Task 4: Aggregate Functions and Grouping

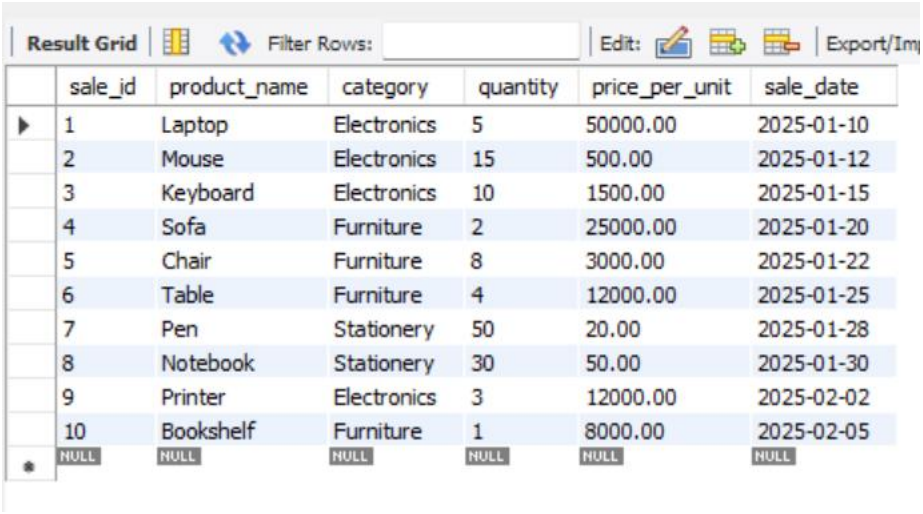
Objective: Use aggregate functions and grouping to summarize data

Tools: MySQL Workbench

Deliverables: SQL queries using SUM, COUNT, AVG, GROUP BY, etc.

Outcome: Ability to summarize and analyze tabular data

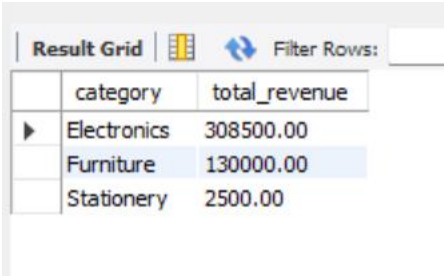
Sales Table:



Result Grid | Filter Rows: | Edit: | Export/Im

sale_id	product_name	category	quantity	price_per_unit	sale_date
1	Laptop	Electronics	5	50000.00	2025-01-10
2	Mouse	Electronics	15	500.00	2025-01-12
3	Keyboard	Electronics	10	1500.00	2025-01-15
4	Sofa	Furniture	2	25000.00	2025-01-20
5	Chair	Furniture	8	3000.00	2025-01-22
6	Table	Furniture	4	12000.00	2025-01-25
7	Pen	Stationery	50	20.00	2025-01-28
8	Notebook	Stationery	30	50.00	2025-01-30
9	Printer	Electronics	3	12000.00	2025-02-02
10	Bookshelf	Furniture	1	8000.00	2025-02-05
NULL	NULL	NULL	NULL	NULL	NULL

a) SUM – Total sales revenue by category
Query: SELECT category, SUM(quantity * price_per_unit) AS total_revenue FROM Sales GROUP BY category;



Result Grid | Filter Rows:

category	total_revenue
Electronics	308500.00
Furniture	130000.00
Stationery	2500.00

b) COUNT – Number of products sold in each category
Query: SELECT category, COUNT(sale_id) AS total_products_sold FROM Sales GROUP BY category;

Result Grid | Filter Rows:

category	total_products_sold
Electronics	4
Furniture	4
Stationery	2

c) AVG – Average price per product in each category
Query: SELECT category, AVG(price_per_unit) AS avg_price FROM Sales GROUP BY category;

Result Grid | Filter Rows:

category	avg_price
Electronics	16000.000000
Furniture	12000.000000
Stationery	35.000000

d) MAX & MIN – Highest and lowest price in each category
Query: SELECT category, MAX(price_per_unit) AS max_price, MIN(price_per_unit) AS min_price FROM Sales GROUP BY category;

Result Grid | Filter Rows:

category	max_price	min_price
Electronics	50000.00	500.00
Furniture	25000.00	3000.00
Stationery	50.00	20.00

e) HAVING – Show only categories where total revenue is more than 50,000
Query: SELECT category, SUM(quantity * price_per_unit) AS total_revenue FROM Sales GROUP BY category HAVING SUM(quantity * price_per_unit) > 50000;

Result Grid | Filter Rows:

category	total_revenue
Electronics	308500.00
Furniture	130000.00

f) Multiple aggregates functions used together
Query: SELECT category, COUNT(*) AS items_count, SUM(quantity) AS total_units_sold, AVG(price_per_unit) AS avg_price, MAX(price_per_unit) AS highest_price FROM Sales GROUP BY category;

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category	items_count	total_units_sold	avg_price	highest_price
Electronics	4	33	16000.000000	50000.00
Furniture	4	15	12000.000000	25000.00
Stationery	2	80	35.000000	50.00