

# SUBQUERY

**Subquery** is a query within a query. These subqueries can reside in the WHERE clause, the FROM clause, or the SELECT clause.

## Syntax

SYNTAX where subquery is in WHERE

```
SELECT "column_name1"  
FROM "table_name1"  
WHERE "column_name2" [Comparison Operator]  
      (SELECT "column_name3"  
       FROM "table_name2"  
       WHERE "condition");
```

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## Example

Subquery in WHERE

```
SELECT * FROM sales
WHERE customer_ID IN
    (SELECT DISTINCT customer_id
     FROM customer WHERE age >60);
```

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## Example

Subquery in FROM

```
SELECT
    a.product_id ,
    a.product_name ,
    a.category,
    b.quantity
FROM product AS a
LEFT JOIN (SELECT product_id,
                  SUM(quantity) AS quantity
            FROM sales GROUP BY product_id) AS b
ON a.product_id = b.product_id
ORDER BY b.quantity desc;
```

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## Example

```
SELECT  customer_id,  
        order_line,  
        (SELECT customer_name  
         FROM customer  
         WHERE sales.customer_id = customer.customer_id)  
FROM sales  
ORDER BY customer_id;
```

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## RULES

There are a few rules that subqueries must follow –

- Subqueries must be enclosed within parentheses.
- A subquery can have only one column in the SELECT clause, unless multiple columns are in the main query for the subquery to compare its selected columns.
- An ORDER BY command cannot be used in a subquery, although the main query can use an ORDER BY. The GROUP BY command can be used to perform the same function as the ORDER BY in a subquery.
- Subqueries that return more than one row can only be used with multiple value operators such as the IN operator.
- The SELECT list cannot include any references to values that evaluate to a BLOB, ARRAY, CLOB, or NCLOB.
- A subquery cannot be immediately enclosed in a set function.
- The BETWEEN operator cannot be used with a subquery. However, the BETWEEN operator can be used within the subquery.