SQL: Aggregation
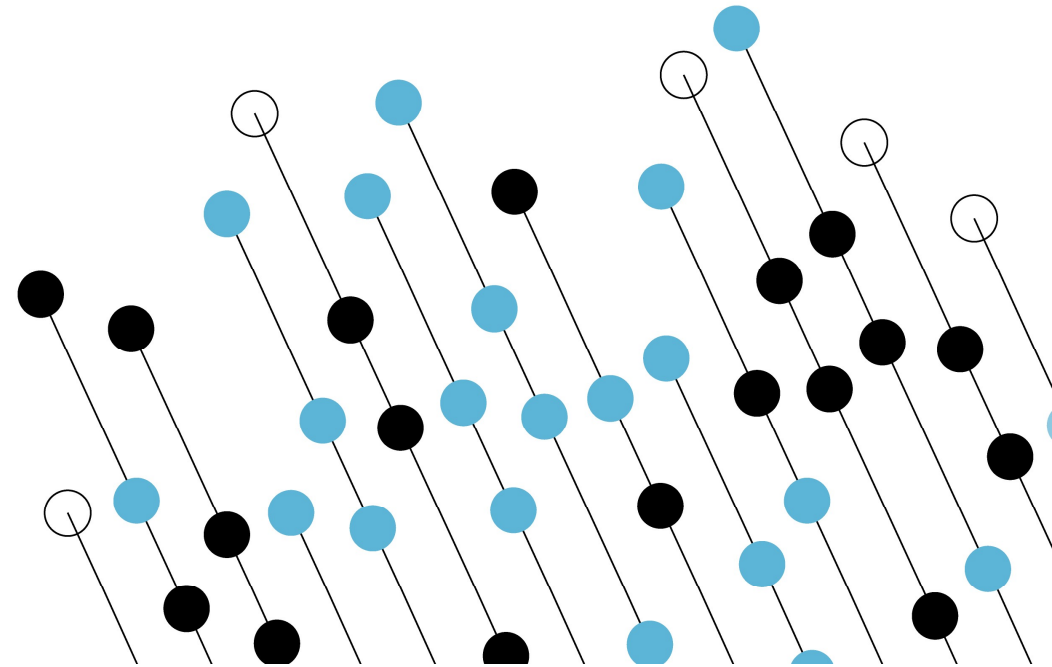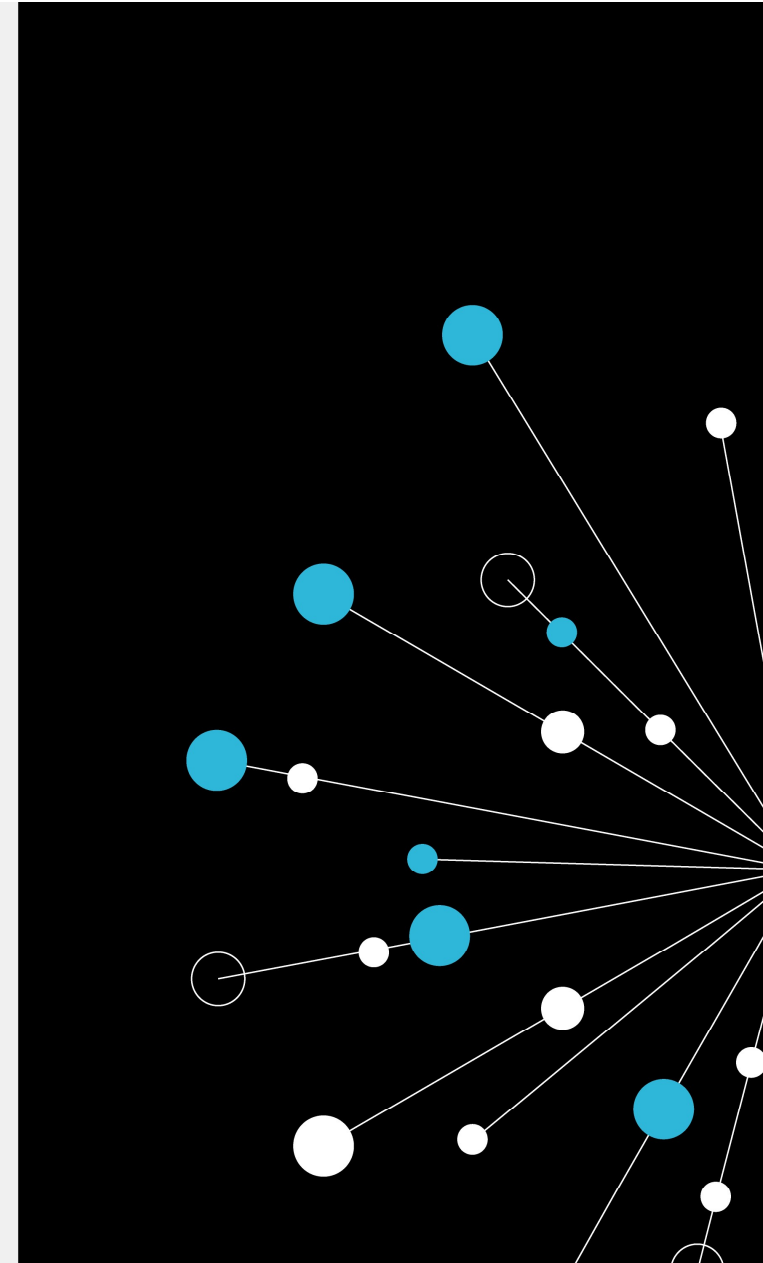
SQL

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QA

SELECT statement

SELECT <<field(s)>>

FROM <<table(s)>>

WHERE <<condition(s)>>

GROUP BY <<field(s)>>

HAVING <<condition(s)>>

ORDER BY <<field(s)>>

Aggregate functions

Aggregate functions operate across a set of rows in a column and output a single value.

COUNT(*)

COUNT(<<*expression*>>**)**

SUM(<<*expression*>>**)**

AVG(<<*expression*>>**)**

MIN(<<*expression*>>**)**

MAX(<<*expression*>>**)**

Statistical aggregates: STDEV / STDEVP / VAR / VARP

What does each of the aggregate functions do?

Provide examples with queries on table Products from database Northwind.

QA

Aggregate functions

What is the difference between the following aggregate functions:

- **COUNT(*)**
- **COUNT(*<<expression>>*)**

Provide examples with queries on table Customers from database Northwind.

Aggregate functions

COUNT(*)

COUNT(*<<expression>>***)**

SUM(*<<expression>>***)**

AVG(*<<expression>>***)**

MIN(*<<expression>>***)**

MAX(*<<expression>>***)**

NOTE:

COUNT(*) counts all rows, including those containing NULL.

All the other aggregate function ignore the NULL values.

It is not possible to calculate any of sum, average, min, max, etc. when one or more of the values are unknown.

Aggregate functions: the group by clause

Each column in the SELECT list must be either an aggregate or in the GROUP BY clause.

Using database Northwind, table Products, display the average unit price per category and order by records in decreasing order of the average price.

QA

The HAVING clause

Modify your previous query:

- Using database Northwind, table Products, display the average unit price per category and order by records in decreasing order of the average price.

- Display only the categories with average price above 30.

What is the difference between the WHERE and the HAVING clause? Write a query to demonstrate both.