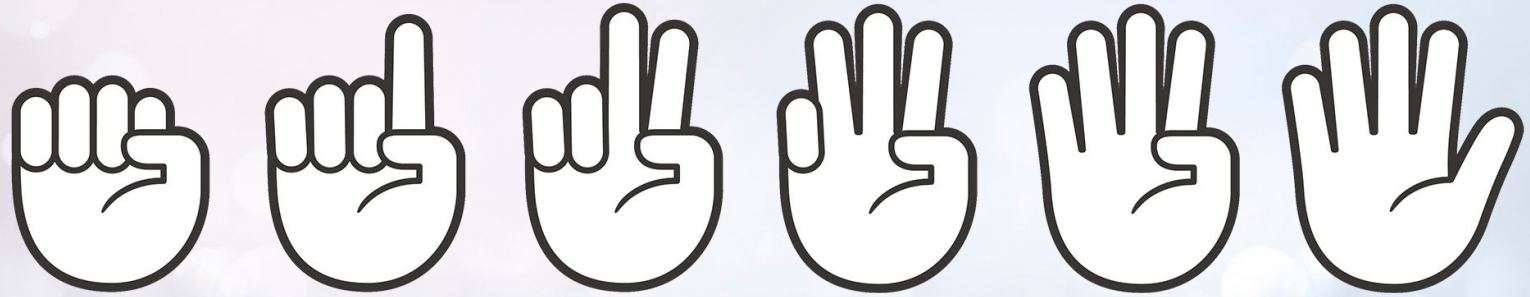
The **SELECT** statement

The **FROM** clause

The **WHERE** clause

<Time to Code>

FIST TO FIVE:

How well did you follow Subqueries ?

SQL Views

SQL Views

A **view** in SQL is a virtual table. It is not part of the schema, but it has rows and columns.
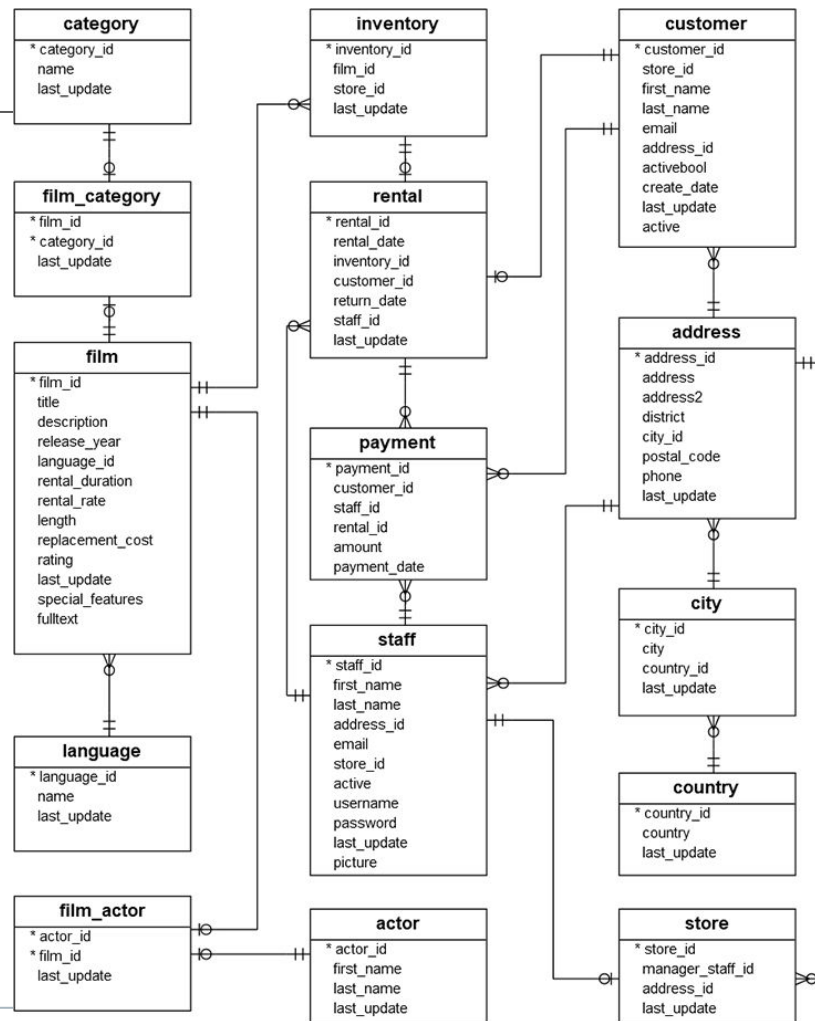
Views are created by using the `CREATE VIEW` statement.

Views are created from a single table, multiple tables, or another view.

<Time to Code>

Entity Relationship Diagram for the Movie Rental DB (Sakila DB)

Source - http://www.postgresqltutorial.com/postgresql-sample-database/

ER Diagram Notation - Cardinality and Ordinality

Source - https://www.lucidchart.com/pages/ER-diagram-symbols-and-meaning

One

Many

One (and only one)

Zero or one
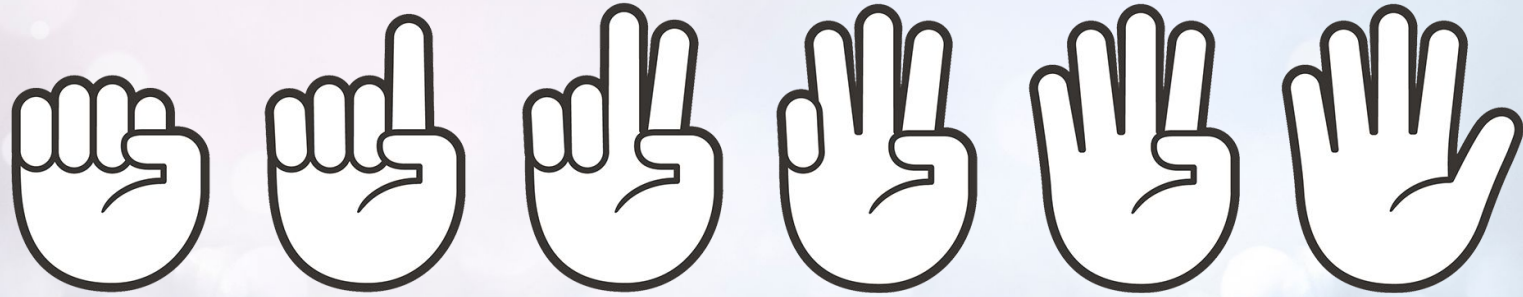
One or many

Zero or many

FIST TO FIVE:

How well did you follow Views ?