RESTAURANT ORDER ANALYSIS WITH SQL

Q1. View the menu_items table and write a query to find the number of items on the menu

```
SELECT COUNT(item_id)
FROM menu_items;
```

	count bigint
1	32

Q2. What are the least and most expensive items on the menu?

```
SELECT item_name,price
FROM menu_items
WHERE price = (SELECT MIN(price) AS least_expensive_item FROM menu_items)
OR price = (select max(price)As most_expensive_item from menu_items)
ORDER BY price ASC;
```

	item_name character varying (45)	price numeric (5,2)
1	Edamame	5.00
2	Shrimp Scampi	19.95

Q3. How many Italian dishes are on the menu?What are the least and most expensive Italian dishes on the menu?

```
SELECT
    count(item_id) AS total_italian_dishes,
    min(price) as least_expensive_italian_dishes,
    max(price) as most_expensive_italian_dishes
FROM menu_items
WHERE category = 'Italian';
```

	total_italian_dishes bigint	least_expensive_italian_dishes numeric	most_expensive_italian_dishes numeric
1	9	14.50	19.95

Q4. How many dishes are in each category? What is the average dish price within each category?

```
SELECT
    category,
    count(item_id) as total_dishes,
    ROUND(avg(price),0) as average_price
FROM menu_items
GROUP BY category;
```

	category character varying (45)	total_dishes bigint	average_price numeric
1	American	6	10
2	Mexican	9	12
3	Asian	8	13
4	Italian	9	17

Q5. View the order_details 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 date	end_date date
1	2023-01-01	2023-03-31

Q6. How many orders were made within this date range? How many items were ordered within this date range?

```
SELECT COUNT(order_id)
FROM order_details
WHERE order_date BETWEEN '2023-01-01' AND '2023-03-31';
```

	count bigint
1	12234

Q7. Which orders had the most number of items?

```
SELECT
    order_details_id AS orders,
    COUNT(item_id) as Total_items
FROM order_details
GROUP BY order_details_id
ORDER BY Total_items DESC;
```

	orders smallint	total_items bigint
1	2850	1
2	11233	1
3	4790	1
4	273	1
5	11719	1
6	3936	1

Q8. How many orders had more than 12 items?

```
SELECT
    COUNT(order_id) AS orders_with_more_than_twelve_items,
    COUNT(item_id) AS number_of_items
FROM order_details
HAVING COUNT(item_id)>12;
```

	orders_with_more_than_twelve_items bigint	number_of_items bigint
1	12234	12097

Q9. Combine the menu_items and order_details tables into a single table

```
SELECT
    m.item_id,
    m.item_name,
    m.category,
    m.price,
    o.order_details_id,
    o.order_id,
    o.order_date,
    o.order_time,
    o.item_id
FROM menu_items m
JOIN order_details o
USING(item_id);
```

	item_id smallint	item_name character varying (45)	category character varying (45)	price numeric (5,2)	order_details_id smallint	order_id smallint	order_date date	order_time time without time zone	item_id smallint
1	109	Korean Beef Bowl	Asian	17.95	1	1	2023-01-01	11:38:36	109
2	108	Tofu Pad Thai	Asian	14.50	2	2	2023-01-01	11:57:40	108
3	124	Spaghetti	Italian	14.50	3	2	2023-01-01	11:57:40	124
4	117	Chicken Burrito	Mexican	12.95	4	2	2023-01-01	11:57:40	117
5	129	Mushroom Ravioli	Italian	15.50	5	2	2023-01-01	11:57:40	129
6	106	French Fries	American	7.00	6	2	2023-01-01	11:57:40	106
7	117	Chicken Burrito	Mexican	12.95	7	3	2023-01-01	12:12:28	117
8	119	Chicken Torta	Mexican	11.95	8	3	2023-01-01	12:12:28	119
9	117	Chicken Burrito	Mexican	12.95	9	4	2023-01-01	12:16:31	117
10	117	Chicken Burrito	Mexican	12.95	10	5	2023-01-01	12:21:30	117
11	101	Hamburger	American	12.95	11	6	2023-01-01	12:29:36	101
12	114	Potstickers	Asian	9.00	12	6	2023-01-01	12:29:36	114
13	123	Chips & Guacamole	Mexican	9.00	13	7	2023-01-01	12:50:37	123
14	123	Chips & Guacamole	Mexican	9.00	14	8	2023-01-01	12:51:37	123
15	108	Tofu Pad Thai	Asian	14.50	15	9	2023-01-01	12:52:01	108

Q10. What were the least and most ordered items? What categories were they in?

```
SELECT
    m.item_name,
    m.category,
    COUNT(order_id) AS number_of_orders
FROM
    menu_items m
LEFT JOIN
    order_details o
USING(item_id)
GROUP BY
    m.item_name,
    m.category
ORDER BY
    number_of_orders ASC
LIMIT 1;
```

	item_name character varying (45)	category character varying (45)	number_of_orders bigint
1	Chicken Tacos	Mexican	123

Q11. Most ordered items

```
SELECT
    m.item_name,
    m.category,
    COUNT(order_id) AS number_of_orders
FROM
    menu_items m
LEFT JOIN
    order_details o
USING(item_id)
GROUP BY
    m.item_name,
    m.category
ORDER BY
    number_of_orders DESC
LIMIT 1;
```

	item_name character varying (45)	category character varying (45)	number_of_orders bigint
1	Hamburger	American	622

Q12. What were the top 5 orders that spent the most money?

```
SELECT
    o.order_id,
    SUM(m.price) AS total_spent
FROM
    order_details o
JOIN
    menu_items m
USING(item_id)
GROUP BY
    o.order_id
ORDER BY
    total_spent DESC
LIMIT 5;
```

	order_id smallint	total_spent numeric
1	440	192.15
2	2075	191.05
3	1957	190.10
4	330	189.70
5	2675	185.10

Q13. View the details of the highest spend order. Which specific items were purchased?

```
SELECT *
FROM order_details o
JOIN menu_items m
USING(item_id)
WHERE order_id = 440;
```

	item_id smallint	order_details_id smallint	order_id smallint	order_date date	order_time time without time zone	item_name character varying (45)	category character varying (45)	price numeric (5,2)
1	116	1003	440	2023-01-08	12:16:34	Steak Tacos	Mexican	13.95
2	103	1004	440	2023-01-08	12:16:34	Hot Dog	American	9.00
3	124	1005	440	2023-01-08	12:16:34	Spaghetti	Italian	14.50
4	125	1006	440	2023-01-08	12:16:34	Spaghetti & Meatballs	Italian	17.95
5	125	1007	440	2023-01-08	12:16:34	Spaghetti & Meatballs	Italian	17.95
6	126	1008	440	2023-01-08	12:16:34	Fettuccine Alfredo	Italian	14.50
7	126	1009	440	2023-01-08	12:16:34	Fettuccine Alfredo	Italian	14.50
8	109	1010	440	2023-01-08	12:16:34	Korean Beef Bowl	Asian	17.95
9	127	1011	440	2023-01-08	12:16:34	Meat Lasagna	Italian	17.95
10	113	1012	440	2023-01-08	12:16:34	Edamame	Asian	5.00
11	122	1013	440	2023-01-08	12:16:34	Chips & Salsa	Mexican	7.00
12	131	1014	440	2023-01-08	12:16:34	Chicken Parmesan	Italian	17.95
13	106	1015	440	2023-01-08	12:16:34	French Fries	American	7.00
14	132	1016	440	2023-01-08	12:16:34	Eggplant Parmesan	Italian	16.95

Q14. View the details of the top 5 highest spend orders

```
SELECT *
FROM menu_items m
JOIN order_details o
USING(item_id)
WHERE order_id IN(440,2075,1957,330,2675);
```

	item_id smallint	item_name character varying (45)	category character varying (45)	price numeric (5,2)	order_details_id smallint	order_id smallint	order_date date	order_time time without time zone
1	107	Orange Chicken	Asian	16.50	750	330	2023-01-06	13:27:11
2	103	Hot Dog	American	9.00	751	330	2023-01-06	13:27:11
3	108	Tofu Pad Thai	Asian	14.50	752	330	2023-01-06	13:27:11
4	108	Tofu Pad Thai	Asian	14.50	753	330	2023-01-06	13:27:11
5	124	Spaghetti	Italian	14.50	754	330	2023-01-06	13:27:11
6	125	Spaghetti & Meatballs	Italian	17.95	755	330	2023-01-06	13:27:11
7	109	Korean Beef Bowl	Asian	17.95	756	330	2023-01-06	13:27:11
8	112	Salmon Roll	Asian	14.95	757	330	2023-01-06	13:27:11
9	118	Steak Burrito	Mexican	14.95	758	330	2023-01-06	13:27:11
10	120	Steak Torta	Mexican	13.95	759	330	2023-01-06	13:27:11
11	122	Chips & Salsa	Mexican	7.00	760	330	2023-01-06	13:27:11
12	122	Chips & Salsa	Mexican	7.00	761	330	2023-01-06	13:27:11
13	131	Chicken Parmesan	Italian	17.95	762	330	2023-01-06	13:27:11
14	114	Potstickers	Asian	9.00	763	330	2023-01-06	13:27:11