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MySQL Handbook v2.0

Built with  using Streamlit

Aggregate Function Tips:

- COUNT(\*) counts all rows including NULLs
- COUNT(column) ignores NULL values
- Use DISTINCT to count unique values
- AVG ignores NULL values
- Combine multiple aggregates in one query

GROUP BY Guidelines:

- All non-aggregate columns must be in GROUP BY clause



# Aggregate Queries & Analytics

Master MySQL aggregate functions, GROUP BY operations, and advanced analytics with window functions.

Basic Aggregates

GROUP BY Operations

HAVING Clause

Window Functions

Practice Lab

1234

## Basic Aggregate Functions

### Essential Aggregate Functions

#### COUNT Functions:

```
-- Count all rows
SELECT COUNT(*) FROM sales;

-- Count non-null values
SELECT COUNT(customer_id) FROM sales;

-- Count distinct values
SELECT COUNT(DISTINCT customer_id) FROM sales;
```

#### SUM and AVG:

```
-- Total sales amount
SELECT SUM(sale_amount) FROM sales;

-- Average sale amount
SELECT AVG(sale_amount) FROM sales;

-- Average with rounding
SELECT ROUND(AVG(sale_amount), 2) AS avg_sale
FROM sales;
```

#### MIN and MAX:

```
-- Find minimum and maximum
SELECT
  MIN(sale_amount) AS min_sale,
  MAX(sale_amount) AS max_sale,
  MAX(sale_date) AS latest_sale
FROM sales;
```

#### Combined Aggregates:

```
-- Multiple aggregates in one query
SELECT
  COUNT(*) AS total_sales,
  SUM(sale_amount) AS total_revenue,
  AVG(sale_amount) AS avg_sale,
  MIN(sale_amount) AS min_sale,
  MAX(sale_amount) AS max_sale
FROM sales;
```



### Interactive Aggregate Calculator

Sales Data Overview

Sample Sales Data:

|   | sale_id | product_category | region  | sale_amount | quantity |
|---|---------|------------------|---------|-------------|----------|
| 0 | 1       | Sports           | North   | 91.52       |          |
| 1 | 2       | Electronics      | Central | 303.2       |          |
| 2 | 3       | Sports           | North   | 669.96      |          |
| 3 | 4       | Sports           | East    | 403.09      |          |
| 4 | 5       | Books            | Central | 413.75      |          |
| 5 | 6       | Books            | South   | 366.82      |          |
| 6 | 7       | Electronics      | West    | 236.09      |          |
| 7 | 8       | Sports           | South   | 536.44      |          |
| 8 | 9       | Sports           | North   | 978.46      |          |
| 9 | 10      | Home & Garden    | Central | 939.59      |          |

Quick Statistics:

Total Sales

500

Total Revenue

\$242,352.38

Average Sale

\$484.70

Custom Aggregate Query Builder

Aggregate Function:

COUNT


Use DISTINCT

Add WHERE condition

Generate Query

Column:

sale\_amount

 **Pro Tip:** Combine aggregate functions with proper indexing for optimal query performance!