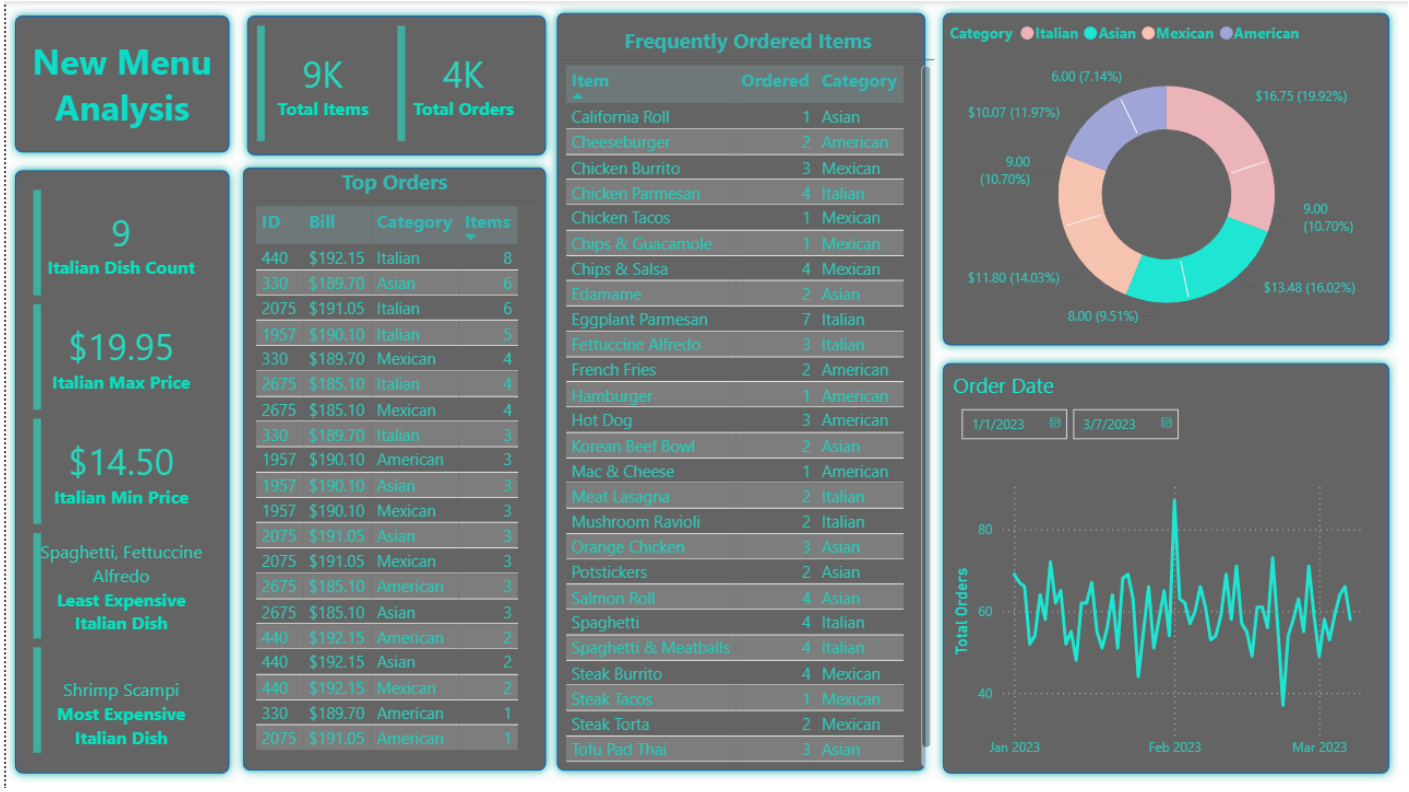
Kainat Saeed

Restaurant Order Analysis

Data Analysis for the new menu using Power BI



Introduction

This data contains two tables: Menu Table and Order Table. The restaurant management wants to design the new menu. The task given was to analyse the orders to find out which dishes were frequently ordered and which ones were the least favourite among the customers.

Data Source: https://app.mavenanalytics.io/datasets

Objectives

OBJECTIVE 1: EXPLORE THE ITEMS TABLE

- **View the menu_items table and write a query to find the number of items on the menu.**

Used Power Query Editor to load and view the data.

- **What are the least and most expensive items on the menu?**

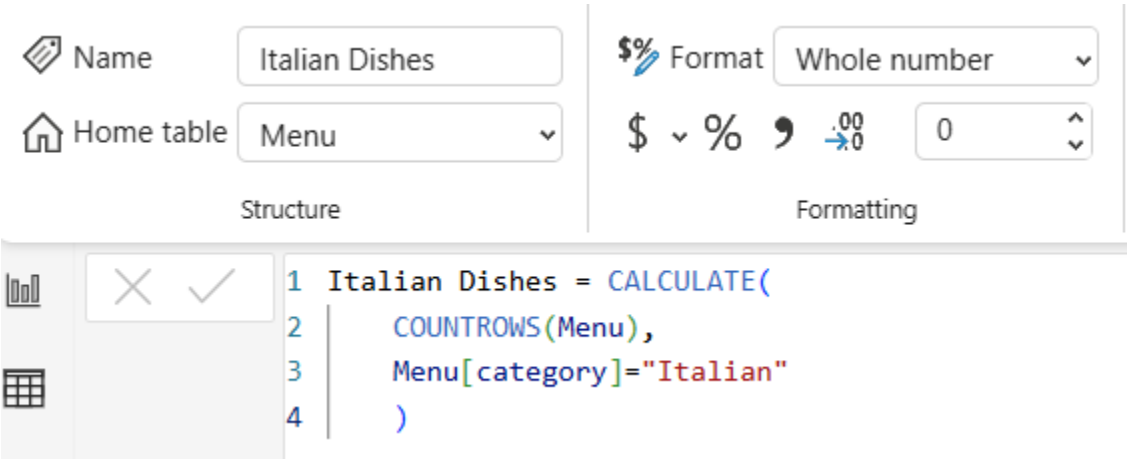
Applying the ascending order sorting on price column to view the least and most expensive items on the menu.

menu_item_id	item_name	category	price
113	Edamame	Asian	5

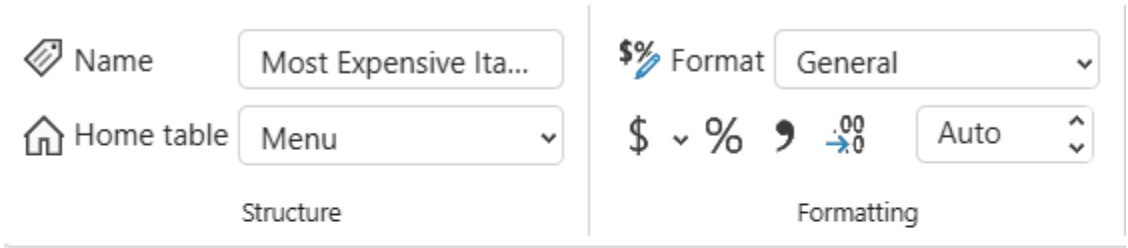
menu_item_id	item_name	category	price
130	Shrimp Scampi	Italian	19.95

- **How many Italian dishes are on the menu? What are the least and most expensive Italian dishes on the menu?**

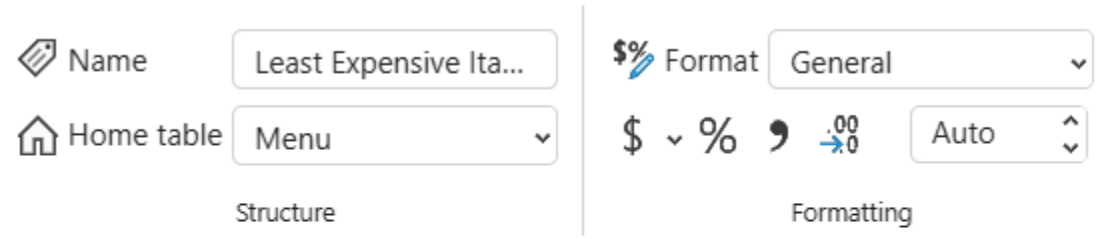
Write DAX function to calculate how many Italian dishes are on the menu.



Italian Dishes = 9




```
1 Most Expensive Italian Dishes = CALCULATE(
2     MAX(Menu[price]),
3     Menu[category]="Italian"
4     )
```




```
1 Least Expensive Italian Dishes = CALCULATE(
2     MIN(Menu[price]),
3     Menu[category]="Italian"
4     )
```

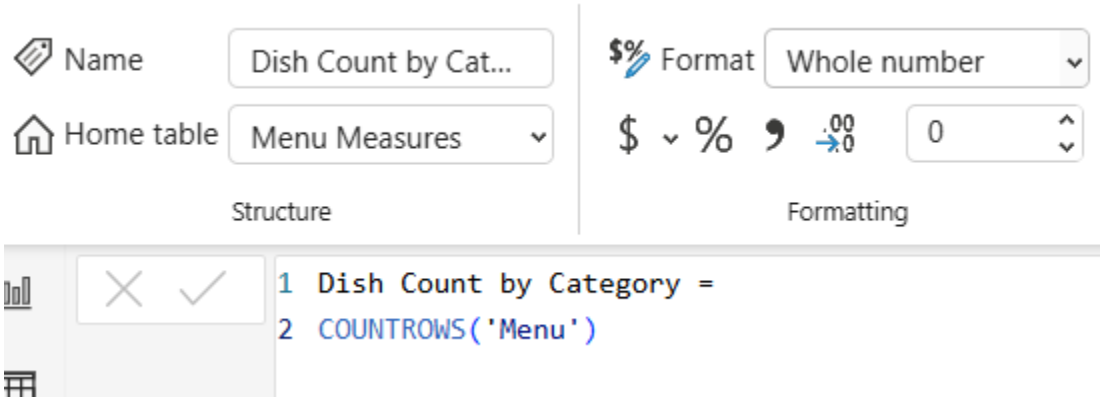
```
1  Most Expensive Italian Dish =
2  VAR MaxPrice = [Italian Max Price]
3  VAR MaxDishes =
4      CALCULATETABLE(
5          VALUES('Menu'[item_name]),
6          'Menu'[category] = "Italian",
7          'Menu'[price] = MaxPrice
8      )
9  RETURN
10     CONCATENATEX(MaxDishes, 'Menu'[item_name], ", ")
```

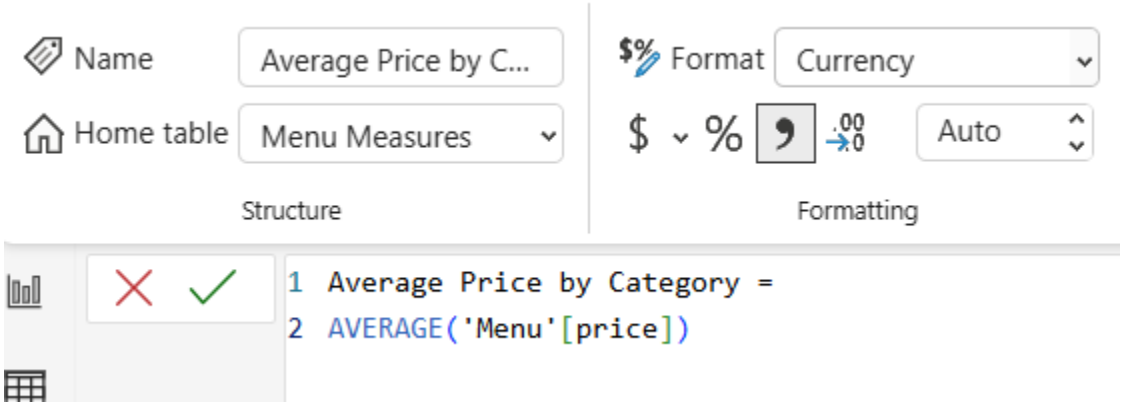
```
Least Expensive Italian Dish =
VAR MinPrice = [Italian Min Price]
VAR MinDishes =
    CALCULATETABLE(
        VALUES('Menu'[item_name]),
        'Menu'[category] = "Italian",
        'Menu'[price] = MinPrice
    )
RETURN
    CONCATENATEX(MinDishes, 'Menu'[item_name], ", ")
```

Fettuccine Alfredo, Spaghetti
Least Expensive Italian Dish

Shrimp Scampi
Most Expensive Italian Dish

- **How many dishes are in each category? What is the average dish price within each category?**



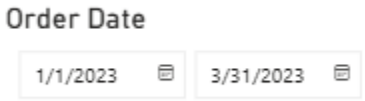


Category	Dish Count	Average Price by Category
American	6	$10.07
Asian	8	$13.48
Italian	9	$16.75
Mexican	9	$11.80

OBJECTIVE 2: EXPLORE THE ORDERS TABLE

- **View the order_details table. What is the date range of the table?**

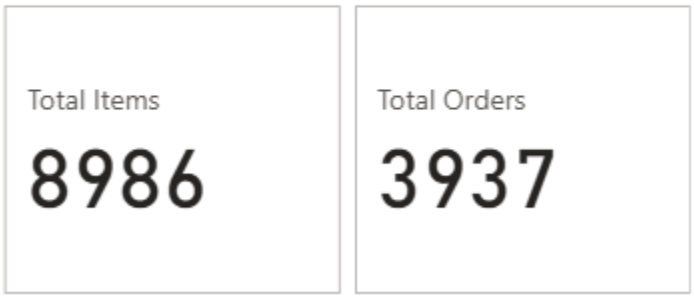
Added a order date slicer.



- **How many orders were made within this date range? How many items were ordered within this date range?**

Order Date

1/1/2023 3/7/2023



OBJECTIVE 3: ANALYZE CUSTOMER BEHAVIOR

- **What were the least and most ordered items? What categories were they in?**

category	item_name	Total Orders Per Item
American	Veggie Burger	167
Asian	Tofu Pad Thai	407
Mexican	Steak Torta	371
Mexican	Steak Tacos	166
Mexican	Steak Burrito	263
Italian	Spaghetti & Meatballs	334
Italian	Spaghetti	273
Italian	Shrimp Scampi	171

- **What were the top 5 orders that spent the most money?**

Top 5 Orders

order_id	Order Price
440	192
2075	191
1957	190
330	190
2675	185

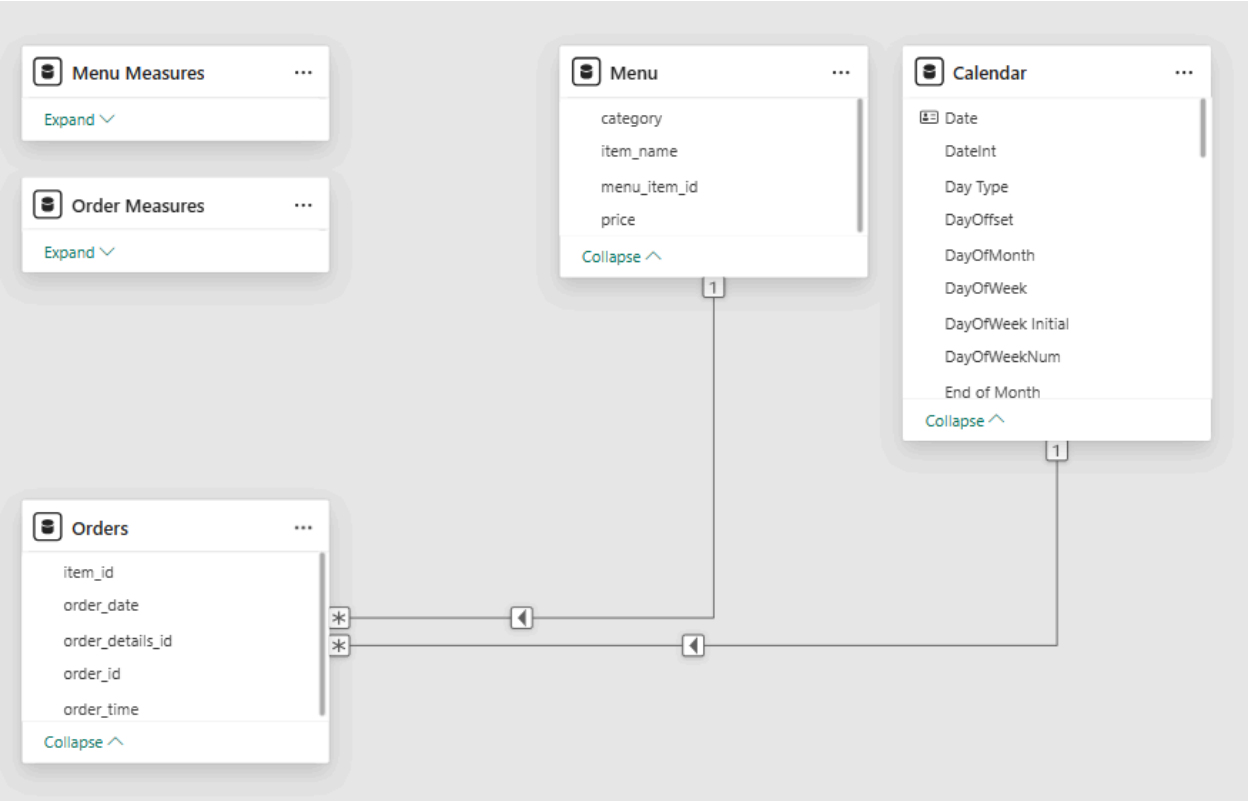
- **View the details of the top 5 highest spend orders. What insights can you gather from the results?**

Top 5 Orders

order_id	Order Price	category	Total Items
440	192.15	American	2
440	192.15	Asian	2
440	192.15	Italian	8
440	192.15	Mexican	2
2075	191.05	American	1
2075	191.05	Asian	3
2075	191.05	Italian	6
2075	191.05	Mexican	3
1957	190.10	American	3
1957	190.10	Asian	3
1957	190.10	Italian	5
1957	190.10	Mexican	3
330	189.70	American	1
330	189.70	Asian	6
330	189.70	Italian	3
330	189.70	Mexican	4
2675	185.10	American	3
2675	185.10	Asian	3
2675	185.10	Italian	4
2675	185.10	Mexican	4
Total	**948.10**		**69**

```
1 Total Order Price (Order Level) =
2 CALCULATE(
3     [Order Price],
4     ALLEXCEPT(Orders, Orders[order_id])
5 )
```

Data Model



Measures

```
Average Price by Category =

AVERAGE('Menu'[price])

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Dish Count by Category =

COUNTROWS('Menu')

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Italian Dish Count =

CALCULATE(

    COUNTROWS('Menu'),

    'Menu'[category] = "Italian"
```

```
)

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Italian Max Price =

CALCULATE(

    MAX('Menu'[price]),

    'Menu'[category] = "Italian"

)

------------------------------

Italian Min Price =

CALCULATE(

    MIN('Menu'[price]),

    'Menu'[category] = "Italian"

)

------------------------------

Least Expensive Italian Dish =

VAR MinPrice = [Italian Min Price]

VAR MinDishes =

    CALCULATETABLE(

        VALUES('Menu'[item_name]),

        'Menu'[category] = "Italian",

        'Menu'[price] = MinPrice

    )

RETURN

    CONCATENATEX(MinDishes, 'Menu'[item_name], ", ")
```

```
------------------------------

Most Expensive Italian Dish =

VAR MaxPrice = [Italian Max Price]

VAR MaxDishes =

    CALCULATETABLE(

        VALUES('Menu'[item_name]),

        'Menu'[category] = "Italian",

        'Menu'[price] = MaxPrice

    )

RETURN

    CONCATENATEX(MaxDishes, 'Menu'[item_name], ", ")

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Order Price = SUMX ( Orders, LOOKUPVALUE ( Menu[price], Menu[menu_item_id],
Orders[item_id] ) )

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Total Items =

COUNTROWS('Orders')

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Total Order Price =


SUMX ( Orders, LOOKUPVALUE ( Menu[price], Menu[menu_item_id], Orders[item_id] ) )

------------------------------

Total Order Price (Order Level) =

CALCULATE(

    [Order Price],
```

```
    ALLEXCEPT(Orders, Orders[order_id])
)
_______________________________
Total Orders Per Item = COUNTROWS(Orders)
_______________________________
Total Orders =
DISTINCTCOUNT('Orders'[order_id])
```