```sql
-- OBJECTIVE 1: EXPLORE THE MENU ITEMS TABLE
--    1.    View the menu_items table and write a query to find the number of items on the menu.

SELECT count(*)
FROM SYS.menu_items mi
```

	123 count(*)
1	32

```sql
--    2.    What are the least and most expensive items on the menu?

SELECT *
FROM SYS.menu_items mi
ORDER BY PRICE
LIMIT 5
```

123 menu_item_id	A-Z item_name	A-Z category	123 price
113	Edamame	Asian	5
122	Chips & Salsa	Mexican	7
105	Mac & Cheese	American	7
106	French Fries	American	7
103	Hot Dog	American	9

```sql
SELECT *
FROM SYS.menu_items mi
ORDER BY PRICE DESC
LIMIT 5
```

123 menu_item_id	A-Z item_name	A-Z category	123 price
130	Shrimp Scampi	Italian	19.95
127	Meat Lasagna	Italian	17.95
109	Korean Beef Bowl	Asian	17.95
110	Pork Ramen	Asian	17.95
125	Spaghetti & Meatball	Italian	17.95

```sql
--    3.    How many Italian dishes are on the menu? What are the least and most expensive Italian dishes on the menu?

SELECT COUNT(*)
FROM SYS.menu_items mi
WHERE CATEGORY='Italian'
```

123 COUNT(*)
9

```
--    4.    How many dishes are in each category? What is the average
dish price within each category? What's the most and least expensive?

SELECT category, COUNT(*) AS 'numberofdishes', round(AVG(price), 2) as
'Average price', MAX(price), MIN(PRICE)
FROM SYS.menu_items mi
GROUP BY category
```

A-Z category	123 numberofdishes	123 Average price	123 MAX(price)	123 MIN(PRICE)
American	6	10.07	13.95	7
Asian	8	13.48	17.95	5
Mexican	9	11.8	14.95	7
Italian	9	16.75	19.95	14.5

```
-- OBJECTIVE 2: EXPLORE THE MENU ITEMS TABLE
--    1.    View the order_details table. What is the date range of the
table?
SELECT *
FROM SYS.order_details od

SELECT MIN(ORDER_DATE), MAX(ORDER_DATE)
FROM SYS.order_details od
```

A-Z MIN(ORDER_DATE)	A-Z MAX(ORDER_DATE)
1/13/23	3/31/23

```
-- 2. How many orders were made within this date range? How many items
were ordered within this date range?

SELECT COUNT(DISTINCT ORDER_ID)
FROM SYS.order_details od
```

123 COUNT(DISTINCT ORDER_ID)
5,370

```
-- 3. Which orders had the most number of items?
SELECT COUNT(ITEM_ID), ORDER_ID
FROM SYS.order_details od
GROUP BY order_id
ORDER BY COUNT(item_id) DESC
LIMIT 10
```

123 COUNT(ITEM_ID)	123 ORDER_ID
14	2,675
14	443
14	1,957
14	3,473
14	330
14	440
14	4,305
13	1,274
13	2,126
13	1,734

```sql
-- 4. How many orders had more than 12 items?
SELECT COUNT(*)
FROM (
      SELECT  ORDER_ID, COUNT(ITEM_ID)
      FROM SYS.order_details od
      GROUP BY order_id
      HAVING COUNT(item_id)>12
) AS SUBQUERY_ALIAS
```

123 COUNT(*)
20

```sql
-- OBJECTIVE 3: ANALYZE CUSTOMER BEHAVIOR
--    1.    Combine the menu_items and order_details tables into a single table.

SELECT * FROM SYS.order_details od
LEFT JOIN SYS.menu_items mi
      ON OD.item_id = MI.menu_item_id
```

123 order_details_id	123 order_id	A-Z order_date	A-Z order_time	123 item_id	123 menu_item_id	A-Z item_name	A-Z category	123 price
1	1	2001-01-23	11:38:36 AM	109	109	Korean Beef Bowl	Asian	17.95
2	2	2001-01-23	11:57:40 AM	108	108	Tofu Pad Thai	Asian	14.5
3	2	2001-01-23	11:57:40 AM	124	124	Spaghetti	Italian	14.5
4	2	2001-01-23	11:57:40 AM	117	117	Chicken Burrito	Mexican	12.95
5	2	2001-01-23	11:57:40 AM	129	129	Mushroom Ravioli	Italian	15.5
6	2	2001-01-23	11:57:40 AM	106	106	French Fries	American	7
7	3	2001-01-23	12:12:28 PM	117	117	Chicken Burrito	Mexican	12.95
8	3	2001-01-23	12:12:28 PM	119	119	Chicken Torta	Mexican	11.95
9	4	2001-01-23	12:16:31 PM	117	117	Chicken Burrito	Mexican	12.95
10	5	2001-01-23	12:21:30 PM	117	117	Chicken Burrito	Mexican	12.95
11	6	2001-01-23	12:29:36 PM	101	101	Hamburger	American	12.95

```sql
--    2.    What were the least and most ordered items? What categories were they in?

SELECT COUNT(*) AS NUM_PURCHASES, ITEM_NAME, CATEGORY
FROM  SYS.order_details od LEFT JOIN SYS.menu_items mi
      ON OD.item_id = MI.menu_item_id
GROUP BY ITEM_NAME, CATEGORY
ORDER BY count(*) DESC
```

123 NUM_PURCHASES	A-Z ITEM_NAME	A-Z CATEGORY
622	Hamburger	American
620	Edamame	Asian
588	Korean Beef Bowl	Asian
583	Cheeseburger	American
571	French Fries	American
562	Tofu Pad Thai	Asian
489	Steak Torta	Mexican
470	Spaghetti & Meatballs	Italian
463	Mac & Cheese	American
461	Chips & Salsa	Mexican
456	Orange Chicken	Asian

```sql
--    3.    What were the top 5 orders that spent the most money?
```

```sql
SELECT ORDER_ID, SUM(PRICE)
FROM  SYS.order_details od LEFT JOIN SYS.menu_items mi
     ON OD.item_id = MI.menu_item_id
GROUP BY ORDER_ID
ORDER BY SUM(PRICE) DESC
LIMIT 5
```

ORDER_ID	SUM(PRICE)
440	192.15
2,075	191.0
1,957	190.1
330	189.7
2,675	185.1

```sql
--    4.    View the details of the highest spend order. Which specific items were purchased?

SELECT ORDER_ID, PRICE, CATEGORY, item_name
FROM  SYS.order_details od LEFT JOIN SYS.menu_items mi
     ON OD.item_id = MI.menu_item_id
WHERE order_id = 440
ORDER BY PRICE DESC
```

ORDER_ID	PRICE	CATEGORY	item_name
440	17.95	Italian	Spaghetti & Meatballs
440	17.95	Italian	Spaghetti & Meatballs
440	17.95	Asian	Korean Beef Bowl
440	17.95	Italian	Meat Lasagna
440	17.95	Italian	Chicken Parmesan
440	16.95	Italian	Eggplant Parmesan
440	14.5	Italian	Spaghetti
440	14.5	Italian	Fettuccine Alfredo
440	14.5	Italian	Fettuccine Alfredo
440	13.95	Mexican	Steak Tacos
440	9	American	Hot Dog

```sql
-- 5. How much was the most expensive order
SELECT ORDER_ID, sum(PRICE)
FROM  SYS.order_details od LEFT JOIN SYS.menu_items mi
     ON OD.item_id = MI.menu_item_id
GROUP BY ORDER_ID
ORDER BY sum(PRICE) DESC
limit 1
```

ORDER_ID	sum(PRICE)
440	192.15

```sql
--    5. View the details of the top 5 highest spend orders.
```

```
SELECT SUM(PRICE), CATEGORY, COUNT(menu_item_id)
FROM  SYS.order_details od LEFT JOIN SYS.menu_items mi
     ON OD.item_id = MI.menu_item_id
WHERE order_id in (440, 2075, 1957, 330, 2675)
GROUP BY category
ORDER BY SUM(PRICE) DESC
```

123 SUM(PRICE)	A-Z CATEGORY	123 count
430.65	Italian	26
228.65	Asian	17
189.45	Mexican	16
99.35	American	10