

# Sub queries

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# Sakila DB description

Table Name	Description
actor	Stores details of film actors.
film	Stores movie details (title, description, release year, etc.).
film_actor	Many-to-many relationship between films and actors.
category	Movie genres (e.g., Action, Comedy).
film_category	Many-to-many relationship between films and categories.
language	Languages available for films.
inventory	Stores copies of films available for rent.
rental	Tracks DVD rentals (when, who rented, due date, return date).

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customer	Stores customer details (name, email, address, active status).
payment	Records payment transactions for rentals.
staff	Details of employees managing rentals.
store	Information about stores in different locations.
address, city, country	Stores geographical information related to stores and customers.

# What are subqueries?



A **subquery** is a query nested inside another query.



Used to retrieve data that will be used in the main query.



Typically used in **SELECT, INSERT, UPDATE, DELETE** statements.

# Syntax of a Subquery - The subquery is enclosed in parentheses

```
SELECT column1, column2, ...  
FROM table_name  
WHERE column_name OPERATOR (  
    SELECT column_name FROM another_table WHERE  
    condition  
);
```

# Example 1

```
SELECT title, rental_rate
FROM film
WHERE rental_rate = (
    SELECT MAX(rental_rate) FROM film
);
```

## Example 2: Films rented more than 20 times

```
SELECT title
FROM film
WHERE film_id IN (
    SELECT inventory.film_id
    FROM rental
    JOIN inventory ON rental.inventory_id =
        inventory.inventory_id
    GROUP BY inventory.film_id
    HAVING COUNT(rental.rental_id) > 20
);
```

# Example 3: Customers who rented a specific film

```
SELECT customer_id, first_name, last_name
FROM customer
WHERE customer_id IN (
    SELECT customer_id FROM rental WHERE inventory_id IN (
        SELECT inventory_id FROM inventory WHERE film_id = (
            SELECT film_id FROM film WHERE title = 'ACADEMY DINOSAUR'
        )
    )
);
```