PORTFOLIO

WEEKSQLCHALLENGE.

CASE STUDY #

THE TASTE OF SUCCESS

DATAWITHDANNY.C

Case Study #1 - Danny's Diner
Personal Project ; Tools -MYSQL

WELCOME

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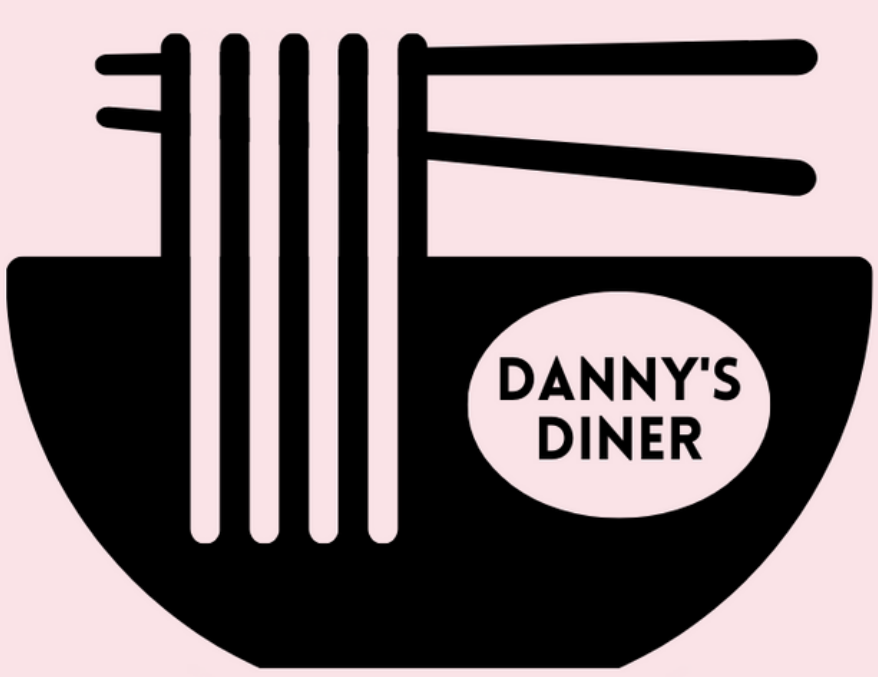
CASE STUDY #1



THE TASTE OF SUCCESS

DATAWITHDANNY.COM

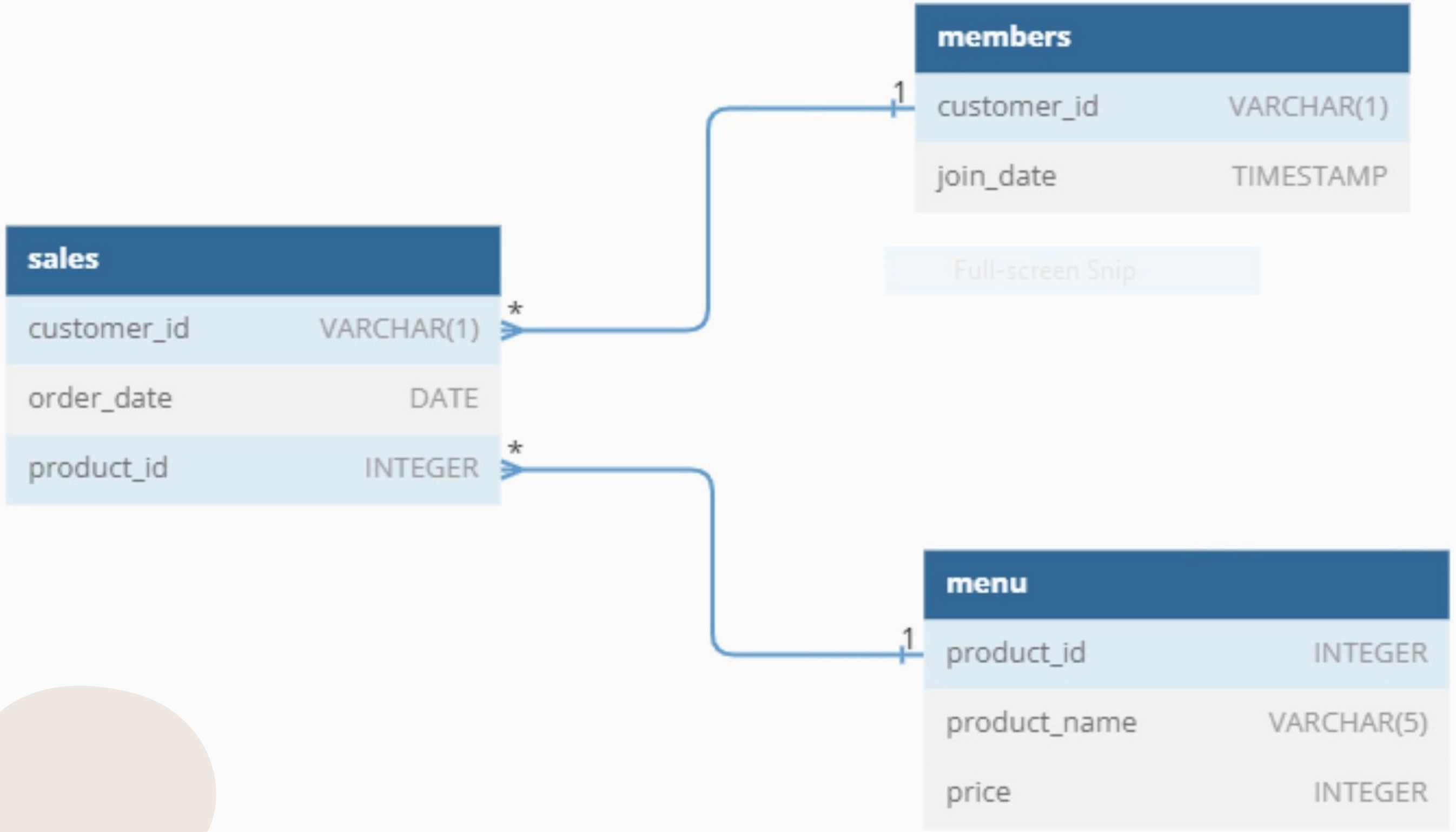
Danny seriously loves Japanese food so in the beginning of 2021, he decides to embark upon a risky venture and opens up a cute little restaurant that sells his 3 favourite foods: sushi, curry &ramen. Danny's Diner is in need of your assistance to help the restaurant stay afloat - the restaurant has captured some very basic data from their few months of operation but have no idea how to use their data to help them run the business

Problem Statement

Danny wants to use the data to answer a few simple questions about his customers, especially about their visiting patterns, how much money they've spent and also which menu items are their favourite. Having this deeper connection with his customers will help him deliver a better and more personalised experience for his loyal customers.

He plans on using these insights to help him decide whether he should expand the existing customer loyalty program - additionally he needs help to generate some basic datasets so his team can easily inspect the data without needing to use SQL.

Entity Relationship Diagram



customer_id	order_date	product_id
A	01/01/2021	1
A	01/01/2021	2
A	07/01/2021	2
A	10/01/2021	3
A	11/01/2021	3
A	11/01/2021	3
B	01/01/2021	2
B	02/01/2021	2
B	04/01/2021	1
B	11/01/2021	1
B	16/01/2021	3
B	01/02/2021	3
C	01/01/2021	3
C	01/01/2021	3
C	07/01/2021	3

product_id	product_name	price
1	sushi	10
2	curry	15
3	ramen	12

customer_id	join_date
A	07/01/2021
B	09/01/2021

CASE STUDY QUESTIONS

customer_id	AMOUNT_SPENT
A	76
B	74
C	36

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

```
SELECT s.customer_id, SUM(m.price) AS
AMOUNT_SPENT
FROM sales s
JOIN menu m
 ON s.product_id = m.product_id
 GROUP BY s.customer_id;
```

CASE STUDY QUESTIONS

customer_id	DAYS_SPENT
A	4
B	6
C	2

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

```
SELECT customer_id,
COUNT(DISTINCT order_date) AS
DAYS_SPENT
FROM sales
GROUP BY customer_id;
```

CASE STUDY QUESTIONS

customer_id	First_Purchase	product_name
A	01/01/2021	sushi
A	01/01/2021	curry
B	01/01/2021	curry
C	01/01/2021	ramen
C	01/01/2021	ramen

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

```
WITH CUSTOMER_PREFERENCE AS (
   SELECT s.customer_id, MIN(s.order_date) AS
First_Purchase
   FROM sales s
   GROUP BY customer_id
)

SELECT
CUP.customer_id,CUP.First_Purchase,m.product_name
FROM CUSTOMER_PREFERENCE CUP
JOIN sales s ON CUP.customer_id = s.customer_id
AND CUP.First_Purchase = s.order_date
JOIN Menu m ON s.product_id = m.product_id;
```

CASE STUDY QUESTIONS

product_name	TOTAL_BOUGHT
ramen	8

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

```
SELECT m.product_name,
COUNT(m.product_name) AS
TOTAL_BOUGHT
FROM sales s
JOIN menu m
ON s.product_id = m.product_id
GROUP BY m.product_name
ORDER BY TOTAL_BOUGHT DESC
LIMIT 1;
```

CASE STUDY QUESTIONS

customer_id	product_name
A	ramen
B	curry
C	ramen

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

```
WITH POPULAR AS (
SELECT s.customer_id, m.product_name,
COUNT(s.product_id) AS NO_PURCHASE,
ROW_NUMBER() OVER (PARTITION BY
s.customer_id ORDER BY   COUNT(s.product_id)
DESC) AS RANK_NO
FROM sales s
JOIN menu m ON s.product_id = m.product_id
 GROUP BY s.customer_id,m.product_name
)
SELECT POP.customer_id, POP.product_name
FROM POPULAR POP
WHERE RANK_NO = 1;
```

CASE STUDY QUESTIONS

customer_id	product_name
A	curry
B	sushi

6. **Which item was purchased first by the customer after they became a member?**

```
WITH FirstPurchase_AfterMember AS (
 SELECT s.customer_id,MIN(s.order_date)
AS DATE
 FROM sales s
 JOIN members mm ON s.customer_id =
mm.customer_id
 WHERE s.order_date >= mm.join_date
 GROUP BY s.customer_id
)
SELECT FPA.customer_id, m.product_name
FROM FirstPurchase_AfterMember FPA
JOIN sales s ON FPA.customer_id =
s.customer_id
AND FPA.DATE = s.order_date
JOIN menu m ON s.product_id =
m.product_id
ORDER BY s.customer_id;
```

CASE STUDY QUESTIONS

customer_id	product_name
A	sushi
A	curry
B	sushi

7. Which item was purchased just before the customer became a member?

```
WITH FirstPurchase_AfterMember AS (
 SELECT s.customer_id,MAX(s.order_date)
AS DATE
 FROM sales s
 JOIN members mm ON s.customer_id =
mm.customer_id
 WHERE s.order_date < mm.join_date
 GROUP BY s.customer_id
)
SELECT FPA.customer_id, m.product_name
FROM FirstPurchase_AfterMember FPA
JOIN sales s ON FPA.customer_id =
s.customer_id
AND FPA.DATE = s.order_date
JOIN menu m ON s.product_id =
m.product_id
ORDER BY s.customer_id;
```

CASE STUDY QUESTIONS

customer_id	Total_Items	Total_Spent
B	3	40
A	2	25

8. What is the total items and amount spent for each member before they became a member?

```
SELECT s.customer_id, COUNT(*) AS
Total_Items, SUM(m.price) AS
Total_Spent
FROM sales s
JOIN menu m ON s.product_id =
m.product_id
LEFT JOIN members mm ON
s.customer_id = mm.customer_id
WHERE s.order_date < mm.join_date
GROUP BY s.customer_id;
```

CASE STUDY QUESTIONS

customer_id	total_points
A	860
B	940
C	360

9. If each $1 spent equates to 10 points and sushi has a 2x points multiplier - how many points would each customer have?

```
SELECT s.customer_id, SUM(
    CASE
        WHEN m.product_name = 'sushi'
THEN m.price*20
        ELSE m.price*10
    END) AS total_points
FROM sales s
JOIN menu m ON s.product_id =
m.product_id
GROUP BY s.customer_id;
```

CASE STUDY QUESTIONS

customer_id	total_points
B	940
A	1370

10. In the first week after a customer joins the program (including their join date) they earn 2x points on all items, not just sushi -
how many points do customer A and B have at the end of January?

```
SELECT s.customer_id, SUM(
    CASE
        WHEN s.order_date BETWEEN
mm.join_date AND DATE_ADD(
mm.join_date, INTERVAL 7 DAY )
THEN m.price*20
        WHEN m.product_name = 'sushi'
THEN m.price*20
        ELSE m.price*10
    END) AS total_points
FROM sales s
JOIN menu m ON s.product_id =
m.product_id
LEFT JOIN members mm ON
s.customer_id = mm.customer_id
WHERE s.customer_id IN ('A', 'B') AND
s.order_date <= '2021-01-31'
GROUP BY s.customer_id;
```

CASE STUDY QUESTIONS

customer_id	order_date	product_name	price	member
A	01/01/2021	sushi	10	N
A	01/01/2021	curry	15	N
A	07/01/2021	curry	15	Y
A	10/01/2021	ramen	12	Y
A	11/01/2021	ramen	12	Y
A	11/01/2021	ramen	12	Y
B	01/01/2021	curry	15	N
B	02/01/2021	curry	15	N
B	04/01/2021	sushi	10	N
B	11/01/2021	sushi	10	Y
B	16/01/2021	ramen	12	Y
B	01/02/2021	ramen	12	Y
C	01/01/2021	ramen	12	N
C	01/01/2021	ramen	12	N
C	07/01/2021	ramen	12	N

11. Recreate the table output using the available data

```
SELECT s.customer_id,
s.order_date,m.product_name,m.price,(
 CASE
 WHEN s.order_date >= mm.join_date
THEN 'Y'
 ELSE 'N'
 END) AS member
FROM sales s
JOIN menu m ON s.product_id =
m.product_id
LEFT JOIN members mm
ON s.customer_id = mm.customer_id;
```

Skills Applied

- Window Functions
- CTEs
- Aggregations
- JOINs
- Write scripts to generate basic reports that can be run every period

Insights

- Customer B is the most frequent visitor with 6 visits in Jan 2021.
- Danny's Diner's most popular item is ramen, followed by curry and sushi.
- Customer A loves ramen, Customer C loves only ramen whereas Customer B seems to enjoy sushi, curry and ramen equally.
- The last item ordered by Customers A and B before they became members are sushi and curry. It likely mean both of these items are the deciding factor?

ABOUT ME

Enthusiastic Data Analyst with a good background in SQL, BI tools like power Bi, and Microsoft Excel. Over 1 year of experience in translating complex datasets into clear insights to boost the decision-making process, with a proven track record of enhancing business processes and growth.

CONTACT

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