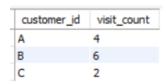
Each of the following case study questions can be answered using a single SQL statement:

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

select customer_id, sum(price) as total_spent from sales s join menu m on s.product_id = m.product_id group by customer_id order by customer_id

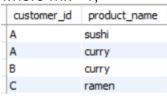
customer_id	total_spent
A	76
В	74
С	36

 How many days has each customer visited the restaurant? select customer_id, count(order_date) as visit_count from sales group by customer_id

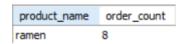


3. What was the first item from the menu purchased by each customer?

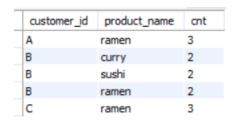
select customer_id, product_name from (select s.customer_id, m.product_name, min(order_date) min_order, dense_rank()over(partition by customer_id order by min(order_date)) as rnk from sales s join menu m on m.product_id = s.product_id group by customer_id, product_name) x where rnk =1;



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(s.product_id) as order_count from menu m join sales s on m.product_id = s.product_id group by m.product_name order by order_count desc limit 1;



5. Which item was the most popular for each customer? select customer_id, product_name, cnt from (select customer_id, product_name, count(s.product_id) as cnt, dense_rank()over(partition by customer_id order by count(s.product_id) desc) as rnk from sales s join menu m on s.product_id = m.product_id group by customer_id, product_name) x where rnk =1;



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

```
with cte_1 as (select m.customer_id, product_name, order_date, dense_rank()over(partition by customer_id order by order_date) as rnk from members m join sales s on s.customer_id = m.customer_id join menu p on p.product_id = s.product_id

where join_date <= order_date)

select customer_id, product_name, order_date from cte_1 where rnk =1
```

```
with cte_1 as (select s.customer_id, product_id, join_date, order_date
from members m
ioin sales s
on s.customer_id = m.customer_id
cte_2 as (select customer_id, product_name, order_date,
dense_rank()over(partition by customer_id order by order_date) as rnk
from cte_1 c1
ioin menu m
on c1.product id = m.product id
where join_date <= order_date)
select customer_id, product_name, order_date
from cte 2
where rnk =1;
 customer_id    product_name    order_date
          curry 2021-01-07
     sushi 2021-01-11
```

 Which item was purchased just before the customer became a member? with cte_1 as (select customer_id, join_date from members),

cte 2 as

(select customer_id, product_name, min(order_date) as ordered_on from sales s

join menu m

on s.product_id = m.product_id

group by customer_id, product_name),

cte_3 as (select c2.customer_id, product_name, ordered_on,

dense_rank()over(partition by customer_id order by ordered_on desc) as rnk from cte_1 c1

right join cte_2 c2

on c1.customer_id = c2.customer_id

where ordered_on < join_date)

select customer_id, product_name, ordered_on

from cte_3

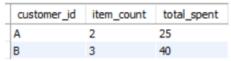
where rnk = 1

customer_id	product_name	ordered_on
Α	sushi	2021-01-01
A	curry	2021-01-01
В	sushi	2021-01-04

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

```
with cte_1 as (select *
from members
),
cte_2 as (select customer_id, order_date, s.product_id , price
from sales s
join menu m
on s.product_id = m.product_id )

select c2.customer_id, count(product_id) as item_count, sum(price) as
total_spent
from cte_1 c1
join cte_2 c2
on c1.customer_id = c2.customer_id
where order_date < join_date
group by c2.customer_id
order by 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?

```
with cte_1 as (select product_id, product_name, (price*10) new_price from menu where product_name <> 'sushi'),
```

```
cte_2 as (select product_id, product_name, (price*20) new_price from menu where product_name = 'sushi'), cte_3 as (select product_id, product_name, new_price from cte_1 union all select product_id, product_name, new_price from cte_2)
```

select customer_id, sum(new_price) as points from sales s join cte_3 c3 on s.product_id = c3.product_id group by customer_id

customer_id	points
Α	860
В	940
С	360

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?

with cte_1 as (select customer_id, join_date, date_add(join_date, interval 6 day) as first_week, '2021-01-31' as last_date from members),

cte_2 as (select s.customer_id, order_date, product_name, price from sales s join menu p on p.product_id = s.product_id) select c2.customer_id, sum(case when product_name = "Sushi" then price*20

when order_date between join_date and first_week then

price*20

else price*10 end) as points

from cte_1 c1
join cte_2 c2
on c1.customer_id = c2.customer_id
where order_date <last_date
group by customer_id
order by customer_id

customer_id	points
A	1370
В	820