# Dataset

## 1. Orders Data (Orders.csv)

OrderID,OrderDate,CustomerID,ProductID,Quantity,UnitPrice  
1001,2023-01-15,C001,P001,2,50.00  
1002,2023-01-17,C002,P003,1,120.00  
1003,2023-01-20,C001,P002,5,25.00  
1004,2023-02-10,C003,P004,1,200.00  
1005,2023-02-12,C004,P001,3,50.00  
1006,2023-02-18,C002,P005,2,75.00  
1007,2023-03-05,C005,P002,10,25.00  
1008,2023-03-10,C001,P003,2,120.00  
1009,2023-03-15,C003,P001,1,50.00  
1010,2023-04-02,C004,P004,2,200.00  
1011,2023-04-05,C002,P002,3,25.00  
1012,2023-04-10,C005,P005,4,75.00  
1013,2023-05-08,C001,P001,2,50.00  
1014,2023-05-12,C003,P003,1,120.00  
1015,2023-05-20,C004,P002,6,25.00

## 2. Customers Data (Customers.csv)

CustomerID,CustomerName,Region,Country  
C001,Alpha Inc.,North,USA  
C002,Beta Ltd.,South,USA  
C003,Gamma Corp.,East,Canada  
C004,Delta LLC,West,USA  
C005,Epsilon Co.,North,Canada

## 3. Products Data (Products.csv)

ProductID,ProductName,Category,StandardCost  
P001,Laptop,Electronics,40.00  
P002,Mouse,Electronics,20.00  
P003,Keyboard,Electronics,100.00  
P004,Monitor,Electronics,150.00  
P005,Webcam,Accessories,60.00

## 4. Sales Target Data (SalesTargets.csv)

Region,MonthYear,TargetSales  
North,2023-01,500  
South,2023-01,300  
East,2023-01,400  
West,2023-01,350  
North,2023-02,550  
South,2023-02,320  
East,2023-02,430  
West,2023-02,380  
North,2023-03,600  
South,2023-03,350  
East,2023-03,450  
West,2023-03,400  
North,2023-04,620  
South,2023-04,360  
East,2023-04,460  
West,2023-04,410  
North,2023-05,650  
South,2023-05,380  
East,2023-05,480  
West,2023-05,420

# Power BI Task

"You are a BI Analyst at a retail company. Using the provided datasets (Orders.csv, Customers.csv, Products.csv, SalesTargets.csv), please create a Power BI dashboard that provides insights into sales performance.

Your dashboard should aim to answer questions like:

1. What is the overall sales revenue trend over time (by month)?
2. Which products are the top sellers by revenue and quantity?
3. Which customers contribute the most to revenue?
4. How is sales performance by region, and how does it compare against regional sales targets?
5. What is the profit margin per product? (Profit = (UnitPrice - StandardCost) \* Quantity).

Feel free to:

* Perform any necessary data cleaning or transformations.
* Create relationships between the tables.
* Create new measures or calculated columns if needed (e.g., Total Revenue, Profit).
* Choose visualizations that best represent the data and insights.
* Structure the dashboard for clarity and ease of understanding.

# SQL Scenario-Based Problems

**Table Structures:**

Orders Table:

|  |  |
| --- | --- |
| ColumnName | DataType |
| OrderID | INT |
| OrderDate | DATE |
| CustomerID | VARCHAR(10) |
| ProductID | VARCHAR(10) |
| Quantity | INT |
| UnitPrice | DECIMAL(10,2) |

Customers Table:

|  |  |
| --- | --- |
| ColumnName | DataType |
| CustomerID | VARCHAR(10) |
| CustomerName | VARCHAR(255) |
| Region | VARCHAR(50) |
| Country | VARCHAR(50) |

Products Table:

|  |  |
| --- | --- |
| ColumnName | DataType |
| ProductID | VARCHAR(10) |
| ProductName | VARCHAR(255) |
| Category | VARCHAR(50) |
| StandardCost | DECIMAL(10,2) |

**SQL Questions**

Write SQL queries for the following scenarios.

1. **Total Revenue per Product:**
   * "Write a SQL query to show the total revenue generated by each product. List the Product Name and its total revenue. Order the results by total revenue in descending order."
2. **Customers with Most Orders:**
   * "Write a SQL query to find the top 3 customers who have placed the most orders (by count of orders, not quantity of items). Show the Customer Name and the number of orders."
3. **Monthly Sales Trend:**
   * "Write a SQL query to show the total sales revenue for each month. The output should have the month (e.g., '2023-01') and the total revenue for that month. Order by month."
4. **Products Not Sold in a Specific Month:**
   * "Write a SQL query to list all products (ProductName) that were NOT sold in 'March 2023'."
5. **Average Order Value by Region:**
   * "Write a SQL query to calculate the average order value (total revenue per order) for each customer region. Display the region and its average order value."