Case Study #1:

Danny's Diner
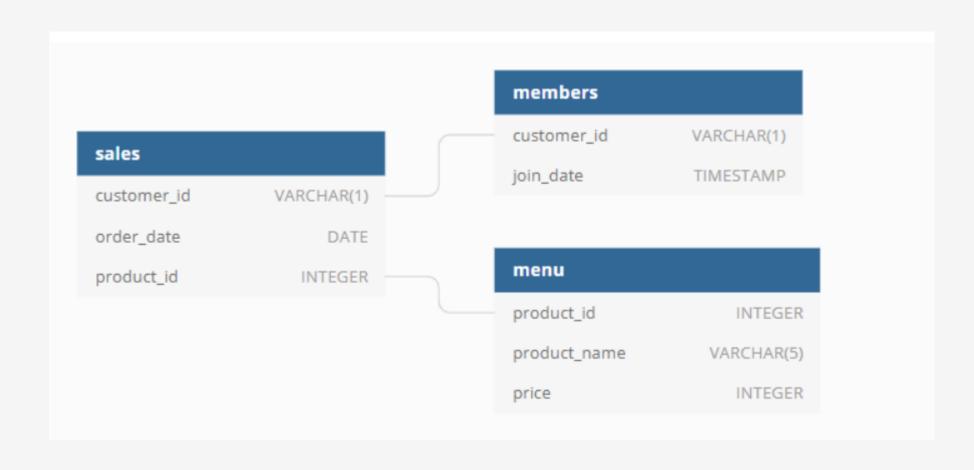
PowerPoint

Outline

Entity Relationship Diagram

Questions & Solutions

1. What is the total amount each customer spent at the restaurant?

```sql
SELECT
sales.customer_id,
   SUM(menu.price) AS total_sales
FROM sales
INNER JOIN menu
   ON sales.product_id = menu.product_id
GROUP BY sales.customer_id
ORDER BY sales.customer_id ASC;
GO
```

Answer:

	customer_id	total_sales
1	A	76
2	B	74
3	C	36

Questions & Solutions

2/ How many days has each customer visited the restaurant?

```sql
SELECT
        customer_id,
        COUNT(DISTINCT order_date) AS visit_count
FROM sales
GROUP BY customer_id
GO
```

Answer:

	customer_id	visit_count
1	A	4
2	B	6
3	C	2

Questions & Solutions

3. What was the first item from the menu purchased by each customer?

```sql
SELECT s.customer_id, m.product_name
FROM sales AS s
INNER JOIN menu m
ON s.product_id = m.product_id
INNER JOIN (
   SELECT customer_id, MIN(order_date) AS first_purchase
   FROM sales
   GROUP BY customer_id
) AS first_sales
ON s.customer_id = first_sales.customer_id
AND s.order_date = first_sales.first_purchase;
GO
```

Answer:

	customer_id	product_name
1	A	sushi
2	A	curry
3	B	curry
4	C	ramen
5	C	ramen

Questions & Solutions

4. What is the most purchased item on the menu and how many times was it purchased by all customers?

```sql
SELECT TOP 1
    m.product_name,
    COUNT(s.product_id) AS most_purchased_item
FROM sales s
INNER JOIN menu m
    ON s.product_id = m.product_id
GROUP BY m.product_name
ORDER BY most_purchased_item DESC;
GO
```

Answer:

	product_name	most_purchased_item
1	ramen	8

Questions & Solutions

5. Which item was the most popular for each customer?

Solution #1

```sql
WITH customer_items AS (
  SELECT
    s.customer_id,
    m.product_name,
    COUNT(*) AS item_count
  FROM sales s
  INNER JOIN menu m ON s.product_id = m.product_id
  GROUP BY s.customer_id, m.product_name
)

SELECT ci.customer_id, ci.product_name, ci.item_count
FROM customer_items ci
WHERE ci.item_count = (
  SELECT MAX(item_count)
  FROM customer_items
  WHERE customer_id = ci.customer_id
)
ORDER BY ci.customer_id;
GO
```

Solution #2

```sql
WITH most_popular AS (
  SELECT
    sales.customer_id,
    menu.product_name,
    COUNT(menu.product_id) AS order_count,
    DENSE_RANK() OVER (
      PARTITION BY sales.customer_id
      ORDER BY COUNT(sales.customer_id) DESC) AS rank
  FROM menu
  INNER JOIN sales
    ON menu.product_id = sales.product_id
  GROUP BY sales.customer_id, menu.product_name
)
SELECT
  customer_id,
  product_name,
  order_count
FROM most_popular
WHERE rank = 1;
GO
```

Answer:

	customer_id	product_name	order_count
1	A	ramen	3
2	B	sushi	2
3	B	curry	2
4	B	ramen	2
5	C	ramen	3

Thank you!!!