

Scalar Subqueries in SQL: Takeaways ↗

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Syntax

- Writing a subquery by enclosing a query in parentheses nested inside another query: SELECT case

```
SELECT AGGREGATE_FUNCTION(column_1),
       (SELECT value
        FROM table_2
        WHERE condition) AS column_2,
       column_3, ...
    FROM table_1;
```

- Writing a subquery by enclosing a query in parentheses nested inside another query: WHERE case

```
SELECT column_1, column_2, column_3, ...
      FROM table_1
     WHERE column operator (SELECT value
                                FROM table_2
                                WHERE condition);
```

- Writing a subquery by enclosing a query in parentheses nested inside another query: HAVING case

```
SELECT column_1, SUM(column_2), column_3, ...
      FROM table_1
     GROUP BY column_1, column_3
    HAVING SUM(column_2) operator (SELECT value
                                    FROM table_2
                                    WHERE condition);
```

- Using a subquery in an arithmetic operation

```
SELECT billing_country,
       ROUND(COUNT(*) * 100.0 /
             (SELECT COUNT(*)
              FROM invoice), 2) AS sales_prop
    FROM invoice
   GROUP BY billing_country
  ORDER BY sales_prop DESC
 LIMIT 5;
```

- Filtering rows with a subquery

```
SELECT COUNT(*) AS rows_tally
      FROM invoice
     WHERE total > (SELECT AVG(total)
                    FROM invoice);
```

- Filtering aggregate results with a subquery

```
SELECT customer_id, AVG(total) AS customer_avg
  FROM invoice
 GROUP BY customer_id
 HAVING AVG(total) > (SELECT AVG(total) AS customer5_avg
                           FROM invoice
                          WHERE customer_id = 5);
```

Concepts

- A subquery is a query nested inside another query and is always enclosed in parentheses `()`.
- An inner query is a subquery.
- An outer query is a query that contains a subquery.

Resources

- [Subquery syntax](#)

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