**Subquery**

-- Subqueries (also known as inner queries or nested queries) are a tool for performing operations in multiple steps.

**Question:** Find the employees who’s salary is more than the average salary earned by all the employees.

1. Find the average salary.

> SELECT AVG(salary) as avg\_salary FROM dev\_schema.employee; -- 11666.66

2. Filter the employees based on the above result.

> SELECT \* FROM dev\_schema.employee WHERE salary > 11666.66;

3. Using subquery

> SELECT \* FROM dev\_schema.employee WHERE salary > (SELECT AVG(salary) as avg\_salary FROM dev\_schema.employee);

-- There are 3 types of subqueries:

1. Scalar Subquery:

-- It is a subquery which will always return just a one row and one column.

-- For example, above subquery which is returning only one record as output. And based on this output, the outer query is executing.

2. Multiple Row Subquery:

-- There are two types of multiple row subquery:

1. Subquery which returns multiple columns, multiple rows.

2. Subquery which returns single column, multiple rows.

**Question:** Find the employees who earn the highest salary in each department.

SELECT

emp.employee\_id, emp.first\_name, emp.last\_name, emp.salary, dept.department\_name

FROM

dev\_schema.employee as emp INNER JOIN dev\_schema.department as dept

ON

emp.fk\_department\_id = dept. department\_id

WHERE

(dept.department\_name, emp.salary)

IN

(SELECT

dept.department\_name, MAX(emp.salary)

FROM

schema.employee as emp INNER JOIN dev\_schema.department as dept

ON

emp.fk\_department\_id = dept.department\_id

GROUP BY dept.department\_name);