PROJECT: SALES DATA ANALYSIS

Project Description

This Sales Analysis project focuses on using SQL to analyze a dataset of sales transactions. The goal is to gain insights into business performance, customer preferences, and product trends. By executing various SQL queries, the project provides a detailed view of sales revenue, top-selling products, regional sales, and sales trends over time. The dataset includes key sales details such as order ID, customer ID, product ID, order date, quantity, unit price, region, and product category.

Features

1.Total Sales Revenue Calculation: Determines the total revenue generated from all sales.

2.Top 5 Best-Selling Products: Identifies the top-selling products based on the quantity sold.

3.Monthly Sales Trends: Analyzes revenue patterns by month to understand sales trends.

4.Regional Sales Breakdown: Compares sales revenue across different regions to find the most profitable areas.

5.Most Popular Product Category: Identifies the category with the highest total sales in revenue.

Concepts Implemented

1. SQL Queries: Basic and aggregate SQL queries (e.g., `SUM`, `COUNT`, `GROUP BY`, `ORDER BY`) to analyze data.

2. Data Aggregation: Summing and counting fields to derive meaningful insights.

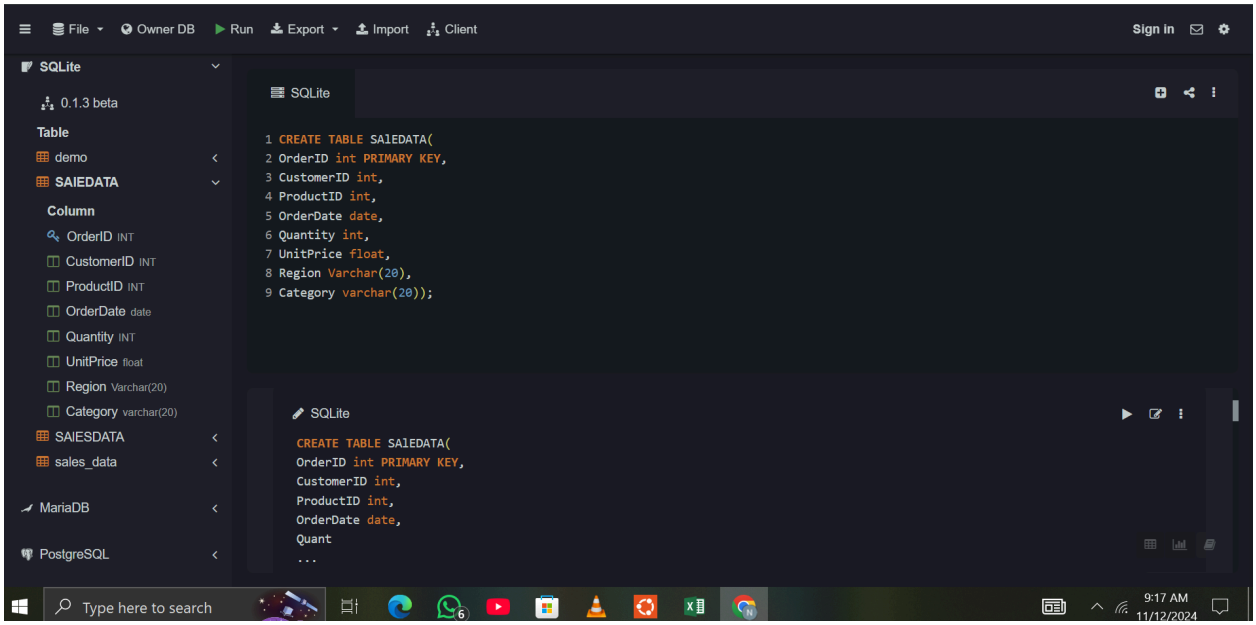
3. Grouping and Ordering: Grouping data by categories like month, region, and product category, and ordering results to highlight trends.

4. Data Filtering: Limiting results (e.g., top 5 products) using SQL's `LIMIT` clause.

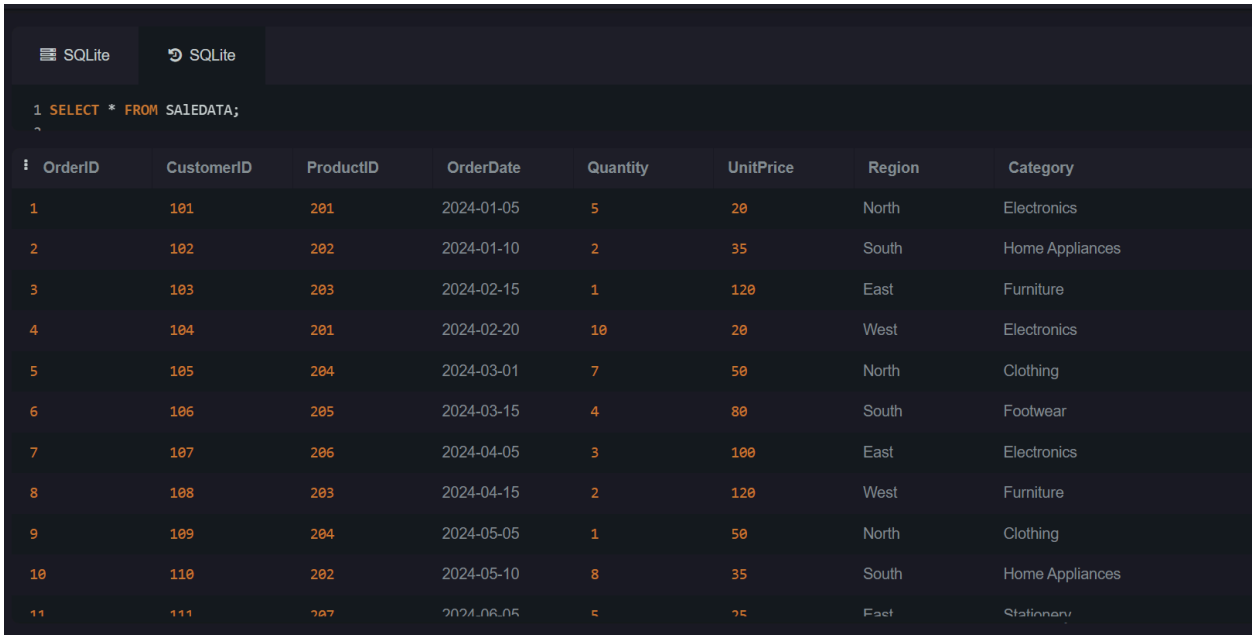
Queries

```
CREATE TABLE SALES_DATA (
        OrderID INT PRIMARY KEY,
        CustomerID INT,
        ProductID INT,
        OrderDate DATE,
        Quantity INT,
        UnitPrice FLOAT,
        Region VARCHAR(20),
        Category VARCHAR(20)
);
```

```
INSERT INTO SAlEDATA (OrderID, CustomerID, ProductID, OrderDate, Quantity, UnitPrice,
Region, Category) VALUES

    (1, 101, 201, '2024-01-05', 5, 20.00, 'North', 'Electronics'),

    (2, 102, 202, '2024-01-10', 2, 35.00, 'South', 'Home Appliances'),

    (3, 103, 203, '2024-02-15', 1, 120.00, 'East', 'Furniture'),

    (4, 104, 201, '2024-02-20', 10, 20.00, 'West', 'Electronics'),

    (5, 105, 204, '2024-03-01', 7, 50.00, 'North', 'Clothing'),

    (6, 106, 205, '2024-03-15', 4, 80.00, 'South', 'Footwear'),

    (7, 107, 206, '2024-04-05', 3, 100.00, 'East', 'Electronics'),

    (8, 108, 203, '2024-04-15', 2, 120.00, 'West', 'Furniture'),

    (9, 109, 204, '2024-05-05', 1, 50.00, 'North', 'Clothing'),

    (10, 110, 202, '2024-05-10', 8, 35.00, 'South', 'Home Appliances'),

    (11, 111, 207, '2024-06-05', 5, 25.00, 'East', 'Stationery'),

    (12, 112, 201, '2024-06-15', 6, 20.00, 'West', 'Electronics'),

    (13, 113, 208, '2024-07-05', 4, 15.00, 'North', 'Toys'),

    (14, 114, 206, '2024-07-10', 1, 100.00, 'South', 'Electronics'),

    (15, 115, 209, '2024-08-01', 3, 30.00, 'East', 'Books'),

    (16, 116, 210, '2024-08-15', 7, 45.00, 'West', 'Groceries'),

    (17, 117, 211, '2024-09-01', 2, 200.00, 'North', 'Jewelry'),

    (18, 118, 212, '2024-09-10', 5, 18.00, 'South', 'Accessories'),

    (19, 119, 202, '2024-10-01', 4, 35.00, 'East', 'Home Appliances'),

    (20, 120, 201, '2024-10-15', 9, 20.00, 'West', 'Electronics');
```



Select * from SAIEDATA;

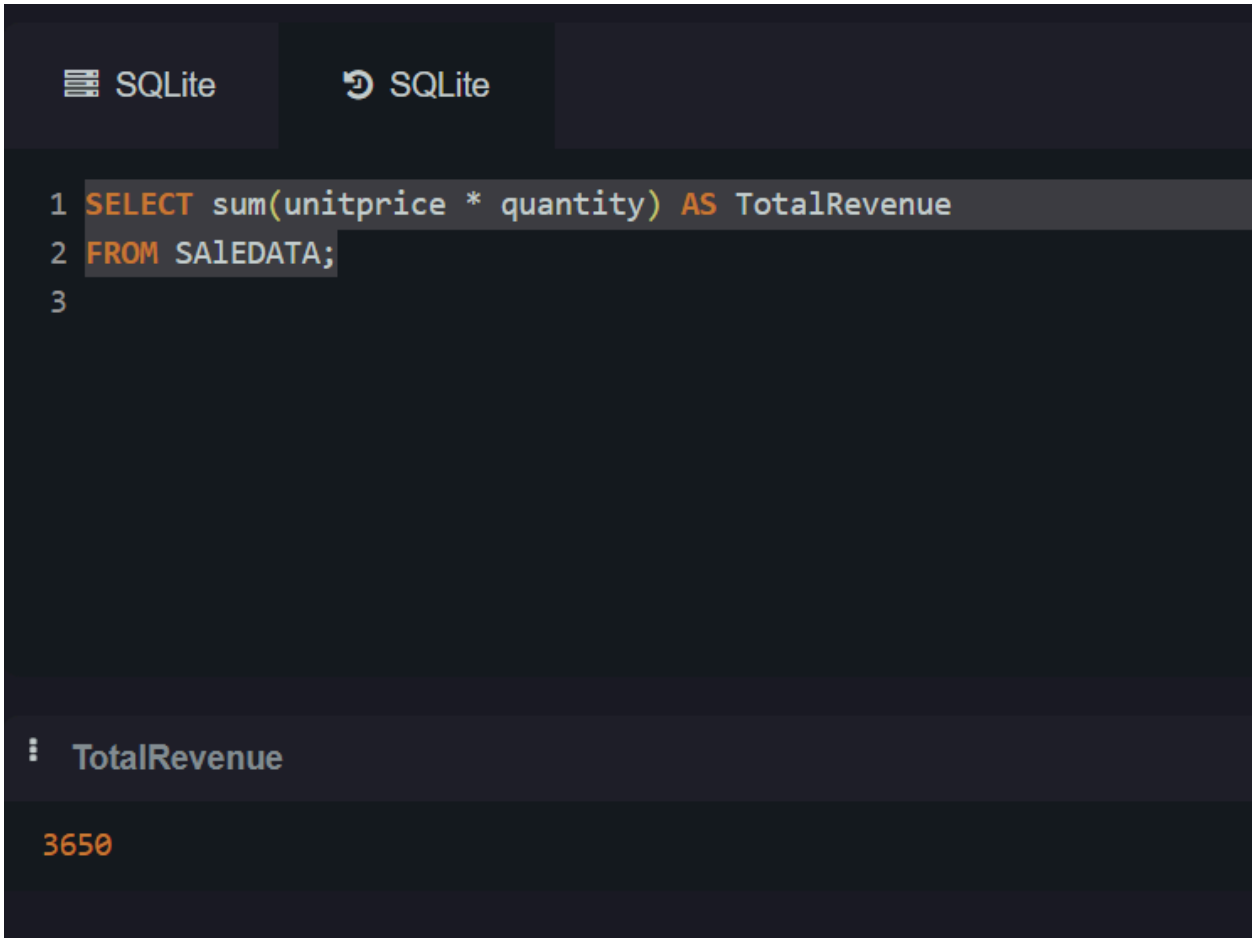


OrderID	CustomerID	ProductID	OrderDate	Quantity	UnitPrice	Region	Category
1	101	201	2024-01-05	5	20	North	Electronics
2	102	202	2024-01-10	2	35	South	Home Appliances
3	103	203	2024-02-15	1	120	East	Furniture
4	104	201	2024-02-20	10	20	West	Electronics
5	105	204	2024-03-01	7	50	North	Clothing
6	106	205	2024-03-15	4	80	South	Footwear
7	107	206	2024-04-05	3	100	East	Electronics
8	108	203	2024-04-15	2	120	West	Furniture
9	109	204	2024-05-05	1	50	North	Clothing
10	110	202	2024-05-10	8	35	South	Home Appliances
11	111	207	2024-06-05	5	25	East	Stationery

Q1:

Select sum(unitprice * quantity) as TotalRevenue

from SAIEDATA;



Q2:

Select category, count(quantity) as Top_best_selling_products

from SAlEDATA

group by category

order by Top_best_selling_products desc

limit 5;

```sql
SELECT category, COUNT(quantity) AS Top_best_selling_products
FROM SAlEDATA
GROUP BY category
ORDER BY Top_best_selling_products DESC
LIMIT 5;
```

Category	Top_best_selling_products
Electronics	6
Home Appliances	3
Furniture	2
Clothing	2
Toys	1

Q3:

SELECT STRFTIME('%Y-%m', OrderDate) AS Month,

SUM(UnitPrice * Quantity) AS MonthlyRevenue

FROM SALEDATA

GROUP BY STRFTIME('%Y-%m', OrderDate)

ORDER BY Month;

```sql
SELECT STRFTIME('%Y-%m', OrderDate) AS Month,
SUM(UnitPrice * Quantity) AS MonthlyRevenue
FROM SALEDATA
GROUP BY STRFTIME('%Y-%m', OrderDate)
ORDER BY Month;
```

Month	MonthlyRevenue
024-01	170
024-02	320
024-03	670
024-04	540
024-05	330
024-06	245
024-07	160
024-08	405
024-09	490

Q4:

Select Region, SUM(unitprice * quantity) as TotalRevenue

from SAIEDATA

group by Region

order by TotalRevenue desc;

SQLite SQLite

```sql
SELECT Region, SUM(unitprice * quantity) AS TotalRevenue
FROM SAlEDATA
GROUP BY Region
ORDER BY TotalRevenue DESC;
```

Region	TotalRevenue
West	1055
North	960
South	860
East	775

Q5:

Select category, SUM(unitprice * quantity) as TotalRevenue

from SAIEDATA

group by category

order by TotalRevenue desc;

```sql
SELECT category, SUM(unitprice * quantity) AS TotalRevenue
FROM SAlEDATA
GROUP BY category
ORDER BY TotalRevenue DESC;
```

Category	TotalRevenue
Electronics	1000
Home Appliances	490
Jewelry	400
Clothing	400
Furniture	360
Footwear	320
Groceries	315
Stationery	125
Books	90
Accessories	90
Toys	60

Conclusion

This project provides valuable business insights through data analysis using SQL. By examining various metrics such as total revenue, sales trends, and regional performance, the project enables better decision-making regarding product strategies, marketing efforts, and customer targeting. The SQL-based approach to data analysis is effective for generating actionable insights from sales data.