

Aggregates – calculations performed on multiple rows of a table

SELECT COUNT(<column>)

FROM fake_apps;

Counts number of non-empty (NOT NULL) values in <column>. Can use * to select all columns.

SELECT COUNT(*)

FROM fake_apps

WHERE price = 0;

Counts number of non-empty rows in table where (price = 0).

SELECT SUM(downloads)

FROM fake_apps;

Adds all values in downloads column.

SELECT MAX(downloads)

FROM fake_apps;

Returns the maximum value in downloads column from fake_apps.

SELECT MIN(downloads)

FROM fake_apps;

Returns the minimum value in downloads column.

SELECT AVG(downloads)

FROM fake_apps;

Returns the average value from downloads column.

SELECT ROUND(price, 2)

FROM fake_apps;

Returns price column with each value rounded to 2 decimal places.

SELECT ROUND(AVG(price), 2)

FROM fake_apps;

Returns the rounded average of price values to 2 decimal places.

SELECT prices, COUNT(*) FROM fake_apps

GROUP BY price;

Queries prices and COUNT(*), but groups the COUNT(*) results into frequencies by each unique price.

SELECT prices, COUNT(downloads)

FROM fake_apps

WHERE downloads > 20000

GROUP BY price;

Queries prices and number of non-empty download values if (download > 20000) and grouped by price.

SELECT year, genre, COUNT(name)

FROM movies

GROUP 1, 2

HAVING COUNT(name) > 10;

Queries year, genre, COUNT(name) grouped by (year + genre), but the (year + genre) must have COUNT(name) value of > 10. HAVING is a conditional statement, like WHERE, but for GROUP BY clauses. They go before ORDER BY and LIMIT.

- `COUNT()` : count the number of rows
- `SUM()` : the sum of the values in a column
- `MAX()` / `MIN()` : the largest/smallest value
- `AVG()` : the average of the values in a column
- `ROUND()` : round the values in the column

Aggregate functions combine multiple rows together to form a single value of more meaningful information.

- `GROUP BY` is a clause used with aggregate functions to combine data from one or more columns.
- `HAVING` limit the results of a query based on an aggregate property.