BrightLearn Data Analytics

SQL Exercise: UNION and UNION ALL

Instructions:
1. Carefully study the two tables below: **online_sales** and **store_sales**.
2. All answers must be handwritten — do not use SQL software.
3. For each query, write the **SQL code** and draw the expected output table.
4. Clearly label **columns** and show how duplicates are handled.
5. Pay special attention to the **difference between UNION and UNION ALL**.

Table: online_sales

sale_id	customer_name	amount	sale_date
1	Alice	150	2025-01-12
2	Brian	250	2025-02-05
3	Carol	300	2025-03-10
4	Daniel	220	2025-04-15
5	Emma	180	2025-05-02

Table: store_sales

sale_id	customer_name	amount	sale_date
1	Fiona	200	2025-01-20
2	Brian	250	2025-02-08
3	George	310	2025-03-25
4	Alice	150	2025-04-18
5	Henry	270	2025-05-05

1. Unique Customer Names

List all unique customer names from both tables using UNION.

Output Columns: *customer_name*

2. All Customers (Including Duplicates)

List all customer names from both tables using UNION ALL.

Output Columns: *customer_name*

3. Unique Sale Dates

Show all unique sale dates from both tables in ascending order.

Output Columns: *sale_date*

4. All Sale Dates (Including Duplicates)

List all sale dates (with duplicates) using UNION ALL.

Output Columns: *sale_date*

5. High-Value Customers

Combine both tables and list unique customers who made purchases greater than 250.

Output Columns: *customer_name, amount*

6. Combined Sales Data

Combine all records from both tables using UNION ALL.

Output Columns: *customer_name, amount, sale_date*

7. Add Sales Source Label

Combine both tables but include a new column 'source' that indicates whether the sale was made Online or Store.

Output Columns: *customer_name, amount, sale_date, source*

8. Customers Appearing in Both Tables

Find all customers who appear in both online_sales and store_sales (Hint: use UNION ALL, GROUP BY, and HAVING).

Output Columns: *customer_name, occurrences*

9. Total Combined Sales

Combine both tables using UNION ALL and calculate the total sales amount across both.

Output Columns: *total_amount*

Bonus Challenge (Optional)

Create a single query that lists each customer’s total combined amount from both tables (sum of all their purchases).

Output Columns: *customer_name, total_spent*