Capstone Project

Company name: - AXON

Problem: - A small company Axon, which is a retailer selling classic cars, is facing issues in managing and analyzing their sales data. The sales team is struggling to make sense of the data and they do not have a centralized system to manage and analyze the data. The management is unable to get accurate and up-to-date sales reports, which is affecting the decision-making process.

To address this issue, the company has decided to implement a Business Intelligence (BI) tool that can help them manage and analyze their sales data effectively. They have shortlisted Microsoft PowerBI and SQL as the BI tools for this project.

Goal: - To design and implement a BI solution using PowerBI and SQL that can help the company manage and analyze their sales data effectively.

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Structure Of the Business Report

- 1. Introduction
- 2. Data Exploration
- 3. Data Modelling
- 4. Dashboards
- 5. Data Interpretation
- 6. SQL Analytics

Sales Analysis Report - Axon Classic Cars

Introduction

Hello there! We've taken a closer look at the sales data of Axon Classic Cars, and we're excited to share some insights with you.

The Data was provided in the form of SQL script in that script there were various scripts for creation of,

- 1. **Database:** In which Database was created with the name of "Classicmodels".
- 2. **Tables:** In which under database we have to create various tables and input the values of those tables.

MySQL Sample Database Schema

Schema name is "Classicmodels"

The MySQL sample database schema consists of the following 8 tables:

- 1. **Customers:** stores customer's data.
- 2. **Products:** stores a list of scale model cars.
- 3. **Product Lines:** stores a list of product line categories.
- 4. **Orders:** stores sales orders placed by customers.
- 5. OrderDetails: stores sales order line items for each sales order.
- 6. Payments: stores payments made by customers based on their accounts.
- 7. **Employees:** stores all employee information as well as the organization structure such as who reports to whom.
- 8. Offices: stores sales office data

Data Exploration

Data Quality Assessment and 'clean up'

Key Issues for data Quality Assessment

• Accuracy: Correct values

• Completeness: Data Fields with values

• Currency: Values up to date

• Relevancy: data item with value meta-data

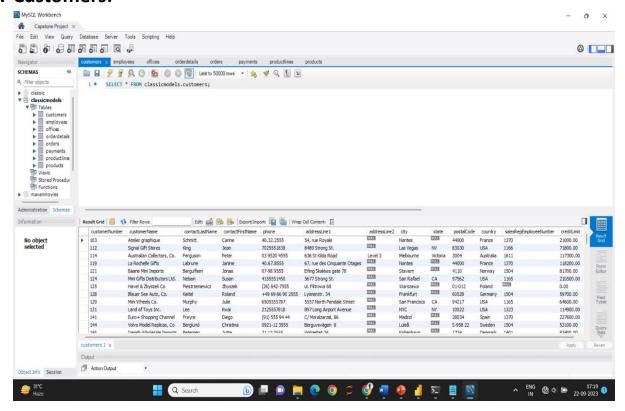
• Validity: Data containing Allowable values

• Uniqueness: Records that are duplicated

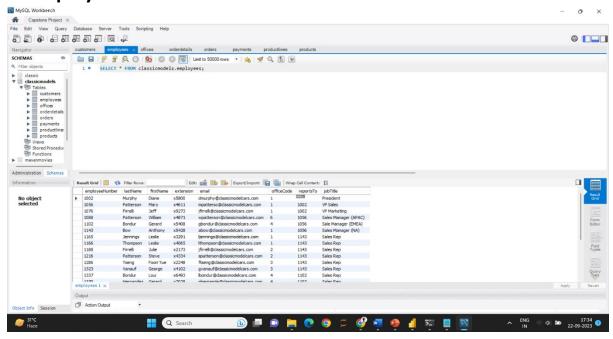
• Consistency: Values free from contradiction

Table wise data Exploration: -

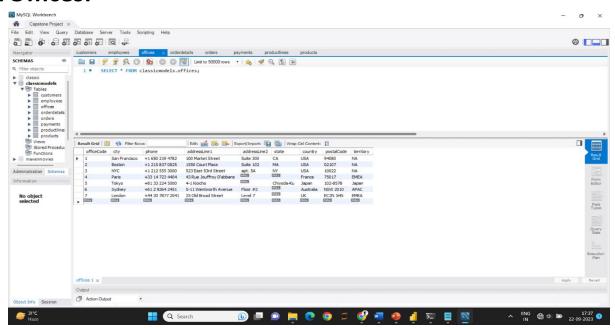
1. Customers: -



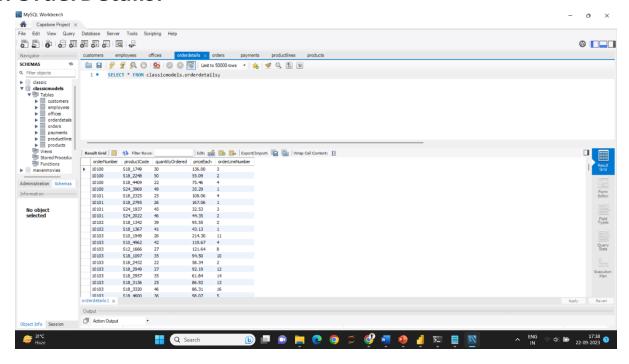
2. Employees: -



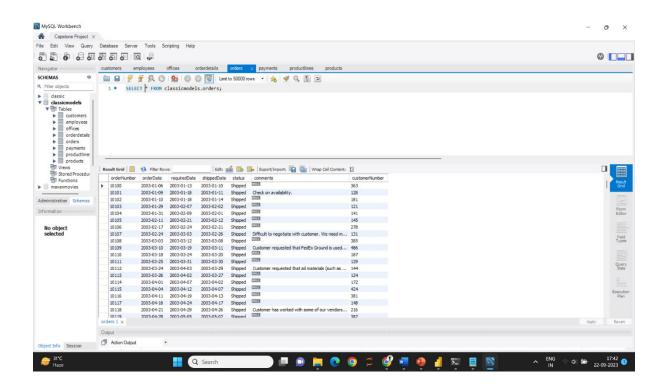
3. Offices: -



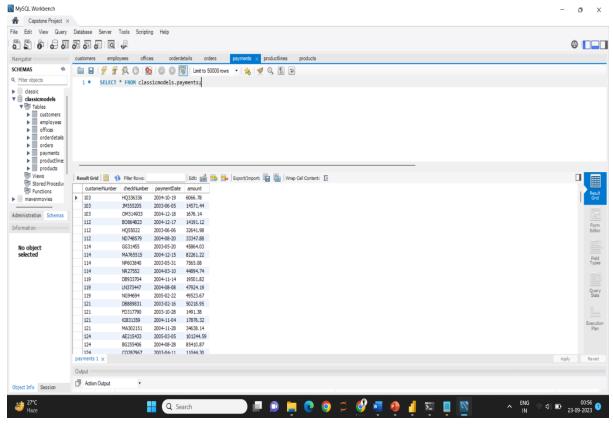
4. Order Details: -



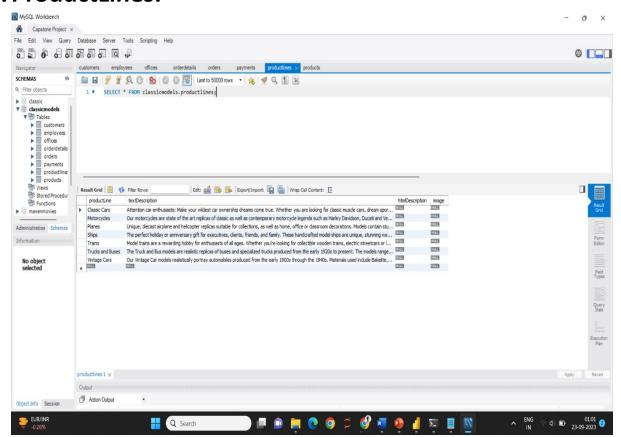
5. Orders: -



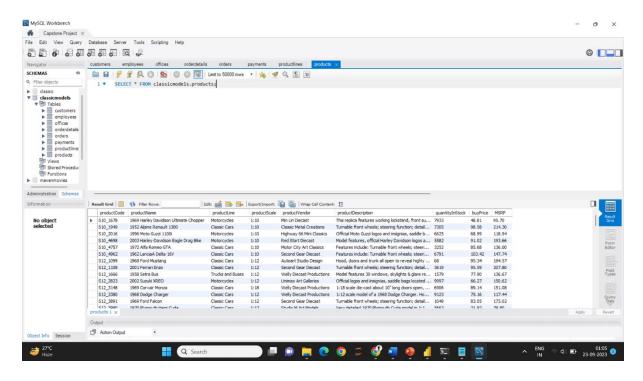
6. Payment: -



7. ProductLines: -

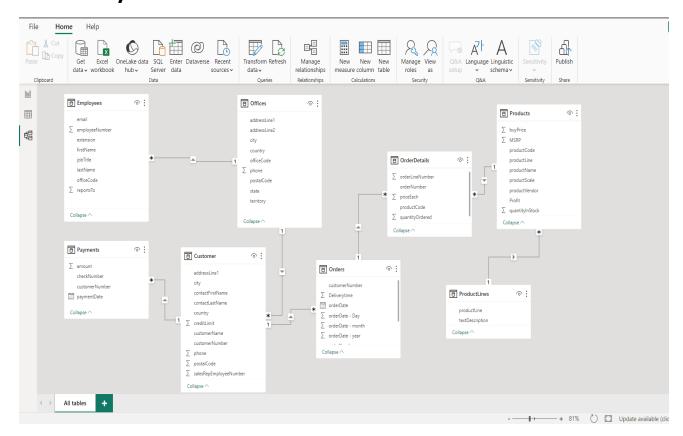


8. Products:-



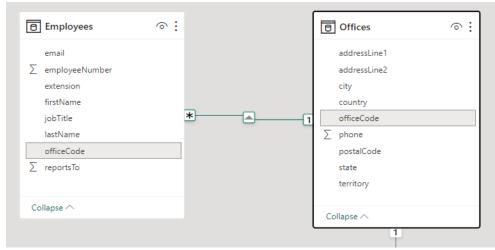
Data Modeling

Cardinality between the tables: -

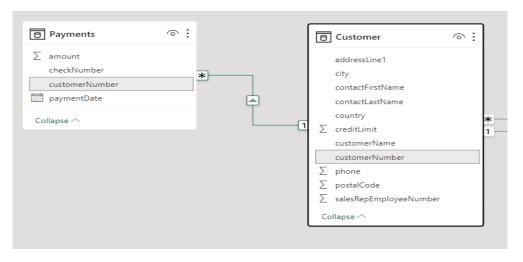


1. **Many- to-One:** - This cardinality is present between many tables which are

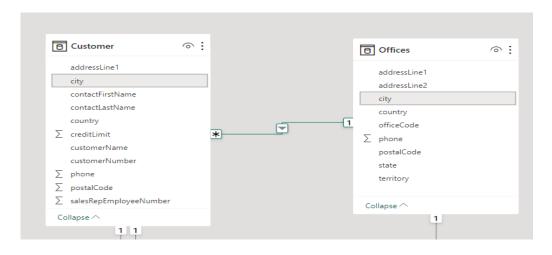
a. Employees-Offices



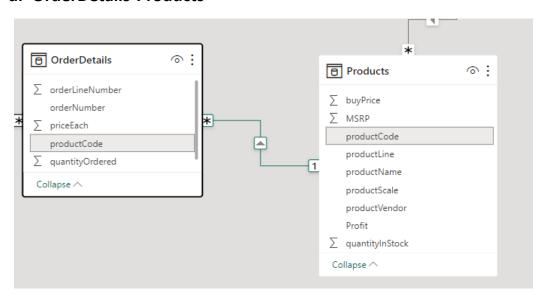
b. Payments-Customer



c. Customer-Offices

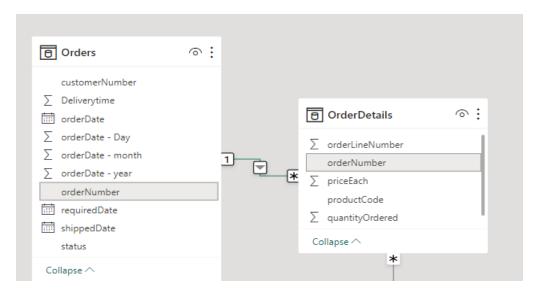


d. OrderDetails-Products

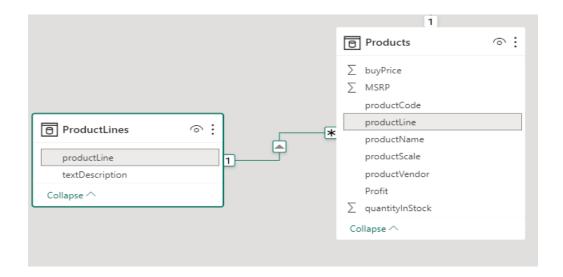


2. **One -to-Many:** - This cardinality is present between many tables which are

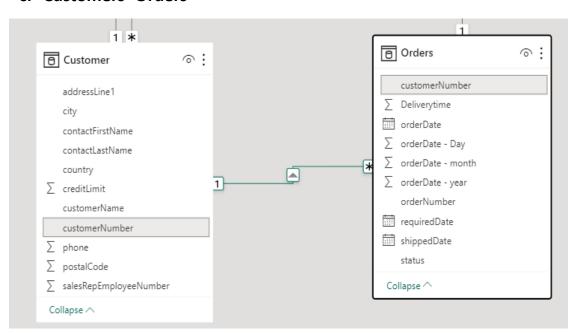
a. Orders-OrderDetails



b. ProductLines - Products



c. Customers- Orders



Dashboards

AXON Sales Dashboard







DATA INTERPRETATION

Sales Overview

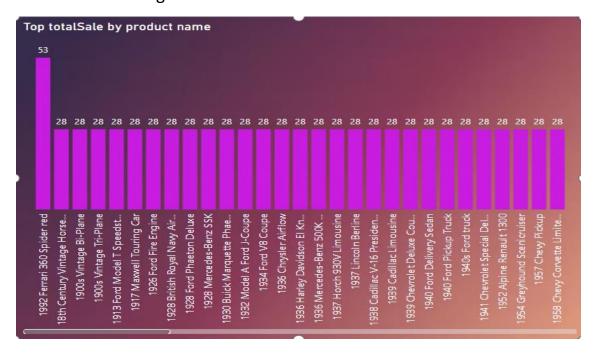
Let's dive right in. The dashboard shows us a snapshot of sales performance. It's like having a quick chat with your sales data. Here's what we found:

Total Sale: Axon has been doing pretty well. The total Sale is up to 2996. Nice work done

Total Revenue: Well, Axon has been doing pretty well. The total revenue is up 9 million.



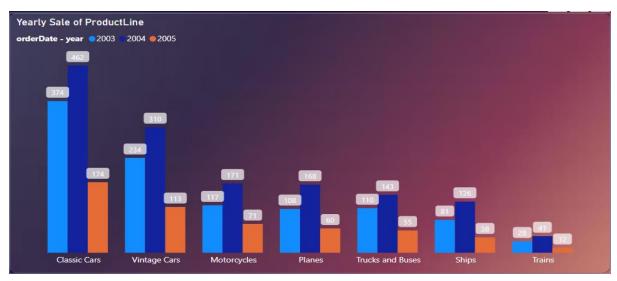
Top-Selling Products: The 1992 Ferrari 360 Spider Red seems to be a crowd favorite. It's leading the sales charts.



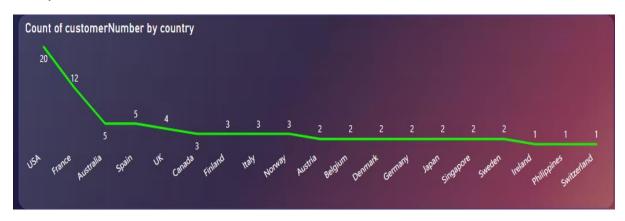
Customer Insights

Now, let's talk about those who keep Axon's wheels turning - your customers!

Customer Distribution: Axon's customers are well-distributed across different regions. No wonder classic cars have universal appeal. Most of them likes Classic Car due to this the sales of classic car are also highest. And Classic car sales is increased as compared to 2003 sales in 2004. In 2003 sales of classic car sale is 374 and in 2004 it is 462. In every Product Line the sale was improved as compared to 2003 in 2004.



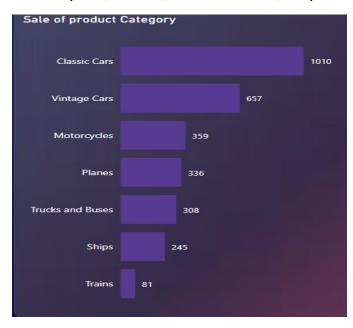
Customer Types: We have a mix of individuals and corporate clients. It's good to see diversity in your customer base. And customers are from all over the world like USA, France, Canada, Austria, Germany, Sweden, Switzerland and many more.



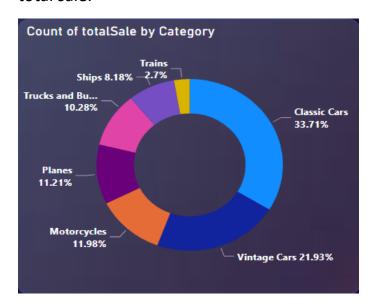
Product Performance

The bread and butter of Axon - classic cars! Here's what we noticed:

Product Categories: Classic cars are a big hit, followed by vintage cars, Motorcycles, Planes, Truck & Buses, Ships and Trains.



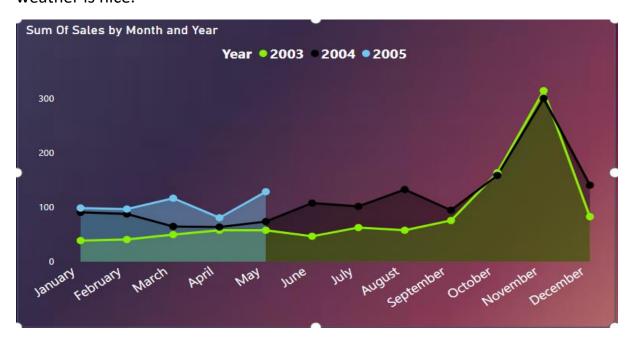
Sales by Product Line: "Classic Cars" is the leader with 33.71% of total sale, followed by "Vintage Cars" with 21.93% and "Motorcycles" with 11.98% of total sale.



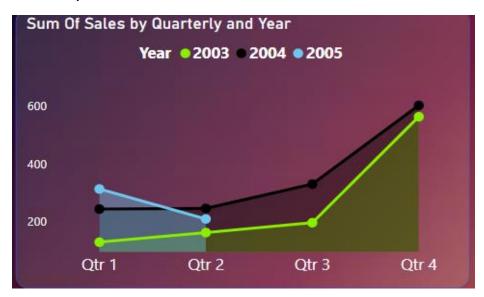
Sales Trends

Let's take a stroll through the seasons:

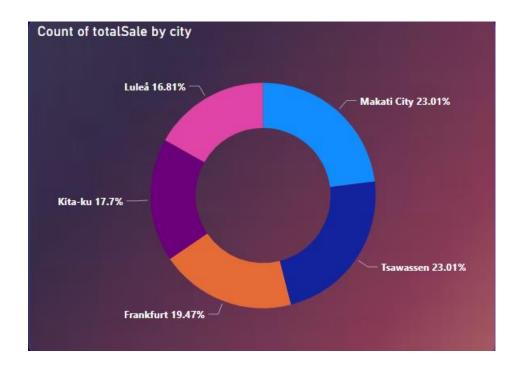
Monthly Sales Trends: Sales seem to peak in the month of November in last 2 years 2003 and 2004. People must love cruising in classic cars when the weather is nice.



Quarterly Sales Growth: The fourth quarter shows the most significant growth in last 2 years 2003 and 2004.



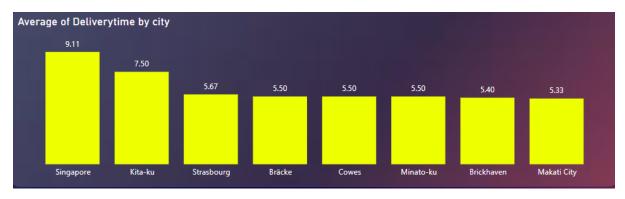
Maximum Sales from City: Maximum Sales are from the city Makati city with 23.01% and Tsawaseem with 23.01% of total sales



 Sales from various countries in the world and most of the sale is from Europe



• **Delivery Time:** Average Delivery time is 4 days and maximum delivery time is 9 days in Singapore and which can be improved, and least time taken for delivery is 1 day in bruxelles.

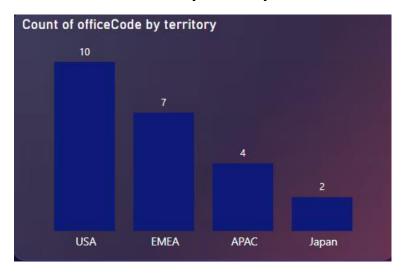




Profit By Product Category: Maximum Profit is generated through Classic cars and Vintage cars only.



Count Of Office Code by Territory:



Average of credit Limit by country:



SQL Analytics

Pivot Table

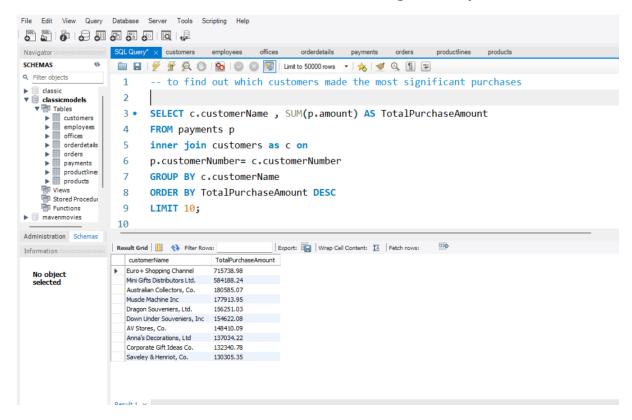
1. Monthly sale by customer

customerName	1	2	3	4	5	6	7	8	9	10	11	12	Total
Euro+ Shopping Channel	29	41	25	9	34	28		6	13	13	4	57	258
Mini Gifts Distributors Ltd.	17	15	42		2		28	29		17	20	10	179
Australian Collectors, Co.		15		15	2						23		55
La Rochelle Gifts		15			13		18			7			53
AV Stores, Co.			16							17	18		51
Land of Toys Inc.		8			14				12		15		49
Muscle Machine Inc						15	6					27	48
Rovelli Gifts		18									30		48
Anna's Decorations, Ltd	9		10						14		13		46
Souveniers And Things Co.					13		19					14	46
Dragon Souveniers, Ltd.			1	12				1	11	18			43
Reims Collectables			18		5		4				6	8	41
Saveley & Henriot, Co.	15		15								- 11		41
Salzburg Collectables				14	14		2				10		40
L'ordine Souveniers					14		15				10		39
Scandinavian Gift Ideas			8						14	16			38
Total	194	204	208	138	203	99	136	174	130	265	51 7	156	2351

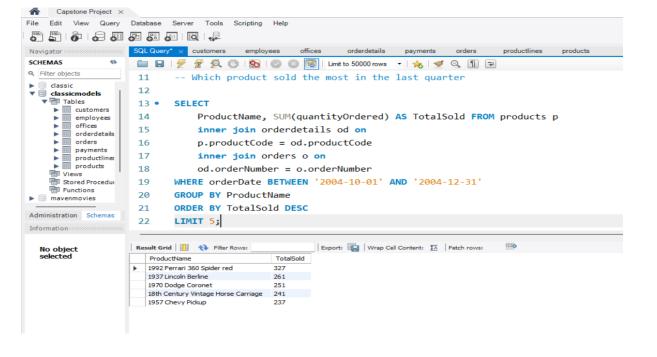
2. Average Delivery time of Product status



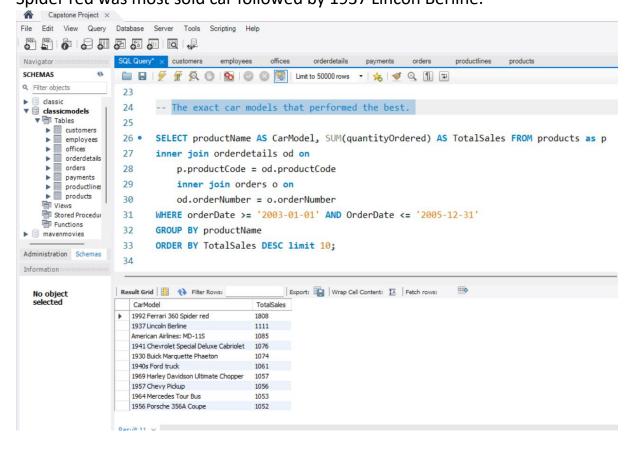
1. To find out which customers made the most significant purchases



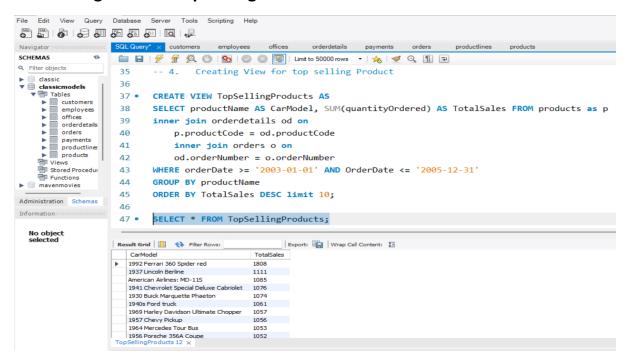
2. Which product sold the most in the last quarter: - 1992 Ferrari 360 Spider red was most sold car



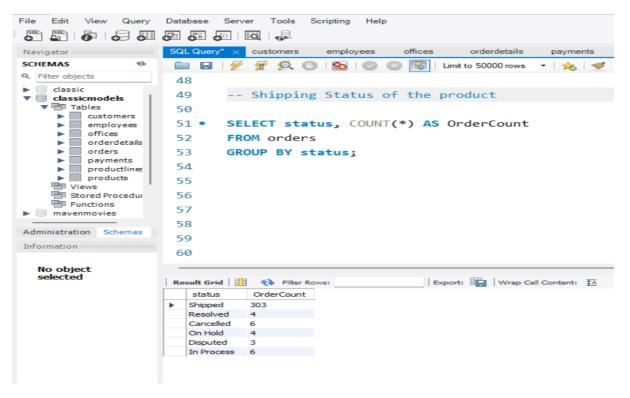
3. The exact car models that performed the best: - 1992 Ferrari 360 Spider red was most sold car followed by 1937 Lincon Berline.



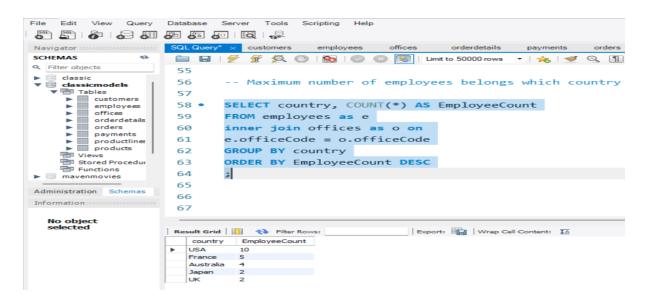
4. Creating View for top selling Product



5. **Shipping Status of the Product:** - maximum products are shipped which is 303, some are cancelled which is 6, 4 are On hold, 6 in progress



6. Maximum number of employees belongs which country: - Maximum belongs to USA which are 10 in count



Conclusion:

The overall growth of Axon's Automobiles is remarkable, characterized by consistently high profit margins of more than 35% on average. A notable pattern in their growth is the surge in sales during the last quarter of each year, particularly considering that the 1st quarter starts from January to March. Additionally, the company boosts an impressive 92% success rate in delivering products, demonstrating its strong operational capabilities. However, an area that warrants attention is their train segment, which generates relatively low revenue compared to other segments.

This may be considered an exceptional case. Regarding the year 2005, we are currently unable to make extensive predictions due to limited data availability. However, if we obtain the full dataset for 2005, we would be delighted to provide further actionable insight.