Restaurant Order Analysis Report

A quarter's worth of orders from a fictitious restaurant serving international cuisine, including the date and time of each order, the items ordered, and additional details on the type, name and price of the items.

The report is divided into 3 parts. Exploring Menu Table, Exploring Orders Table, Analysing Customer Behaviour

Below is a description of the table:

menu_items Table

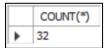| Column	Definition	Data Type
Menu_item_id	Unique ID of a menu item	Int
Item_name	Code Name of a menu item	varchar
category	Category or type of cuisine of the menu item	varchar
price	Price of the menu item (US Dollars $)	float

order_details Table

Column	Definition	Data Type
order_details_id	Unique ID of an item in an order	Int
order_id	ID of an order	int
order_date	Date an order was put in (MM/DD/YY)	varchar
order_time	Time an order was put in (HH:MM:SS AM/PM)	varchar
item_id	Matches the menu_item_id in the menu_items table	int

Exploring the Menu Table

Find the number of items on the menu

SELECT COUNT(*)

FROM menu_items;

	COUNT(*)
▶	32

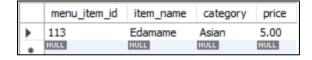## What are the least and most expensive items on the menu?

SELECT *

FROM menu_items

ORDER BY price

LIMIT 1;

	menu_item_id	item_name	category	price
▶	113	Edamame	Asian	5.00
*	NULL	NULL	NULL	NULL

SELECT *

FROM menu_items

ORDER BY price DESC

LIMIT 1;

	menu_item_id	item_name	category	price
▶	130	Shrimp Scampi	Italian	19.95
*	NULL	NULL	NULL	NULL

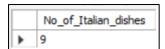## How many Italian dishes are on the menu?

SELECT COUNT(*) AS No_of_Italian_dishes

FROM menu_items

WHERE category = 'Italian';

	No_of_Italian_dishes
▶	9

What are the least and most expensive Italian dishes on the menu?

SELECT *

FROM menu_items

WHERE category = 'Italian'

ORDER BY price

LIMIT 1;

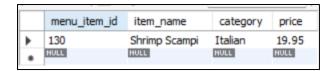|	menu_item_id	item_name	category	price
▶	124	Spaghetti	Italian	14.50
*	NULL	NULL	NULL	NULL

SELECT * FROM menu_items

WHERE category = 'Italian'

ORDER BY price DESC

LIMIT 1;

	menu_item_id	item_name	category	price
▶	130	Shrimp Scampi	Italian	19.95
*	NULL	NULL	NULL	NULL

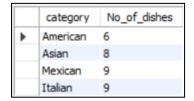## How many dishes are in each category

SELECT category, COUNT(*) AS No_of_dishes

FROM menu_items

GROUP BY category;

	category	No_of_dishes
▶	American	6
	Asian	8
	Mexican	9
	Italian	9

What is the average dish price within each category?

SELECT category, AVG(price) as Average_price

FROM menu_items

GROUP BY category;

category	Average_price
American	10.066667
Asian	13.475000
Mexican	11.800000
Italian	16.750000

Exploring the Orders Table

What is the date range of the table?

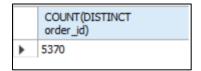SELECT MIN(order_date) AS Start_date, MAX(order_date) AS End_date

FROM order_details;

Start_date	End_date
2023-01-01	2023-03-31

How many orders were made within this date range?

SELECT COUNT(DISTINCT order_id)

FROM order_details;

COUNT(DISTINCT order_id)
5370

How many items were ordered within this date range?

SELECT COUNT(*)

FROM order_details;

COUNT(*)
12234

Which orders had the most number of items?

SELECT order_id, COUNT(item_id) AS no_of_items

FROM order_details

GROUP BY order_id

ORDER BY no_of_items DESC;

order_id	no_of_items
4305	14
3473	14
1957	14
330	14
440	14
443	14
2675	14
5066	13
1274	13
1569	13
2725	13

and so on

How many orders had more than n items? (10 in this case)

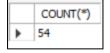SELECT COUNT(*) FROM

(SELECT order_id, COUNT(item_id) AS num_items

FROM order_details

GROUP BY order_id

HAVING num_items > 10) as No_of_orders;

COUNT(*)
54

Analysing Customer Behaviour

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

SELECT item_name, COUNT(order_details_id) AS no_of_purchases

FROM order_details od LEFT JOIN menu_items mi

      ON od.item_id = mi.menu_item_id

GROUP BY item_name

LIMIT 1;

item_name	no_of_purchases
▶ Korean Beef Bowl	588

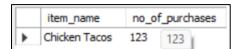SELECT item_name, COUNT(order_details_id) AS no_of_purchases

FROM order_details od LEFT JOIN menu_items mi

      ON od.item_id = mi.menu_item_id

GROUP BY item_name

ORDER BY no_of_purchases

LIMIT 1;

item_name	no_of_purchases	
▶ Chicken Tacos	123	123

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

SELECT order_id, SUM(price) AS total_spend

FROM order_details od LEFT JOIN menu_items mi

      ON od.item_id = mi.menu_item_id

GROUP BY order_id

ORDER BY total_spend DESC

LIMIT 5;

order_id	total_spend
440	192.15
2075	191.05
1957	190.10
330	189.70
2675	185.10

View the details of the top 5 highest spend orders

SELECT order_id, SUM(price) AS total_spend

FROM order_details od LEFT JOIN menu_items mi

     ON od.item_id = mi.menu_item_id

GROUP BY order_id

ORDER BY total_spend DESC

LIMIT 5;

order_id	total_spend
440	192.15
2075	191.05
1957	190.10
330	189.70
2675	185.10

View the details of the highest spend order. Which specific items were purchased?

SELECT category, COUNT(item_id) AS num_items

FROM order_details od LEFT JOIN menu_items mi

     ON od.item_id = mi.menu_item_id

WHERE order_id IN (440, 2075, 1957, 330, 2675)

GROUP BY category;

category	num_items
Asian	17
American	10
Italian	26
Mexican	16

Author: Owais Ali

Github Link: https://github.com/0waisAli