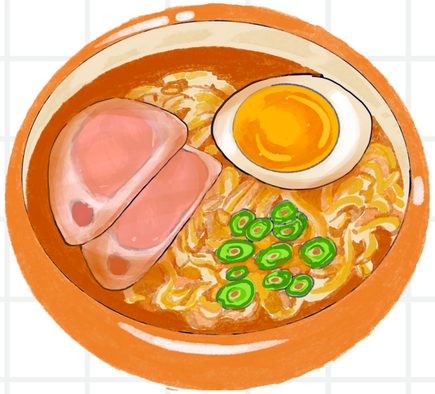


DANY'S DINER

The Taste of Success

SQL Case Study #1

INTRODUCTION

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 and ramen.

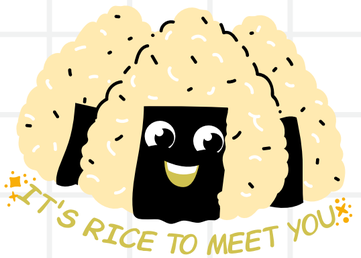
Danny’s Diner is in need of your assistance to help the restaurant stay afloat - the restaurant has captured some very basic data from their few months of operation but have no idea how to use their data to help them run the business.

PROBLEM

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.

Danny has provided you with a sample of his overall customer data due to privacy issues - but he hopes that these examples are enough for you to write fully functioning SQL queries to help him answer his questions!



DataSets

Menu

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

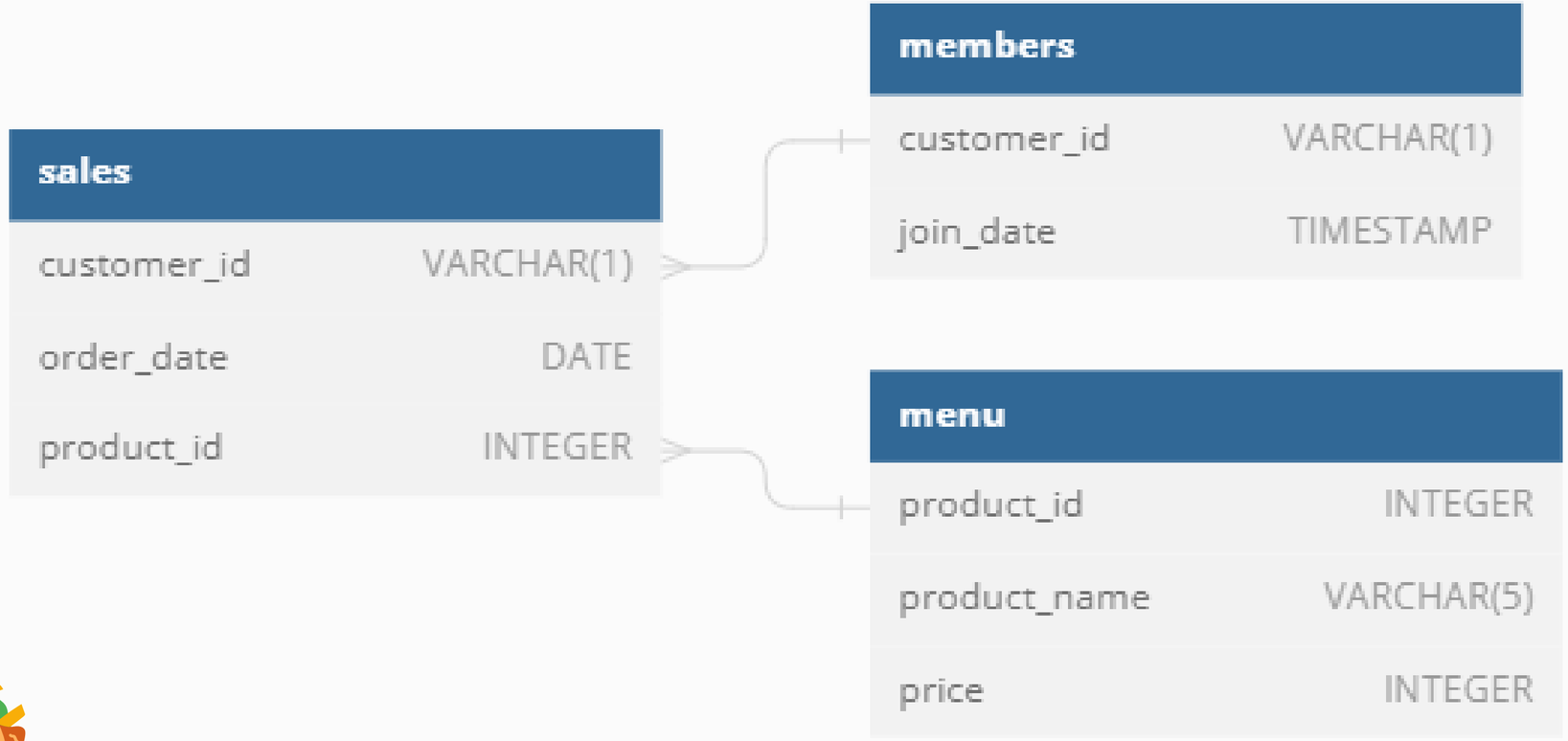
Member

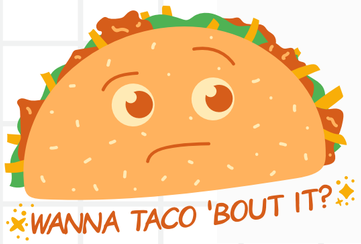
customer_id	join_date
A	2021-01-07
B	2021-01-09

Sales

customer_id	order_date	product_id
A	2021-01-01	1
A	2021-01-01	2
A	2021-01-07	2
A	2021-01-10	3
A	2021-01-11	3
A	2021-01-11	3
B	2021-01-01	2
B	2021-01-02	2
B	2021-01-04	1

Entity Relationship Diagram



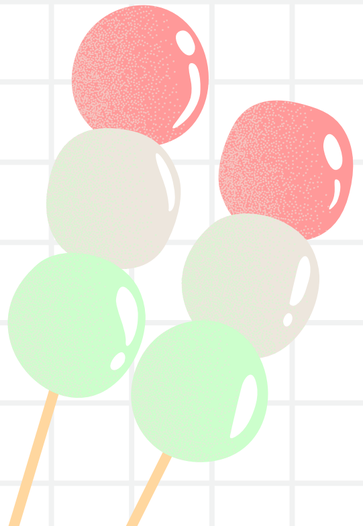


What is the total amount each customer spent at the restaurant?

```sql
select customer_id, sum(m.price) as total_amt
from sales s inner join menu m using(product_id)
group by 1;
```

Output

customer_id	total_amt
A	76
B	74
C	36



How many days has each customer visited the restaurant?

```sql
select customer_id, count(*) as days_visite
from sales
group by 1;
```

Output

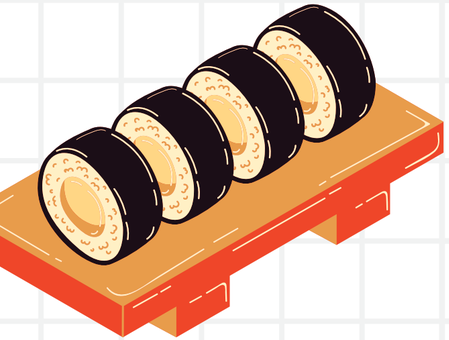
customer_id	days_visited
A	6
B	6
C	3

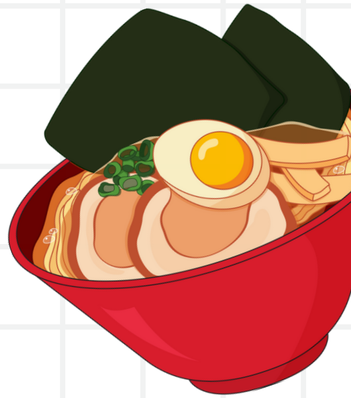
What was the first item from the menu purchased by each customer?

```sql
with first_item as(select distinct s.customer_id,m.product_name, s.order_date,
                   dense_rank() over(partition by customer_id order by order_date asc) as firsts
from sales s inner join menu m using(product_id))
select customer_id, product_name
from first_item
where firsts =1;
```

Output

customer_id	product_name
A	sushi
A	curry
B	curry
C	ramen



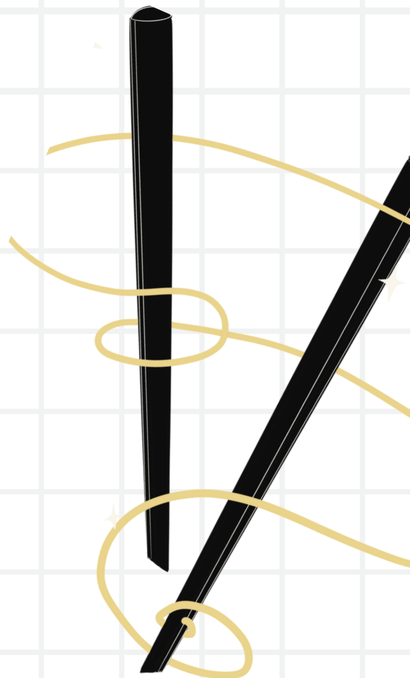


What is the most purchased item on the menu and how many times was it purchased by all customers?

```sql
select product_id, product_name, count(product_id) as noof_times_purchased
from sales inner join menu using(product_id)
group by 1,2
order by 3 desc
limit 1;
```

Output

	product_id	product_name	noof_times_purchased
	3	ramen	8

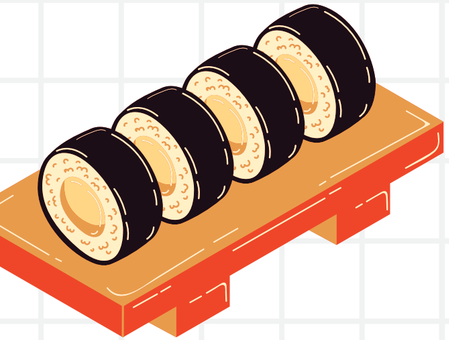


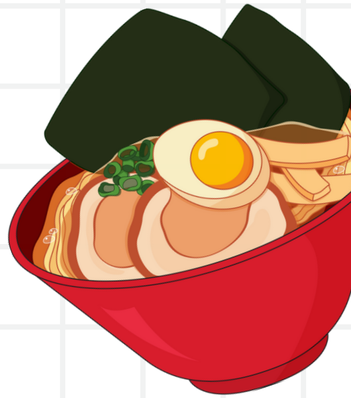
Which item was the most popular for each customer?

```sql
with popular as(
select s.customer_id, m.product_name, count(*) as number_of_orders,
                dense_rank() over(partition by customer_id order by count(*) desc) as ranks
from sales s inner join menu m using(product_id)
group by 1,2
)
select customer_id, product_name
from popular
where ranks=1;
```

Output

customer_id	product_name
A	ramen
B	curry
B	sushi
B	ramen
C	ramen



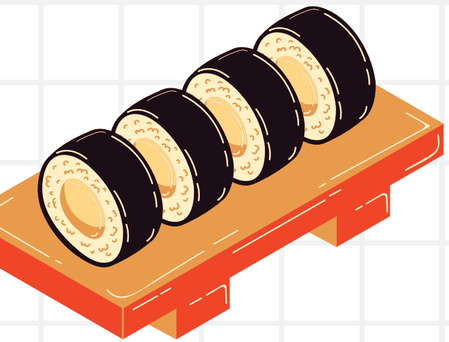


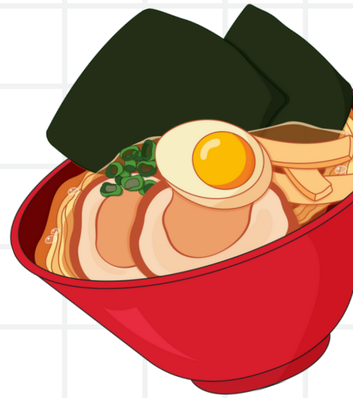
Which item was purchased first by the customer after they became a member?

```sql
with purchased as(
select s.customer_id, m.product_name,s.product_id, row_number() over(partition by customer_id order by s.order_date) as row_num
from members inner join sales s using (customer_id) inner join menu m using(product_id)
where order_date> join_date
)
SELECT
  customer_id,
  product_name
FROM purchased
WHERE row_num = 1
ORDER BY customer_id ASC;
```

Output

customer_id	product_name
A	ramen
B	sushi



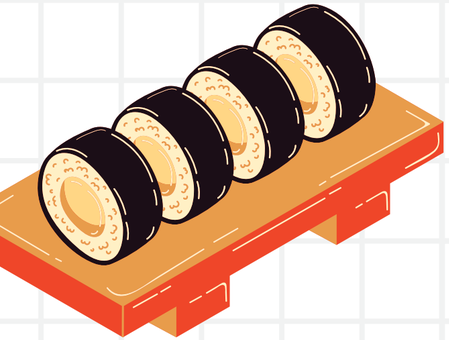


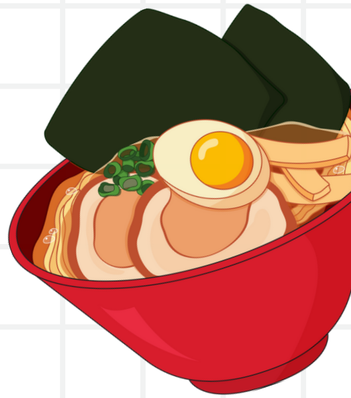
Which item was purchased just before the customer became a member?

```sql
with cm as(
select s.customer_id, m.product_name,s.product_id, rank() over(partition by customer_id order by s.order_date desc) as rnk
from members left join sales s using (customer_id) inner join menu m using(product_id)
where order_date< join_date
)
SELECT
  customer_id,
  product_name
FROM cm
WHERE rnk = 1;
```

Output

customer_id	product_name
A	sushi
A	curry
B	sushi





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

```sql
select s.customer_id, count(*) as total_items, sum(price) as amt_spent
from members inner join sales s using (customer_id) inner join menu m using(product_id)
where order_date< join_date
group by 1
order by 1;
```

Output

customer_id	total_items	amt_spent
A	2	25
B	3	40

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

```sql
with point as(select customer_id, product_name,price,if(product_name="sushi", price*20, price*10) as total_points
from sales s inner join menu m using(product_id))
select customer_id, sum(total_points) as points
from point
group by 1;
```

Output

customer_id	points
A	860
B	940
C	360

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?

```sql
with point as(select * ,case
     when order_date- join_date>=0 and order_date-join_date<=6 then (price*20)
     when product_name = "sushi" then price*20
     else price*10
     end as points
from sales inner join members using (customer_id) inner join menu using (product_id)
where month(order_date)= 01)
select customer_id, sum(points) as totalpoints
from point
group by 1
order by 1;
```

Output

customer_id	totalpoints
A	1370
B	820

CONCLUSION

01 Customer A has made the highes Total purchase.

02 Both Customer A nad B have visited the restaurant 6 times each.

03 Sushi, Curry and Ramen were ordered by Customer A,B and C respectively.

04 Ramen is the most frequently purchased item.

05 Ramen ans Sushi were the first items purchased after A and B became a member.

06 Customer A spent $25 for 2 items and Customer B spent $40 on 3 items.

07 Customer A has the highest points of 1370.

THANK YOU