**Case Study #1 - Danny's Diner**

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

SELECT

customer\_id,

SUM(price)

FROM dannys\_diner.sales

JOIN dannys\_diner.menu

ON dannys\_diner.sales.product\_id = dannys\_diner.menu.product\_id

GROUP BY customer\_id

ORDER BY customer\_id ASC

**2 - How many days has each customer visited the restaurant?**

SELECT

customer\_id,

COUNT(DISTINCT (order\_date))

FROM dannys\_diner.sales

GROUP BY customer\_id

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

WITH first\_order\_date AS (

SELECT

customer\_id,

MIN(order\_date) AS first\_order\_date

FROM dannys\_diner.sales

GROUP BY customer\_id

)

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SELECT

dannys\_diner.sales.customer\_id,

product\_name

FROM dannys\_diner.sales

JOIN dannys\_diner.menu on dannys\_diner.sales.product\_id = dannys\_diner.menu.product\_id

JOIN first\_order\_date on first\_order\_date.customer\_id = dannys\_diner.sales.customer\_id and

first\_order\_date.first\_order\_date = dannys\_diner.sales.order\_date

GROUP BY sales.customer\_id, product\_name

ORDER BY sales.customer\_id;

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

SELECT

product\_name,

COUNT(sales.product\_id) AS purchased\_time

FROM dannys\_diner.sales AS sales

JOIN dannys\_diner.menu AS menu ON menu.product\_id = sales.product\_id

GROUP BY product\_name

HAVING

COUNT(sales.product\_id) = (

SELECT MAX(purchase\_count)

FROM (

SELECT

COUNT(product\_id) AS purchase\_count

FROM

dannys\_diner.sales

GROUP BY

product\_id

) AS max\_count

)

**5 - Which item was the most popular for each customer?**

WITH cte\_ranking AS (

SELECT

customer\_id,

product\_name,

count(m.product\_id) as order\_count,

DENSE\_RANK() OVER(PARTITION BY customer\_id ORDER BY count(m.product\_id) DESC) AS ranking

FROM sales AS s

JOIN menu AS m ON s.product\_id = m.product\_id

GROUP BY customer\_id, product\_name, m.product\_id

)

SELECT

customer\_id,

product\_name,

order\_count

FROM cte\_ranking

WHERE ranking = 1

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

WITH cte\_ranking AS (

SELECT

s.customer\_id,

product\_name, order\_date,

join\_date,

DENSE\_RANK() over(PARTITION BY s.customer\_id order by order\_date asc) as ranking

FROM sales AS s

JOIN menu AS m ON m.product\_id = s.product\_id

JOIN members as mb ON mb.customer\_id = s.customer\_id

WHERE s.order\_date > mb.join\_date

)

SELECT

customer\_id,

product\_name

FROM cte\_ranking

WHERE ranking = 1

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

WITH cte\_ranking AS (

SELECT

s.customer\_id,

m.product\_id,

product\_name, order\_date,

join\_date,

ROW\_NUMBER() over(PARTITION BY s.customer\_id order by order\_date desc) as ranking

FROM sales AS s

JOIN menu AS m ON m.product\_id = s.product\_id

JOIN members as mb ON mb.customer\_id = s.customer\_id

WHERE s.order\_date < mb.join\_date

)

SELECT

customer\_id,

product\_name

FROM cte\_ranking

WHERE ranking = 1

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

SELECT

s.customer\_id,

count(m.product\_name) as total\_items,

sum(price) as total\_sales

FROM sales AS s

JOIN menu AS m ON m.product\_id = s.product\_id

JOIN members as mb ON mb.customer\_id = s.customer\_id

WHERE s.order\_date < mb.join\_date

GROUP BY s.customer\_id

**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\_id=1 THEN price\*20

ELSE price \* 10 END) AS point

FROM sales AS s

JOIN menu AS m ON m.product\_id = s.product\_id

GROUP BY s.customer\_id

**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 mb.join\_date AND (mb.join\_date + INTERVAL 6 day) THEN 2\*10\*price

WHEN m.product\_name='sushi' THEN 2\*10\*price

ELSE 10\*price END) AS point

FROM sales AS s

JOIN menu AS m ON m.product\_id = s.product\_id

JOIN members as mb ON mb.customer\_id = s.customer\_id

WHERE s.order\_date < '2021-01-31' and s.order\_date >= mb.join\_date

GROUP BY s.customer\_id