

# LAB-03

## SQL queries using aggregate functions

Table:

| product_id | category    | product_name | price | quantity_in_stock |
|------------|-------------|--------------|-------|-------------------|
| 1          | Electronics | Laptop A     | 1200  | 50                |
| 2          | Electronics | Phone B      | 800   | 100               |
| 3          | Clothing    | Shirt C      | 50    | 200               |
| 4          | Clothing    | Pants D      | 75    | 150               |
| 5          | Home Goods  | Table E      | 250   | 75                |
| 6          | Electronics | Tablet F     | 300   | 120               |
| 7          | Clothing    | Dress G      | 100   | 90                |
| 8          | Home Goods  | Chair H      | 150   | 60                |
| 9          | Electronics | Laptop I     | 1500  | 30                |
| 10         | Home Goods  | Sofa J       | 500   | 25                |

Code:

```
1 • CREATE DATABASE my_store;
2 • USE my_store;
3 • CREATE TABLE product_details (
4     product_id INT PRIMARY KEY,
5     category VARCHAR(50),
6     product_name VARCHAR(50),
7     price INT,
8     quantity_in_stock INT
9 );
10 • INSERT INTO product_details (product_id, category, product_name, price, quantity_in_stock) VALUES
11     (1, 'Electronics', 'Laptop A', 1200, 50),
12     (2, 'Electronics', 'Phone B', 800, 100),
13     (3, 'Clothing', 'Shirt C', 50, 200),
14     (4, 'Clothing', 'Pants D', 75, 150),
15     (5, 'Home Goods', 'Table E', 250, 75),
16     (6, 'Electronics', 'Tablet F', 300, 120),
17     (7, 'Clothing', 'Dress G', 100, 90),
18     (8, 'Home Goods', 'Chair H', 150, 60),
17     (7, 'Clothing', 'Dress G', 100, 90),
18     (8, 'Home Goods', 'Chair H', 150, 60),
19     (9, 'Electronics', 'Laptop I', 1500, 30),
20     (10, 'Home Goods', 'Sofa J', 500, 25);
21
22 • SELECT COUNT(*) AS total_products FROM product_details;
23 • SELECT AVG(price) AS average_price FROM product_details;
24 • SELECT MAX(price) AS highest_price FROM product_details;
25 • SELECT MIN(price) AS lowest_price FROM product_details;
26 • SELECT SUM(quantity_in_stock) AS total_quantity FROM product_details;
27 • SELECT COUNT(DISTINCT category) AS unique_categories FROM product_details;
28 • SELECT AVG(price) AS electronics_avg_price
29     FROM product_details
30     WHERE category = 'Electronics';
31 • SELECT SUM(price * quantity_in_stock) AS total_stock_value FROM product_details;
32 • SELECT COUNT(*) AS products_above_500 FROM product_details WHERE price > 500;
33 • SELECT SUM(quantity_in_stock) AS clothing_stock_below_100
34     FROM product_details
35     WHERE category = 'Clothing' AND price < 100;
```

1. What is the total number of products in the table?

|   |                |
|---|----------------|
|   | total_products |
| ▶ | 10             |

2. What is the average price of all products?

|   |               |
|---|---------------|
|   | average_price |
| ▶ | 492.5000      |

3. What is the highest price of any product?

|   |               |
|---|---------------|
|   | highest_price |
| ▶ | 1500          |

4. What is the lowest price of any product?

|   |              |
|---|--------------|
|   | lowest_price |
| ▶ | 50           |

5. What is the total quantity of all products in stock?

|   |                |
|---|----------------|
|   | total_quantity |
| ▶ | 900            |

6. How many different categories of products are there?

|   |                   |
|---|-------------------|
|   | unique_categories |
| ▶ | 3                 |

7. What is the average price of products in the "Electronics" category?

|   |                       |
|---|-----------------------|
|   | electronics_avg_price |
| ▶ | 950.0000              |

8. What is the total value of all products in stock (price\*quantity\_in\_stock)?

|   |                   |
|---|-------------------|
|   | total_stock_value |
| ▶ | 291500            |

9. What is the number of products that have a price greater than 500?

|   |                    |
|---|--------------------|
|   | products_above_500 |
| ▶ | 3                  |

10. What is the sum of the quantities in stock for products in the "Clothing" category that cost less than 100?

|   |                          |
|---|--------------------------|
|   | clothing_stock_below_100 |
| ▶ | 350                      |

