

# 1) Correlated subquery:

A correlated subquery in MySQL is a subquery that depends on the outer query. It uses the data from the outer query or contains a reference to a parent query that also appears in the outer query. MySQL evaluates it once from each row in the outer query.

A correlated subquery is one way of reading every row in a table and comparing values in each row against related data. It is used whenever a subquery must return a different result or set of results for each candidate row considered by the main query. In other words, you can use a correlated subquery to answer a multipart question whose answer depends on the value in each row processed by the parent statement.

If the subquery depends on the outer query for its values, then that sub query is called as correlated subquery.

Example:-

Non correlated subquery

- 1) select emp\_id, emp\_name, job\_name, salary from employees  
where emp\_id NOT IN (select id from orders);  
*subquery is not dependent on outer query in this.*
- 2) SELECT \* FROM employees WHERE salary > (SELECT  
avg(salary) FROM employees);

Correlated subquery

- 3) select \* from employees where exists (select \* from orders where  
Employees.emp\_id=orders.id);
- 4) SELECT \* FROM employees WHERE emp\_id= ANY  
(SELECT id FROM orders WHERE id < 5);
- 5) SELECT \* FROM employees E WHERE 1 <= (SELECT  
COUNT(\*) FROM orders WHERE id = E.emp\_id);
- 6) Modify table
  - a) alter table employees Add column dpt\_name varchar(255);
  - b) UPDATE employees SET dpt\_name = 'developer' where  
salary>240;

- c) UPDATE employees SET dpt\_name = 'QA' where salary<240;
- d) SELECT emp\_name, salary, (SELECT avg(salary)  
FROM employees e2 WHERE e2.dpt\_name = e1.dpt\_name)  
AS avg\_dept\_salary FROM employees e1;

Ref\_links:-

- 1) <https://www.sqltutorial.org/sql-correlated-subquery/>
- 2) <https://learnsql.com/blog/correlated-sql-subqueries-newbies/>
- 3) <https://www.sqlservertutorial.net/sql-server-basics/sql-server-correlated-subquery/>