**Example Data Analysis Questions:**

1. **Sales Trends**:
   * What are the monthly or yearly sales trends based on the "Order Date"?
   * Which regions or states generate the most sales?
2. **Customer Behavior**:
   * What is the distribution of customer segments (e.g., Consumer vs. Corporate)?
   * Which customer segments spend the most on average?
3. **Shipping Insights**:
   * What is the average shipping time (difference between "Order Date" and "Ship Date") for different shipping modes?
   * Does the shipping mode impact sales or customer satisfaction?
4. **Product Performance**:
   * Which product categories or sub-categories generate the highest sales?
   * Which products are top sellers, and how do they vary by region or segment?
5. **Geographical Insights**:
   * Which cities or states have the highest sales performance?
   * Is there a correlation between sales and customer location (region, state)?

**SQL Queries for the above questions:**

**\*Sales Trends:**

1. What are the monthly or yearly sales trends based on the "Order Date"?

-- **Yearly Sales Trend**

SELECT

YEAR(STR\_TO\_DATE(`Order Date`, '%d/%m/%Y')) AS year,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY year

ORDER BY year;

**Monthly Sales Trend**

SELECT YEAR(STR\_TO\_DATE(`Order Date`, '%d/%m/%Y')) AS year, MONTH(STR\_TO\_DATE(`Order Date`, '%d/%m/%Y')) AS month,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY year, month

ORDER BY year, month;

1. Which regions or states generate the most sales?

-- Sales by Region

SELECT

Region,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY Region

ORDER BY total\_sales DESC;

-- Sales by State

SELECT

State,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY State

ORDER BY total\_sales DESC;

**Customer Behavior**:

1. What is the distribution of customer segments (e.g., Consumer vs. Corporate)?

-- Distribution of Sales by Segment

SELECT

Segment,

COUNT(\*) AS order\_count,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY Segment

ORDER BY total\_sales DESC;

1. Which customer segments spend the most on average?

SELECT

Segment,

AVG(Sales) AS avg\_sales\_per\_order

FROM sales\_data

GROUP BY Segment

ORDER BY avg\_sales\_per\_order DESC;

**Shipping Insights**:

1. What is the average shipping time (difference between "Order Date" and "Ship Date") for different shipping modes?

SELECT

`Ship Mode`,

AVG(DATEDIFF(STR\_TO\_DATE(`Ship Date`, '%d/%m/%Y'), STR\_TO\_DATE(`Order Date`, '%d/%m/%Y'))) AS avg\_shipping\_time

FROM sales\_data

GROUP BY `Ship Mode`

ORDER BY avg\_shipping\_time;

1. Does the shipping mode impact sales or customer satisfaction?

**Analyzing the Impact of Shipping Mode on Sales**

SELECT

`Ship Mode`,

COUNT(\*) AS total\_orders,

SUM(Sales) AS total\_sales,

AVG(Sales) AS avg\_sales\_per\_order

FROM sales\_data

GROUP BY `Ship Mode`

ORDER BY avg\_sales\_per\_order DESC;

**Analyzing the Impact of Shipping Time on Sales (Indirect Satisfaction)**

SELECT

`Ship Mode`,

AVG(DATEDIFF(STR\_TO\_DATE(`Ship Date`, '%d/%m/%Y'), STR\_TO\_DATE(`Order Date`, '%d/%m/%Y'))) AS avg\_shipping\_time,

AVG(Sales) AS avg\_sales\_per\_order

FROM sales\_data

GROUP BY `Ship Mode`

ORDER BY avg\_sales\_per\_order DESC;

**Correlation Between Shipping Time and Sales**

SELECT

DATEDIFF(STR\_TO\_DATE(`Ship Date`, '%d/%m/%Y'), STR\_TO\_DATE(`Order Date`, '%d/%m/%Y')) AS shipping\_time,

Sales

FROM sales\_data;

**Product Performance**:

1. Which product categories or sub-categories generate the highest sales?

SELECT

`Sub-Category`,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY `Sub-Category`

ORDER BY total\_sales DESC;

1. Which products are top sellers, and how do they vary by region or segment?

* **Top-Selling Products**

SELECT

`Product Name`,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY `Product Name`

ORDER BY total\_sales DESC

LIMIT 10; -- This gives you the top 10 best-selling products

* **Top-Selling Products by Region**

SELECT

Region,

`Product Name`,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY Region, `Product Name`

ORDER BY total\_sales DESC;

* **Top-Selling Products by Segment**

SELECT

Segment,

`Product Name`,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY Segment, `Product Name`

ORDER BY total\_sales DESC;

* **Combining Both: Top-Selling Products by Region and Segment**

SELECT

Region,

Segment,

`Product Name`,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY Region, Segment, `Product Name`

ORDER BY total\_sales DESC;

**Geographical Insights**:

1. Which cities or states have the highest sales performance?

* **Sales by State**

SELECT

State,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY State

ORDER BY total\_sales DESC;

* **Top Sales by City**

SELECT

City,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY City

ORDER BY total\_sales DESC

LIMIT 10; -- Adjust the limit to show more cities if needed

* **Sales by City**

SELECT

City,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY City

ORDER BY total\_sales DESC;

* **Top Sales by State**

SELECT

State,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY State

ORDER BY total\_sales DESC

LIMIT 10; -- Adjust the limit to show more states if needed

* **Combined Query: Top Sales by City and State**

SELECT

City,

State,

SUM(Sales) AS total\_sales

FROM sales\_data

GROUP BY City, State

ORDER BY total\_sales DESC

LIMIT 10; -- Adjust the limit to show more cities/states