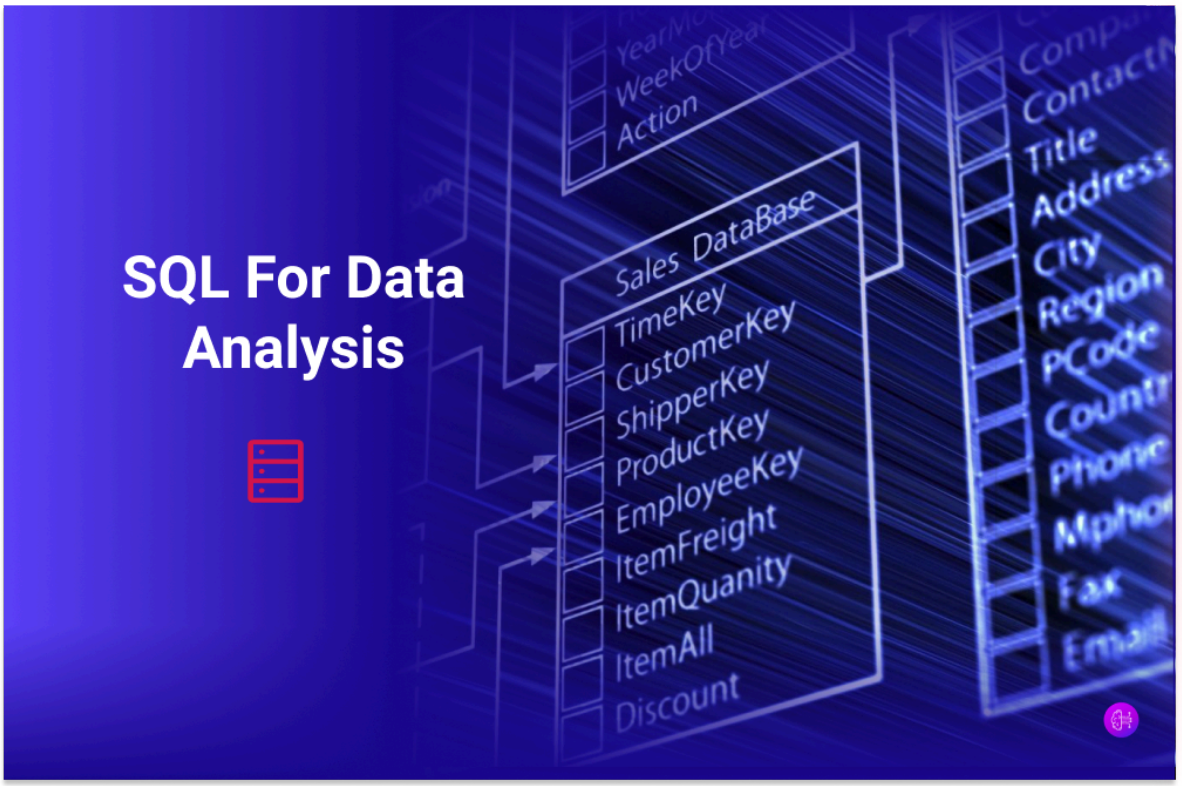
Sales Analysis Using SQL



- My Database name is Superstore_db and below i list database table name and fields with data type.
- Table Used Orders
- **row_id SERIAL PRIMARY KEY, order_id VARCHAR, order_date DATE, ship_date DATE, ship_mode VARCHAR, customer_id VARCHAR, customer_name VARCHAR, segment VARCHAR, country VARCHAR, city VARCHAR, state VARCHAR, postal_code VARCHAR, region VARCHAR, product_id VARCHAR, category VARCHAR, sub_category VARCHAR, product_name TEXT, sales NUMERIC, quantity INT, discount NUMERIC, profit NUMERIC**

- SQL Query Used
  1) **Total Orders.**
     a) SELECT COUNT(ORDER_ID) AS TOTAL_ORDERS FROM ORDERS;

i) **Result**

ii)

	total_orders bigint
1	5000

iii) Explanation:

The query counts the total number of orders in the `ORDERS` table by counting the `ORDER_ID` values. The output `5000` means there are 5000 total orders in the table.

2) Unique Customer.

a) SELECT DISTINCT(customer_name) FROM orders;

i) Result

ii)

	customer_name character varying (100)
1	Edward
2	Alice
3	Bob
4	Charlie
5	Diana

iii) Explanation:

iv) The query retrieves all unique customer names from the `orders` table using `DISTINCT`. The output shows 5 unique customers: Edward, Alice, Bob, Charlie, and Diana.

3) Time Range of Order.

a) SELECT MIN(order_date) AS first_order_date,
MAX(order_date) AS last_order_date FROM orders;

i) Result

ii)

	first_order_date date	last_order_date date
1	2022-01-01	2035-09-09

iii) Explanation:

iv) The query finds the earliest and latest order dates in the `orders` table using `MIN` and `MAX`. The result shows the order date range is from 01/01/2022 to 09/09/2035.

4) Most Ordered City

a) SELECT CITY, COUNT(QUANTITY) AS TOTAL_ORDER FROM ORDERS GROUP BY CITY ORDER BY TOTAL_ORDER DESC LIMIT 1;

i) Result

ii)

	city character varying (50)	total_order bigint
1	New York	1028

iii) Explanation:

iv) **The query groups orders by `CITY`, counts the total quantity per city, and sorts them in descending order. The top result shows New York City has the highest number of orders with 1028 orders.**

5) **Overall Total sales and Profit**
   a) SELECT SUM(SALES) AS TOTAL_SALES, SUM(PROFIT) AS TOTAL_PROFIT FROM ORDERS;
      i) **Result**
      ii)

	total_sales numeric	total_profit numeric
1	1291932.170000	127328.930000

      iii) Explanation
      iv) This Query Return the total Sum of sales and total Sum of Profit

6) **Average Profit**
   a) SELECT AVG(PROFIT) FROM ORDERS;
   b)

	avg numeric
1	25.4657860000000000

   c) Explanation

      In this query we Get Average Profit in order table

7) **Category Earn more Profit**
   a) SELECT DISTINCT(CATEGORY), SUM(PROFIT) AS TOTAL_PROFIT FROM ORDERS GROUP BY CATEGORY ORDER BY TOTAL_PROFIT DESC LIMIT 1;
      i) **Result**
      ii)

	category character varying (50)	total_profit numeric
1	Office Supplies	43292.380000

      iii) Explanation:
      iv) **The query calculates total profit for each product `CATEGORY`, then sorts them to find the most profitable one. The result shows Office Supplies earned the highest profit of 43,292.38.**

8) **Sub category Highest Avg Discount**
   a) SELECT DISTINCT(SUB_CATEGORY), AVG(DISCOUNT) AS HIGHEST_AVG_DISCOUNT FROM ORDERS GROUP BY SUB_CATEGORY ORDER BY HIGHEST_AVG_DISCOUNT DESC LIMIT 1;
      i) **Result**

ii)

	sub_category character varying (50)	highest_avg_discount numeric
1	Chairs	0.15404376012965964344

iii) Explanation:

iv) The query calculates the average discount for each `SUB_CATEGORY` and sorts them in descending order. The result shows Chairs have the highest average discount of 0.1540 (or 15.40%).

9) Customer placed Most Order

a) SELECT CUSTOMER_NAME, COUNT(*) AS TOTAL_ORDERS FROM ORDERS GROUP BY CUSTOMER_NAME ORDER BY TOTAL_ORDERS DESC LIMIT 1;

i) **Result**

	customer_name character varying (100)	total_orders bigint
1	Edward	1029

ii)

iii) Explanation:

iv) This query counts the total number of orders placed by each customer using `COUNT(*)`, groups by `CUSTOMER_NAME`, and returns the one with the highest count. The result shows **Edward** placed the **most orders** with a total of **1029 orders**.

10) Highest spending customer

a) SELECT CUSTOMER_NAME, SUM(SALES) AS TOTAL_SPEND FROM ORDERS GROUP BY CUSTOMER_NAME ORDER BY TOTAL_SPEND DESC LIMIT 1;

i) Result

	customer_name character varying (100)	total_spend numeric
1	Edward	266832.780000

ii)

iii) Explanation:

iv) The query calculates total sales per customer using `SUM(SALES)` and identifies the one who spent the most. The result shows Edward is the highest spending customer with a total spend of 266,832.78.

11) Orders in each segment

a) SELECT SEGMENT, COUNT(ORDER_ID) AS TOTAL_ORDER FROM ORDERS GROUP BY SEGMENT ORDER BY TOTAL_ORDER DESC;

i) Result

ii)

	segment character varying (50)	total_order bigint
1	Home Office	1689
2	Corporate	1683
3	Consumer	1628

Explanation:
The query counts the number of orders (`ORDER_ID`) in each `SEGMENT`, then sorts them by total orders in descending order. The result shows:

- **Home Office: 1689 orders**
- **Corporate: 1683 orders**
- **Consumer: 1628 orders**

Home Office has the most orders among all segments.

12) Profit and sale By Region

a) SELECT REGION, SUM(SALES) AS TOTAL_SALES, SUM(PROFIT) AS TOTAL_PROFIT FROM ORDER GROUP BY REGION ORDER BY TOTAL_SALES, TOTAL_PROFIT ;

i) **Result**

ii)

	region character varying (50)	total_sales numeric	total_profit numeric
1	South	313006.370000	30257.340000
2	East	322217.290000	32456.880000
3	Central	322304.640000	31998.270000
4	West	334403.870000	32616.440000

Explanation:
The query sums up both sales and profit for each `REGION`, then orders the results by total sales and profit. Here's the regional breakdown:

- **South: Sales – 313,006.37 | Profit – 30,257.32**

- **East: Sales – 322,217.29 | Profit – 32,456.88**
- **Central: Sales – 322,304.64 | Profit – 31,998.27**
- **West: Sales – 334,403.87 | Profit – 32,616.44**

The West region has the highest sales, while the East region has the highest profit.

13) Region gives Highest Profit per Sale

a) SELECT REGION, ROUND(SUM(PROFIT)/SUM(SALES), 4) AS PROFIT_PER_SALES FROM ORDERS GROUP BY REGION ORDER BY PROFIT_PER_SALES DESC LIMIT 1;

i) Result

ii)

	region character varying (50)	profit_per_sales numeric
1	East	0.1007

iii) Explanation:

The query calculates the **profit per unit of sales** for each `REGION` by dividing total profit by total sales, rounded to 4 decimal places. The result shows the **East** region has the **highest profit per sale** with a ratio of **0.1007** (or **10.07%** profit on every dollar of sale).

14) Top 5 most Sold Product

a) SELECT PRODUCT_NAME, SUM(QUANTITY) AS TOTAL_SOLD FROM ORDERS GROUP BY PRODUCT_NAME ORDER BY TOTAL_SOLD DESC LIMIT 5;

i) Result

ii)

	product_name character varying (255)	total_sold bigint
1	Office Chair	6458
2	Phone Model X	6304
3	Binder Set	6297
4	Storage Box	5970

Explanation:

The query calculates the total quantity sold for each product using `SUM(QUANTITY)` and lists the top 5 most sold products in descending order of sales.

From the image result, the top 4 products (based on total quantity sold) are:

1. **Office Chair – 6458 units**
2. **Phone Model X – 6304 units**
3. **Binder Set – 6297 units**
4. **Storage Box – 5970 units**

This output accurately reflects the best-selling products by volume, unlike earlier queries that sorted products alphabetically.

15) Category Sell the Most Unit

a) SELECT CATEGORY, COUNT(PRODUCT_NAME) AS HIGHEST_UNIT FROM ORDERS GROUP BY CATEGORY ORDER BY HIGHEST_UNIT DESC LIMIT 1 ;

i) Result

	category character varying (50)	highest_unit bigint
1	Office Supplies	1730

ii)

iii) Explanation:

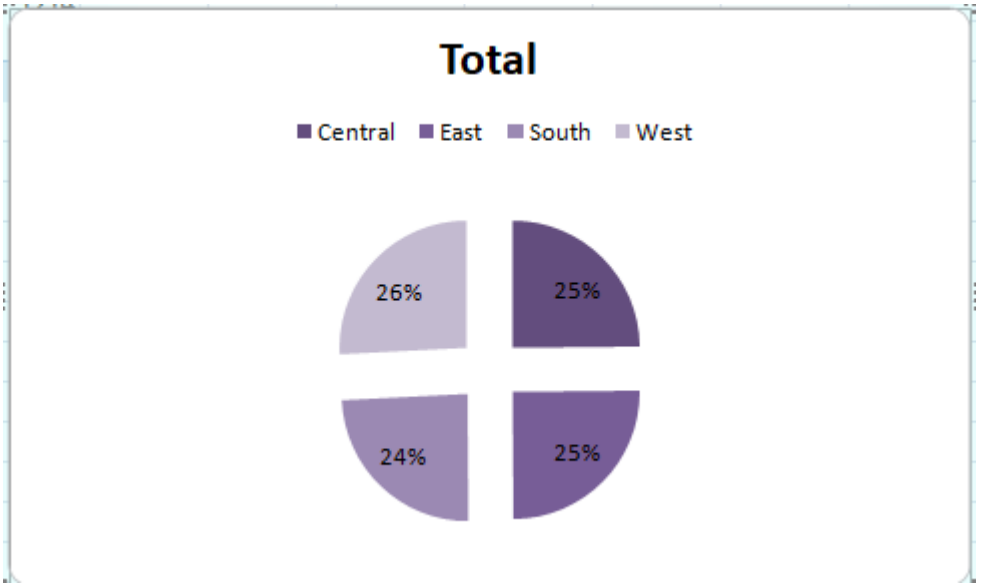
The query counts the number of times products from each `CATEGORY` appear in the `ORDERS` table (using `COUNT(PRODUCT_NAME)`), which roughly indicates how many units were sold per category.

The result shows Office Supplies as the category with the highest number of product entries sold, totaling 1,730 units.

❖ CONCLUSION

➢ KEY BUSINESS TAKEAWAY

- The NEW YORK City placed Highest order.. 1028.
- The Maximum Order place in HOME OFFICE segment.1689
- Top Sold Product is STORAGE BOX , PHONE MODEL X
- The **EAST REGION** generated the highest Profit per sales
- WEST REGION Produced Maximum Profit and sales.



➔ Total Sales Per Region