



NORTHWIND DATA ANALYSIS

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DATASET OVERVIEW

- Northwind is a fictional business specializing in a variety of products, including Beverages, Condiments, Confections, Dairy Products, Cereals, Meat, Produce, and Seafood.
- The dataset includes files such as Categories, Customer Details, Employee Details, Order Details, Orders, and Products. Questions were provided to query the dataset

TOOLS USED

SQL
Power BI

STEPS FOLLOWED

1. Imported Northwind dataset into SQL Server
2. Used SQL functions to query dataset and answer the questions
3. Then imported it into Power BI for visualizations.

1. Retrieve the FirstName, LastName, and HireDate of employees who hold the title 'Sales Representative' and are located in the United States.

```
SELECT FirstName, LastName, HireDate
FROM [dbo].[Employees]
WHERE Title = 'Sales Representative' AND Country = 'USA'; ---3 rows affected
```

	FirstName	LastName	HireDate
1	Nancy	Davolio	2010-05-01 00:00:00.000
2	Janet	Leverling	2010-04-01 00:00:00.000
3	Margaret	Peacock	2011-05-03 00:00:00.000

2. Retrieve the ProductID and ProductName from the products table for all products whose ProductName contains the word 'queso'.

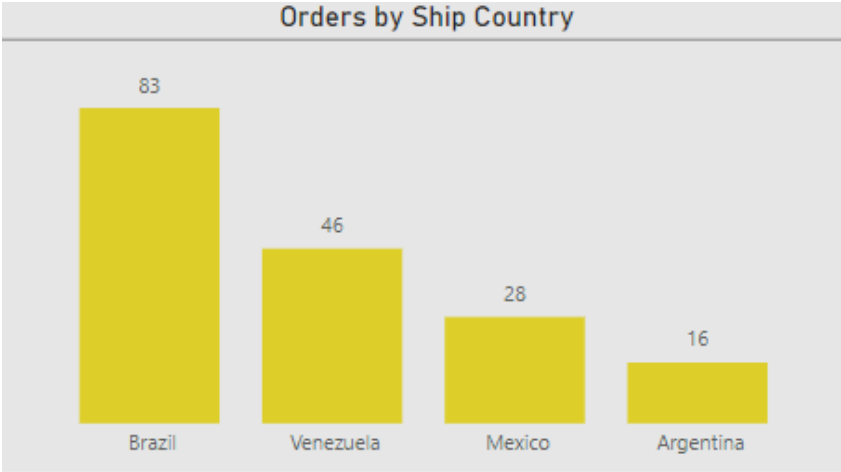
```
SELECT ProductID, ProductName  
FROM [dbo].[Products]  
WHERE ProductName LIKE '%queso%'; --2 rows affected
```

	ProductID	ProductName
1	11	Queso Cabrales
2	12	Queso Manchego La Pastora

3. List all orders from Latin American countries in the Northwind database. Since there isn't a predefined list of Latin American countries in the database, use the following countries from the Orders table: Brazil, Mexico, Argentina, and Venezuela.

```
SELECT OrderID, CustomerID, ShipCountry
FROM [dbo].[Orders]
WHERE ShipCountry IN ('Brazil', 'Mexico', 'Argentina', 'Venezuela'); ---173 rows affected
```

	OrderID	CustomerID	ShipCountry
1	10250	HANAR	Brazil
2	10253	HANAR	Brazil
3	10256	WELLI	Brazil
4	10257	HILAA	Venezuela
5	10259	CENTC	Mexico
169	11065	LILAS	Venezuela
170	11068	QUEEN	Brazil
171	11069	TORTU	Mexico
172	11071	LILAS	Venezuela
173	11073	PERIC	Mexico



4. Retrieve the FirstName, LastName, Title, and BirthDate for all employees in the Employees table. Format the BirthDate to display only the date portion and order the results by BirthDate in ascending order, showing the oldest employees first.

```
SELECT FirstName, LastName, Title, CAST(BirthDate AS Date) AS BirthDate
FROM [dbo].[Employees]
ORDER BY BirthDate ASC; --- 9 rows affected
```

	FirstName	LastName	Title	BirthDate
1	Margaret	Peacock	Sales Representative	1955-09-19
2	Nancy	Davolio	Sales Representative	1966-12-08
3	Andrew	Fuller	Vice President, Sales	1970-02-19
4	Steven	Buchanan	Sales Manager	1973-03-04
5	Laura	Callahan	Inside Sales Coordinator	1976-01-09
6	Robert	King	Sales Representative	1978-05-29
7	Michael	Suyama	Sales Representative	1981-07-02
8	Janet	Leverling	Sales Representative	1981-08-30
9	Anne	Dodsworth	Sales Representative	1984-01-27

5. Create a new calculated field called TotalPrice. Display the OrderID, ProductID, UnitPrice, Quantity, and TotalPrice. Order the results by OrderID and then by ProductID.

```
SELECT OrderID, ProductID, UnitPrice, Quantity, (UnitPrice*Quantity) AS TotalPrice
FROM [dbo].[OrderDetails]
ORDER BY OrderID, ProductID ---2155 rows affected
```

	OrderID	ProductID	UnitPrice	Quantity	TotalPrice
1	10248	11	14.00	12	168.00
2	10248	42	9.80	10	98.00
3	10248	72	34.80	5	174.00
4	10249	14	18.60	9	167.40
5	10249	51	42.40	40	1696.00
2...	11077	64	33.25	2	66.50
2...	11077	66	17.00	1	17.00
2...	11077	73	15.00	2	30.00
2...	11077	75	7.75	4	31.00
2...	11077	77	13.00	2	26.00

2155

Total Orders

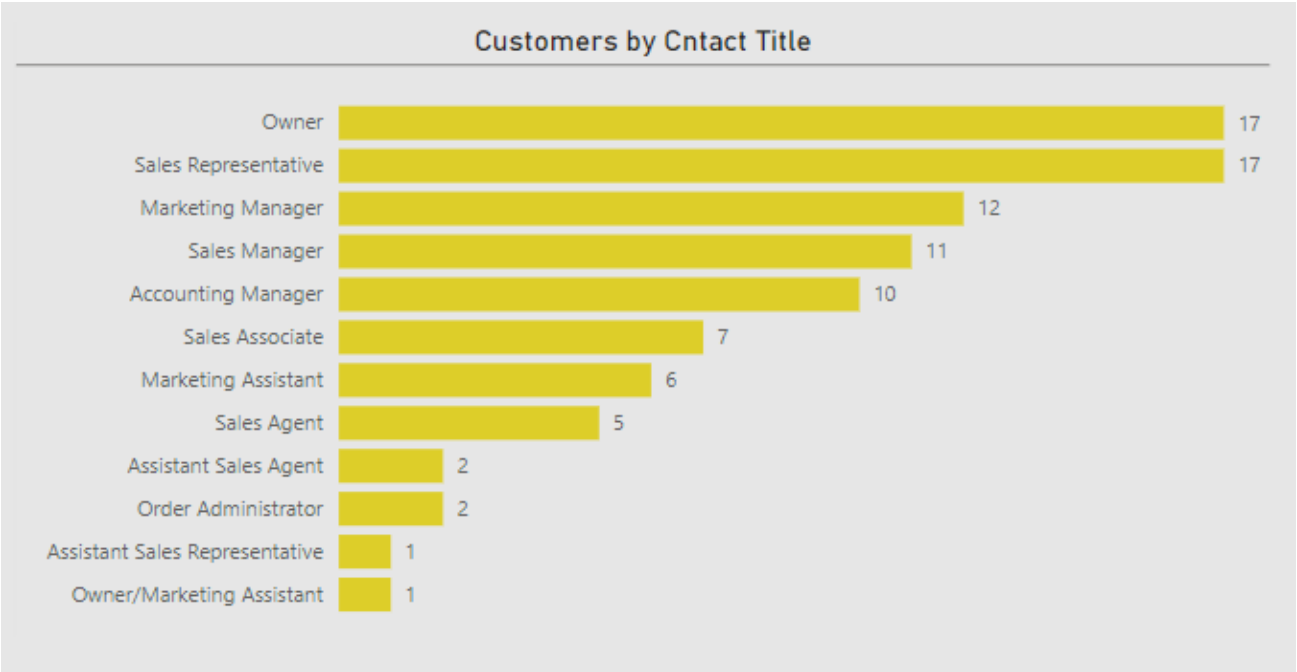
77

Total Products

6. Display a list of all unique ContactTitle values from the Customers table along with the count of customers for each ContactTitle.

```
SELECT ContactTitle, COUNT(ContactTitle) AS NumOfCustomers
FROM [dbo].[Customers]
GROUP BY ContactTitle
ORDER BY NumOfCustomers DESC; ---12 rows affected
```

	ContactTitle	NumOfCustomers
1	Owner	17
2	Sales Representative	17
3	Marketing Manager	12
4	Sales Manager	11
5	Accounting Manager	10
8	Sales Agent	5
9	Assistant Sales Agent	2
10	Order Administrator	2
11	Assistant Sales Representative	1
12	Owner/Marketing Assistant	1



7. Which products need reordering, based on the following criteria: the sum of UnitsInStock and UnitsOnOrder is less than or equal to ReorderLevel

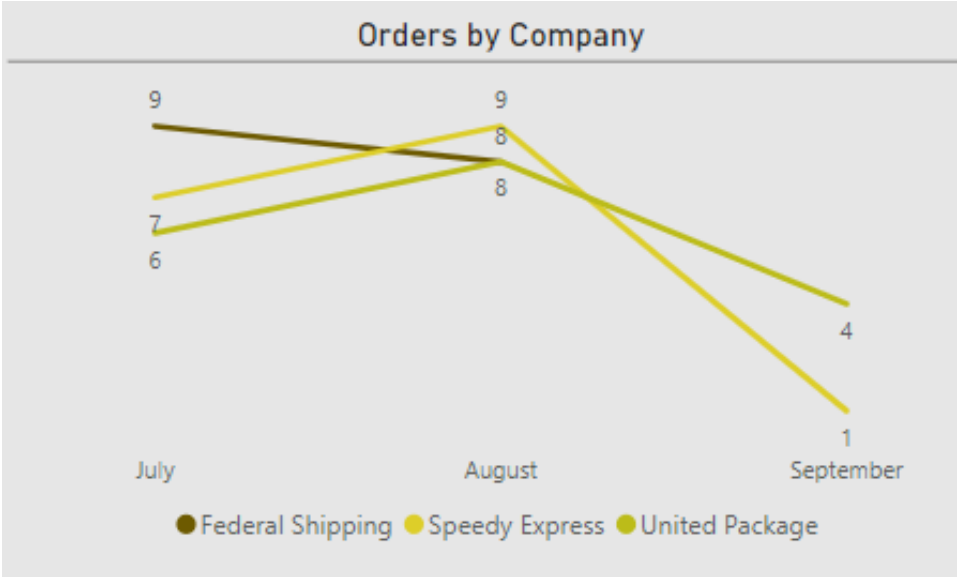
```
SELECT ProductName, UnitsInStock, UnitsOnOrder,ReorderLevel, Discontinued
FROM [dbo].[Products]
WHERE (UnitsInStock + UnitsOnOrder) <= ReorderLevel AND Discontinued = 0; --- 3 rows affected
```

	ProductName	UnitsInStock	UnitsOnOrder	ReorderLevel	Discontinued
1	Nord-Ost Matjeshering	10	0	15	0
2	Outback Lager	15	10	30	0

8. Display the OrderID, the OrderDate (showing only the date), and the CompanyName of the Shipper for orders where the OrderID is less than 10300? Additionally, sort the results by OrderID

```
SELECT OrderID, CAST(OrderDate AS DATE) AS OrderDate, CompanyName
FROM [dbo].[Shippers] AS S
INNER JOIN [dbo].[Orders] AS O
ON S.ShipperID = O.ShipVia
WHERE OrderID < 10300; --- 52 rows affected
```

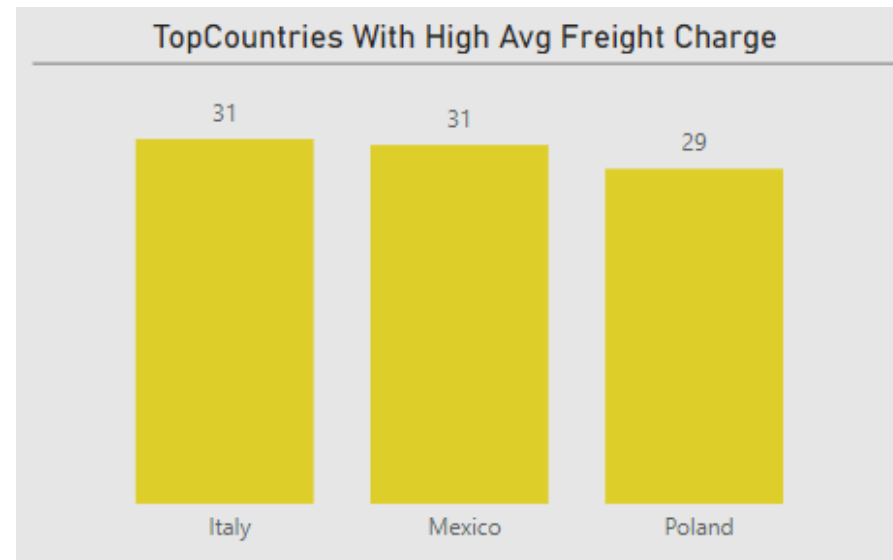
	OrderID	OrderDate	CompanyName
1	10248	2014-07-04	Federal Shipping
2	10249	2014-07-05	Speedy Express
3	10250	2014-07-08	United Package
4	10251	2014-07-08	Speedy Express
5	10252	2014-07-09	United Package
48	10295	2014-09-02	United Package
49	10296	2014-09-03	Speedy Express
50	10297	2014-09-04	United Package
51	10298	2014-09-05	United Package
52	10299	2014-09-06	United Package



9. Find the 3 ShipCountries with the highest average freight charges, considering only the last 12 months of order data and use the latest OrderDate from the Orders table as the end date for this period.

```
SELECT TOP 3 ShipCountry, AVG(Freight) AS AvgFreightCharge
FROM Orders
WHERE OrderDate >= DATEADD(yy, -1, (SELECT max(OrderDate) FROM Orders))
GROUP BY ShipCountry
ORDER BY AvgFreightCharge;
```

	ShipCountry	AvgFreightCharge
1	Poland	28.6333
2	Mexico	30.6666
3	Italy	31.171

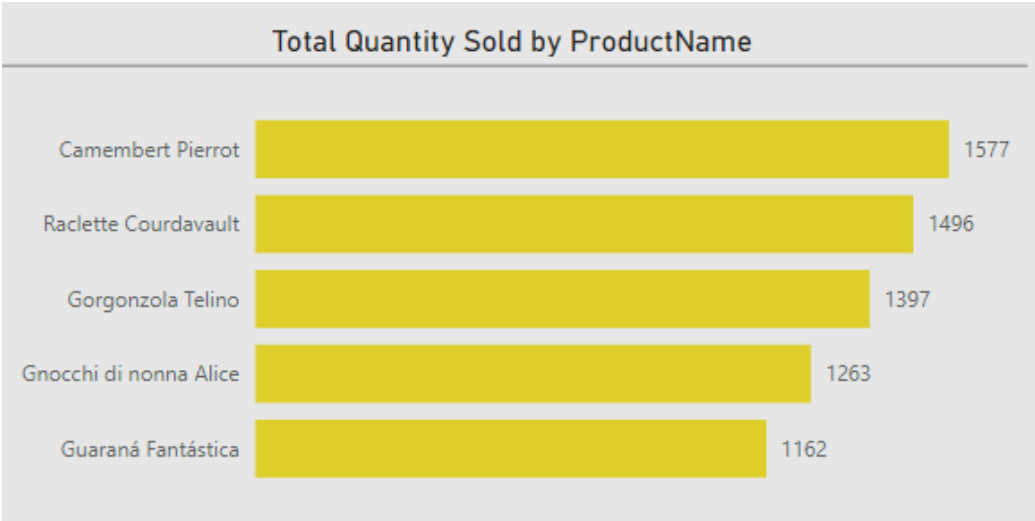
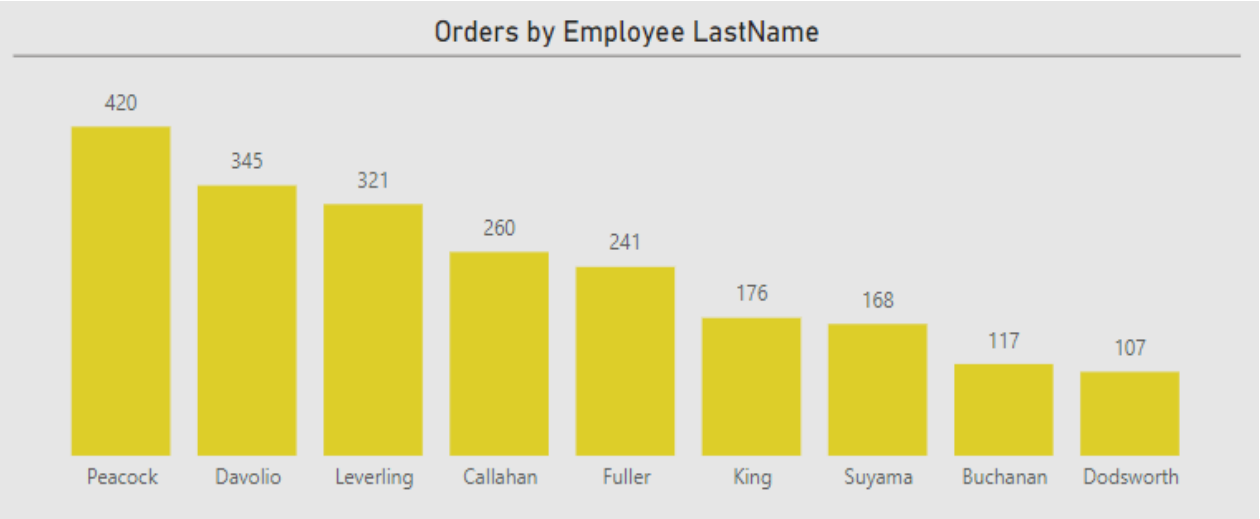


10. Show EmployeeID, LastName, OrderID, ProductName and Quantity. Sort them by OrderID and ProductID

```
SELECT O.EmployeeID, E.LastName, OD.OrderID, P.ProductName, OD.Quantity
FROM Employees AS E
JOIN Orders AS O
ON E.EmployeeID = O.EmployeeID
JOIN OrderDetails AS OD
ON O.OrderID = OD.OrderID
JOIN Products AS P
ON P.ProductID = OD.ProductID; ---2,155 rows affected
```

	EmployeeID	LastName	OrderID	ProductName	Quantity
1	5	Buchanan	10248	Queso Cabrales	12
2	5	Buchanan	10248	Singaporean Hokkien Fried Mee	10
3	5	Buchanan	10248	Mozzarella di Giovanni	5
4	6	Suyama	10249	Tofu	9
5	6	Suyama	10249	Manjimup Dried Apples	40

2...	1	Davolio	11077	Wimmers gute Semmelknödel	2
2...	1	Davolio	11077	Louisiana Hot Spiced Okra	1
2...	1	Davolio	11077	Röd Kaviar	2
2...	1	Davolio	11077	Rhönbräu Klosterbier	4
2...	1	Davolio	11077	Original Frankfurter grüne Soße	2



Northwind Data Analysis Report



2,905M

Total Revenue

51,383

Total Qty Sold

28.87

Average Price

Customer Country

All

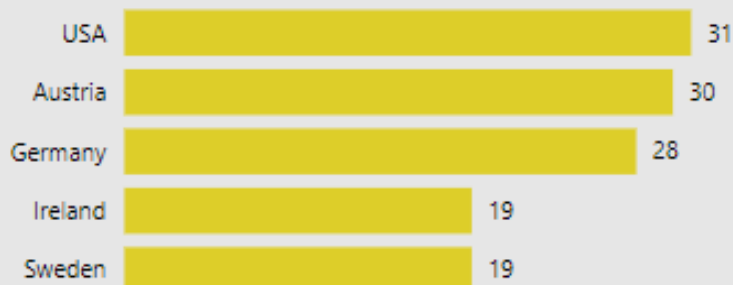
Employee

All

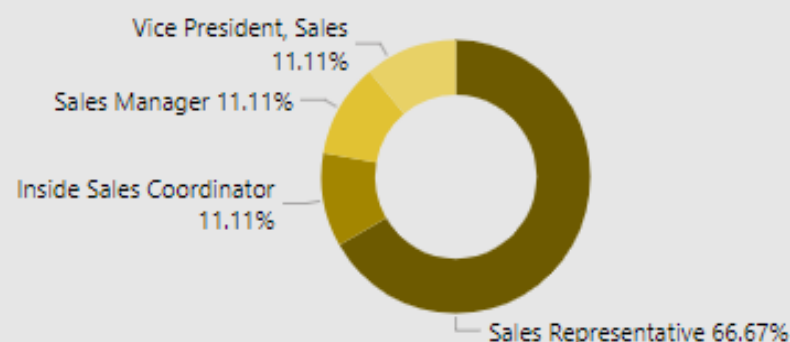
Product

All

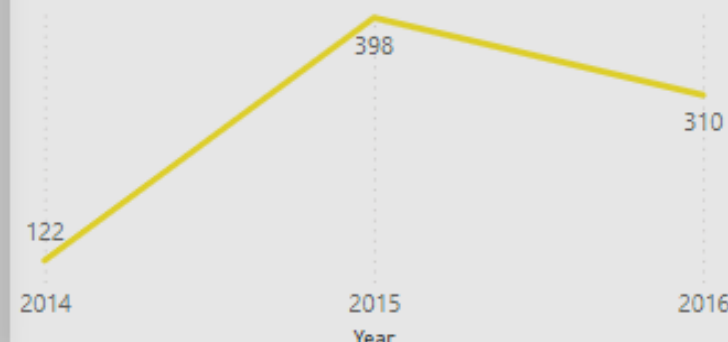
Top Customers by Country



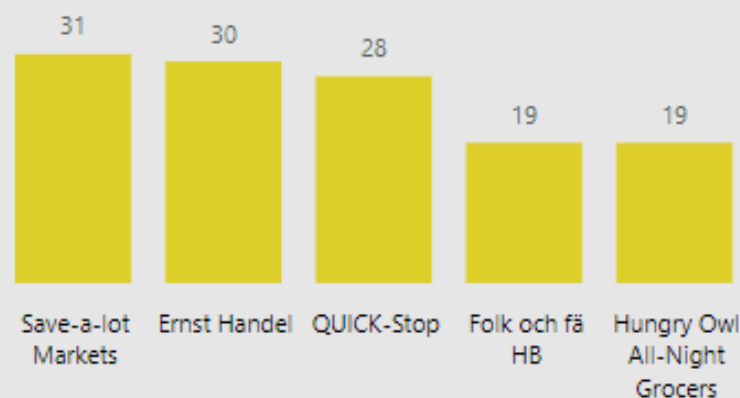
Employees by Title



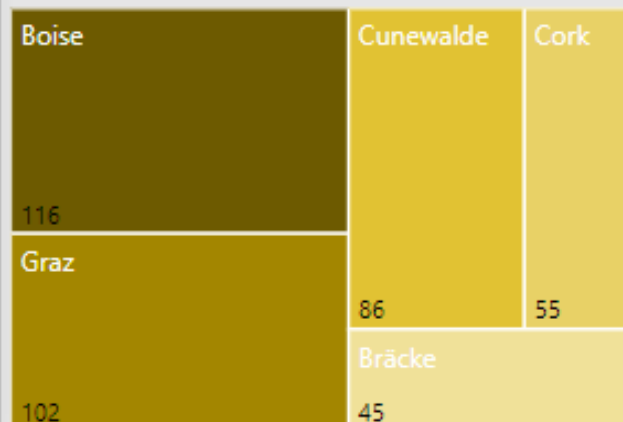
Orders by Year



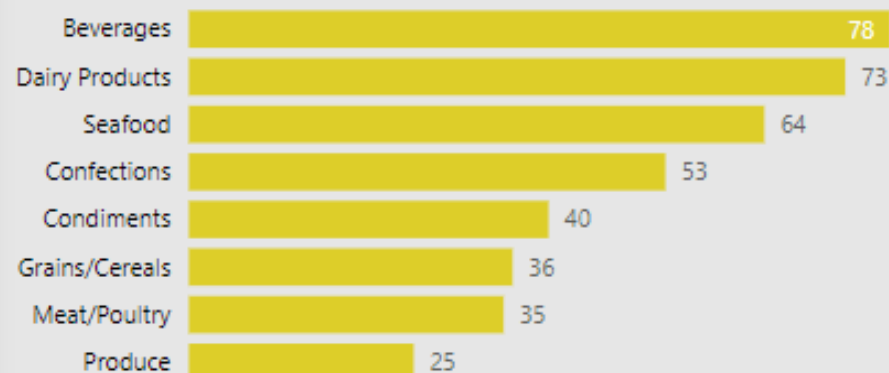
Top Customers



Top Cities by Sales



Category by Sales



THANK YOU