

SALES ANALYSIS

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SEPTEMBER 12, 2024

Queries link -

```
--Creating database
CREATE DATABASE DatabaseName;

--Using the database
USE SalesAnalysis;

--Creating the table to import data
CREATE TABLE SalesData (
  RowID NVARCHAR(50),
  OrderID NVARCHAR(50),
  OrderDate DATE,
  ShipDate DATE,
  ShipMode NVARCHAR(50),
  CustomerID NVARCHAR(50),
  CustomerName NVARCHAR(255),
  Segment NVARCHAR(50),
  Country NVARCHAR(50),
  City NVARCHAR(100),
  State NVARCHAR(100),
  PostalCode NVARCHAR(20),
  Region NVARCHAR(50)
```

Overview

• Objective:

Obtain Sales Analysis of the following dataset and perform the Following 5 operations:

- 1.Top Sales per Customer
- 2.Average Discount by Product Category
- 3.Top 5 Cities by Total Sales
- 4.Product with sales greater than \$5000

5.Number of Orders per Shipping Mode

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Customer	Segment	Country	City	State	Postal Co	Region	Product ID	Category
1	CA-2016-1	11/8/2016	11/11/2016	Second CI	CG-12520	Claire Gut	Consumer	United St	Henderso	Kentucky	42420	South	FUR-BO-10	Furniture
2	CA-2016-1	11/8/2016	11/11/2016	Second CI	CG-12520	Claire Gut	Consumer	United St	Henderso	Kentucky	42420	South	FUR-CH-10	Furniture
3	CA-2016-1	6/12/2016	6/16/2016	Second CI	DV-13045	Darrin Var	Corporate	United St	Los Angel	California	90036	West	OFF-LA-10	Office Su
4	US-2015-1	10/11/2015	10/18/2015	Standard C	SO-20335	Sean O'Dc	Consumer	United St	Fort Laude	Florida	33311	South	FUR-TA-10	Furniture
5	US-2015-1	10/11/2015	10/18/2015	Standard C	SO-20335	Sean O'Dc	Consumer	United St	Fort Laude	Florida	33311	South	OFF-ST-10	Office Su
6	CA-2014-1	6/9/2014	6/14/2014	Standard C	BH-11710	Brosina Hc	Consumer	United St	Los Angel	California	90032	West	FUR-FU-10	Furniture
7	CA-2014-1	6/9/2014	6/14/2014	Standard C	BH-11710	Brosina Hc	Consumer	United St	Los Angel	California	90032	West	OFF-AR-10	Office Su
8	CA-2014-1	6/9/2014	6/14/2014	Standard C	BH-11710	Brosina Hc	Consumer	United St	Los Angel	California	90032	West	TEC-PH-10	Technolo
9	CA-2014-1	6/9/2014	6/14/2014	Standard C	BH-11710	Brosina Hc	Consumer	United St	Los Angel	California	90032	West	OFF-BI-10	Office Su
10	CA-2014-1	6/9/2014	6/14/2014	Standard C	BH-11710	Brosina Hc	Consumer	United St	Los Angel	California	90032	West	OFF-AP-10	Office Su
11	CA-2014-1	6/9/2014	6/14/2014	Standard C	BH-11710	Brosina Hc	Consumer	United St	Los Angel	California	90032	West	FUR-TA-10	Furniture
12	CA-2014-1	6/9/2014	6/14/2014	Standard C	BH-11710	Brosina Hc	Consumer	United St	Los Angel	California	90032	West	TEC-PH-10	Technolo
13	CA-2017-1	4/15/2017	4/20/2017	Standard C	AA-10480	Andrew A	Consumer	United St	Concord	North Car	28027	South	OFF-PA-10	Office Su
14	CA-2016-1	12/5/2016	12/10/2016	Standard C	IM-15070	Irene Mad	Consumer	United St	Seattle	Washingto	98103	West	OFF-BI-10	Office Su
15	US-2015-1	11/22/2015	11/26/2015	Standard C	HP-14815	Harold Pa	Home Off	United St	Fort Wort	Texas	76106	Central	OFF-AP-10	Office Su
16	US-2015-1	11/22/2015	11/26/2015	Standard C	HP-14815	Harold Pa	Home Off	United St	Fort Wort	Texas	76106	Central	OFF-BI-10	Office Su
17	CA-2014-1	11/11/2014	11/18/2014	Standard C	PK-19075	Pete Kriz	Consumer	United St	Madison	Wisconsin	53711	Central	OFF-ST-10	Office Su
18	CA-2014-1	5/13/2014	5/15/2014	Second CI	AG-10270	Alejandro	Consumer	United St	West Jord	Utah	84084	West	OFF-ST-10	Office Su
19	CA-2014-1	8/27/2014	9/1/2014	Second CI	ZD-21925	Zuschuss I	Consumer	United St	San Franci	California	94109	West	OFF-AR-10	Office Su
20	CA-2014-1	8/27/2014	9/1/2014	Second CI	ZD-21925	Zuschuss I	Consumer	United St	San Franci	California	94109	West	TEC-PH-10	Technolo
21	CA-2014-1	8/27/2014	9/1/2014	Second CI	ZD-21925	Zuschuss I	Consumer	United St	San Franci	California	94109	West	OFF-BI-10	Office Su
22	CA-2016-1	12/9/2016	12/13/2016	Standard C	KB-16585	Ken Black	Corporate	United St	Fremont	Nebraska	68025	Central	OFF-AR-10	Office Su
23	CA-2016-1	12/9/2016	12/13/2016	Standard C	KB-16585	Ken Black	Corporate	United St	Fremont	Nebraska	68025	Central	OFF-AP-10	Office Su
24	US-2017-1	7/16/2017	7/18/2017	Second CI	SF-20065	Sandra Fla	Consumer	United St	Philadelph	Pennsylva	19140	East	FUR-CH-10	Furniture

The Project

- About the Project

This project is focused on analyzing sales data using SQL to generate meaningful insights. The analysis helps identify top customers, products, and cities, as well as calculate average discounts and sales patterns.

- Goals

- Analyze sales data to identify top customers and products.
- Calculate the average discount by product category.
- Find the top cities with the highest total sales.
- Identify products with sales greater than \$5000.
- Analyze the number of orders based on different shipping modes.

Introduction

This project involves analyzing sales data to provide insights into customer behavior, product performance, and sales trends. The main focus is on understanding sales performance by identifying top customers,

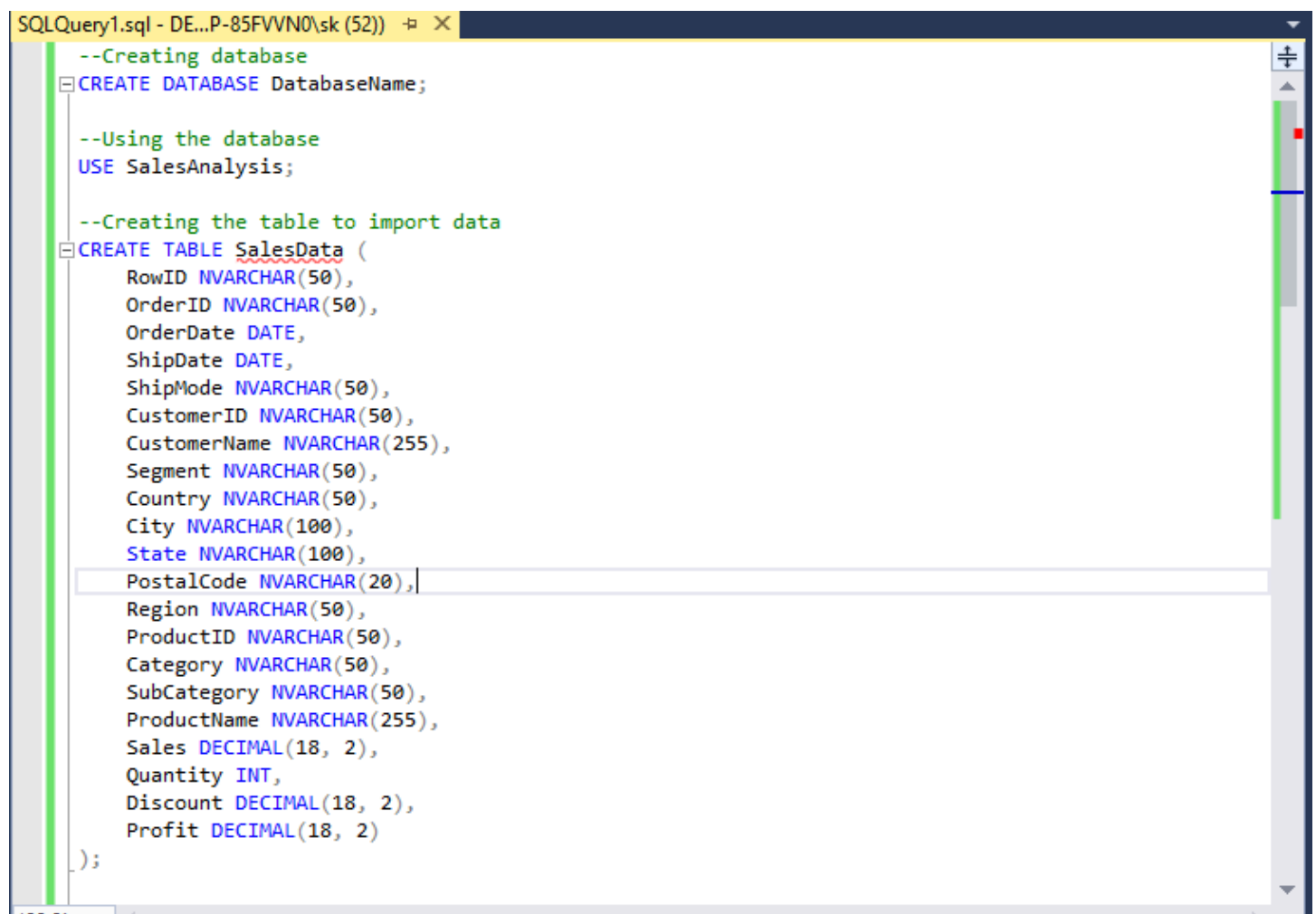
high-selling products, and analyzing discounts and shipping methods. The goal is to extract useful information that can help improve business strategies.

- **Technologies used:**

1. **SQL Server Management Studio (SSMS):** For managing and analyzing the sales database.
2. **Excel:** Used to handle and import bulk data for analysis.
3. **T-SQL (Transact-SQL):** For querying and analyzing the dataset.

Screenshots:

- **Creating database, and table:**

A screenshot of the SQL Server Enterprise Manager interface. The 'SQL Query' window is open, showing a T-SQL script. The script is divided into three sections by comments: '--Creating database', '--Using the database', and '--Creating the table to import data'. The first section contains 'CREATE DATABASE DatabaseName;'. The second section contains 'USE SalesAnalysis;'. The third section contains 'CREATE TABLE SalesData (' followed by a list of columns and their data types: RowID NVARCHAR(50), OrderID NVARCHAR(50), OrderDate DATE, ShipDate DATE, ShipMode NVARCHAR(50), CustomerID NVARCHAR(50), CustomerName NVARCHAR(255), Segment NVARCHAR(50), Country NVARCHAR(50), City NVARCHAR(100), State NVARCHAR(100), PostalCode NVARCHAR(20), Region NVARCHAR(50), ProductID NVARCHAR(50), Category NVARCHAR(50), SubCategory NVARCHAR(50), ProductName NVARCHAR(255), Sales DECIMAL(18, 2), Quantity INT, Discount DECIMAL(18, 2), and Profit DECIMAL(18, 2). The script ends with ');'. The window title bar shows 'SQLQuery1.sql - DE...P-85FVVNO\sk (52)'.

```
--Creating database
CREATE DATABASE DatabaseName;

--Using the database
USE SalesAnalysis;

--Creating the table to import data
CREATE TABLE SalesData (
    RowID NVARCHAR(50),
    OrderID NVARCHAR(50),
    OrderDate DATE,
    ShipDate DATE,
    ShipMode NVARCHAR(50),
    CustomerID NVARCHAR(50),
    CustomerName NVARCHAR(255),
    Segment NVARCHAR(50),
    Country NVARCHAR(50),
    City NVARCHAR(100),
    State NVARCHAR(100),
    PostalCode NVARCHAR(20),
    Region NVARCHAR(50),
    ProductID NVARCHAR(50),
    Category NVARCHAR(50),
    SubCategory NVARCHAR(50),
    ProductName NVARCHAR(255),
    Sales DECIMAL(18, 2),
    Quantity INT,
    Discount DECIMAL(18, 2),
    Profit DECIMAL(18, 2)
);
```

- **Importing and verifying the data is imported correctly:**

```
--Importing data
BULK INSERT SalesData_Staging
FROM 'C:\Users\sk\Downloads\SQLinternship\File.csv'
WITH (
    FIELDTERMINATOR = ',',
    ROWTERMINATOR = '\n',
    FIRSTROW = 2
);

--Verifying the data is imported correctly or not
SELECT TOP 10 * FROM SalesData;
```

Operations

1. Top sales per customer :

```
--Top Sales per customer
SELECT
    CustomerID,
    CustomerName,
    MAX(Sales) AS TopSales
FROM SalesData
GROUP BY CustomerID, CustomerName;
```

Result:

This part of the project identified which customers made the highest

sales, helping to spot loyal and high-spending customers.

Results

Messages

	CustomerID	CustomerName	TopSales
1	AB-10015	Aaron Bergman	242.94
2	AH-10030	Aaron Hawkins	8
3	AS-10045	Aaron Smayling	88.074
4	AB-10060	Adam Bellava...	79.99
5	AH-10075	Adam Hart	841.568
6	AS-10090	Adam Shilling...	94.2
7	AB-10105	Adrian Barton	9892.74
8	AH-10120	Adrian Hane	98.16
9	AS-10135	Adrian Shami	41.28
10	AB-10150	Aimee Bixby	97.82
11	AB-10165	Alan Barnes	94.2
12	AD-10180	Alan Doming...	897.15
13	AH-10195	Alan Haines	961.48
14	AH-10210	Alan Hwang	79.9

2. Average Discount by Product Category :

```
--Average Discount by Product Category
SELECT
    Category,
    AVG(CAST(Discount AS DECIMAL(18, 2))) AS AvgDiscount
FROM SalesData
GROUP BY Category;
```

Result:

We calculated the average discount given for each product category, showing which items had more discounts, helping in future pricing decisions.

100 %

Results

Messages

	Category	AvgDiscount
1	Office Supplies	4.977170
2	Furniture	15.229709
3	Technology	10.019063

3. Top 5 Cities by Total Sales :

```
--Top 5 Cities by Total Sales
SELECT
    City,
    SUM(CAST(Sales AS DECIMAL(18, 2))) AS TotalSales
FROM SalesData
GROUP BY City
ORDER BY TotalSales DESC
OFFSET 0 ROWS FETCH NEXT 5 ROWS ONLY;
```

Result:

We found the cities with the highest total sales, giving insight into where the business performs best.

100 %

Results Messages

	City	TotalSales
1	New York City	437508.92
2	Los Angeles	306782.70
3	Seattle	205325.44
4	Philadelphia	190747.42
5	San Francisco	189891.30

4. Products with Sales Greater than \$5000

```
--Products with Sales Greater than $5000
SELECT
    ProductName,
    Sales
FROM SalesData
WHERE CAST(Sales AS DECIMAL(18, 2)) > 5000;
```

Result:

This part identified which products had sales over \$5000, highlighting high-performing items.

100 %		
Results Messages		
	ProductName	Sales
1	Fellowes PB500 Electric Punch Plastic Comb Binding ...	6354.95
2	High Speed Automatic Electric Letter Opener	8187.65
3	Ibico EPK-21 Electric Binding System	9449.95
4	Hewlett Packard LaserJet 3310 Copier	5399.91
5	Canon imageCLASS 2200 Advanced Copier	13999.96
6	"HP Designjet T520 Inkjet Large Format Printer - 24"" ...	8749.95
7	Fellowes PB500 Electric Punch Plastic Comb Binding ...	5083.96
8	GBC Ibimaster 500 Manual ProClick Binding System	9892.74
9	"HP Designjet T520 Inkjet Large Format Printer - 24"" ...	6999.96
10	Canon imageCLASS 2200 Advanced Copier	8399.976
11	Canon imageCLASS 2200 Advanced Copier	17499.95
12	GBC DocuBind P400 Electric Binding System	5443.96
13	Canon imageCLASS 2200 Advanced Copier	10499.97
14	Canon imageCLASS 2200 Advanced Copier	11199.968
15	Cisco TelePresence System EX90 Videoconferencing ...	22638.48
16	Cubify CubeX 3D Printer Triple Head Print	7999.98
17	Lexmark MX611dhe Monochrome Laser Printer	8159.952
18	Lexmark MX611dhe Monochrome Laser Printer	8159.952
19	Fellowes PB500 Electric Punch Plastic Comb Binding ...	6354.95
20	Cubify CubeX 3D Printer Triple Head Print	7999.98
21	High Speed Automatic Electric Letter Opener	8187.65
22	Canon imageCLASS 2200 Advanced Copier	11199.968
23	Cisco TelePresence System EX90 Videoconferencing ...	22638.48
24	Ibico EPK-21 Electric Binding System	9449.95
25	Canon imageCLASS 2200 Advanced Copier	10499.97
Query executed successful... DESKTOP-85FVVN0\SQLEXPRESS ... DESKTOP-85FVVN0\sk (52) SalesAnalysis 00:00:00		

5. Number of Orders per Shipping Mode :


```
--Number of Orders per Shipping Mode
```

```
SELECT  
    ShipMode,  
    COUNT(OrderID) AS NumberOfOrders  
FROM SalesData  
GROUP BY ShipMode;
```

Result:

We analyzed how many orders were delivered using each shipping method, giving insight into popular delivery preferences among customers.

100 %		
Results Messages		
	ShipMode	NumberOfOrders
1	First Class	3076
2	Same Day	1086
3	Standard Class	11936
4	Second Class	3889

Conclusion

Summary of Findings:

During the project, I found important information like the best customers, top cities for sales, and products that performed well. I also learned about average discounts by product category and the most common shipping methods. These insights can help make better decisions for improving sales.

Lessons Learned and Challenges Faced:

One key lesson was realizing how crucial it is to have clean and accurate data. I faced challenges with handling data formats, especially in fields like Sales and Discount. Solving these issues helped me improve my data processing and cleaning skills.

Appendices:

Dataset link -



Superstore Dataset

Dataset containing Sales & Profits of a Superstore

[kaggle.com](https://www.kaggle.com/datasets/santoshdeepdas/superstore-dataset)

Query file -

```
--Creating database
CREATE DATABASE DatabaseName;

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CREATE TABLE SalesData (
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    Segment NVARCHAR(50),
    Country NVARCHAR(50),
    City NVARCHAR(100),
    State NVARCHAR(100),
    PostalCode NVARCHAR(20),
    Region NVARCHAR(50)
```