LU04d - SQL-DQL: Selects with Aggregate Functions

SQL (Structured Query Language) provides powerful tools to perform calculations and data analysis on database records. Among these tools, aggregate functions play a crucial role in summarizing data by performing operations on multiple rows and returning a single result. This document focuses on five commonly used SQL aggregate functions: **MIN, MAX, COUNT, SUM, and AVG**, along with practical examples to illustrate their usage.

1. MIN Function...

The **MIN** function returns the smallest value in a specified column. This is particularly useful when you need to find the lowest value in a dataset, such as the minimum price of a product or the earliest date in a list of events.

Example:

```
SELECT MIN(price) AS LowestPrice
FROM products;
```

In this example, the query returns the lowest price from the „products“ table.

2. MAX Function

The MAX function works oppositely to MIN, returning the largest value in a specified column. It’s commonly used to find the highest values, such as the maximum salary in a company or the latest date in a schedule.

Example:

```
SELECT MAX(salary) AS HighestSalary
FROM employees;
```

Here, the query retrieves the highest salary from the „employees“ table.

3. COUNT Function

The COUNT function counts the number of rows that match a specified condition or simply counts all rows in a column. This is useful for determining the size of datasets, such as counting the number of orders placed by a customer or the total number of employees in a department.

Example:

```
SELECT COUNT(*) AS NumberOfOrders
```

```
FROM orders
WHERE customer_id = 123;
```

This query returns the total number of orders placed by a customer with customer_id 123.

Vocabulary

English	German
oppositely	...
