Q1: What is the total amount each customer spent at the restaurant?

```
select customer_id,sum(price) as total_spent
from (SELECT s.*,m.price
from sales as s
INNER join menu as m
on s.product_id = m.product_id) a
group by customer_id
```

	customer_id	total_spent
1	A	76
2	B	74
3	C	36

Q2: How many days has each customer visited the restaurant?

```
select customer_id,count(distinct order_date) as number_of_visit
from sales
group by customer_id
```

customer_id	number_of_visit
A	4
B	6
C	2

Q3: What was the first item from the menu purchased by each customer?

```
SELECT customer_id,product_name as first_item
from (select s.*,m.product_name,row_number() over (PARTITION by customer_id order
by order_date) as stt
from sales as s
INNER join menu as m
on s.product_id = m.product_id) a
where stt = 1
```

customer_id	first_item
A	sushi
B	curry
C	ramen

Q4: What is the most purchased item on the menu and how many times was it purchased by all customers?

```
with b as (

select top 1 product_id,count(customer_id) as so_lan_mua
from sales as s
GROUP by product_id
ORDER by so_lan_mua DESC)

select s.customer_id,s.product_id as most_popular_item,COUNT(s.product_id) as
time_purchase
from sales as s
RIGHT JOIN b
on s.product_id = b.product_id
group by s.customer_id,s.product_id
```

customer_id	most_popular_item	time_purchase
A	3	3
B	3	2
C	3	3

Q5: Which item was the most popular for each customer?

```
with b as (

SELECT *,DENSE_RANK() over (PARTITION by customer_id order by time_purchase
desc) as stt
from (SELECT customer_id,product_id,COUNT(product_id) as time_purchase
from sales
GROUP by customer_id,product_id) a)

SELECT b.customer_id,m.product_name,b.time_purchase
from b
```

```
INNER join menu as m
on b.product_id = m.product_id
where stt = 1
```

customer_id	product_name	time_purchase
A	ramen	3
B	sushi	2
B	curry	2
B	ramen	2
C	ramen	3

Q6: Which item was purchased first by the customer after they became a member?

```
with d as (

select *,DENSE_RANK() over(PARTITION by customer_id order by order_date) as stt
from (select * from (select * from sales
where customer_id in (select customer_id FROM members)) c
where customer_id = 'A'
and order_date >= '2021-01-07'
union all
select * from (select * from sales
where customer_id in (select customer_id FROM members)) c
where customer_id = 'B'
and order_date >= '2021-01-09') c)

select d.customer_id,d.order_date,m.product_name from d
inner join menu as m
on m.product_id = d.product_id
where stt = 1
```

customer_id	order_date	product_name
A	2021-01-07	curry
B	2021-01-11	sushi

Q7: Which item was purchased just before the customer became a member?

```
with a as (
```

```
select s.*,m.join_date,DENSE_RANK() over(PARTITION by s.customer_id order by
order_date desc) as rank
from sales as s
join members as m
on s.customer_id = m.customer_id
where s.order_date < join_date)

select a.customer_id,a.order_date,u.product_name
from a
join menu as u
on a.product_id = u.product_id
where rank = 1
```

customer_id	order_date	product_name
A	2021-01-01	sushi
A	2021-01-01	curry
B	2021-01-04	sushi

Q8: What is the total items and amount spent for each member before they became a member?

```
SELECT customer_id,COUNT(distinct product_id) as total_items,sum(price) as
total_spent
from (select s.customer_id,m.join_date,s.order_date,s.product_id,m2.price
from sales as s
join members as m
on s.customer_id = m.customer_id
join menu as m2
on s.product_id = m2.product_id
where order_date < join_date ) d
GROUP by customer_id
```

customer_id	total_items	total_spent
A	2	25
B	2	40

Q9: If each $1 spent equates to 10 points and sushi has a 2x points multiplier - how many points would each customer have?

```
select customer_id,sum(total_point) as total_point
from (select *,total_point = price * point_$

from (select *, case
  when product_name = 'sushi' THEN 20
  ELSE 10
end as point_$
from (SELECT s.*,mn.product_name,mn.price
from sales as s
join menu as mn
on mn.product_id = s.product_id) a) b) c
group by customer_id
```

customer_id	total_point
A	860
B	940
C	360

Q10: 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 customer_id,sum(pointt) as total_point
from
(select *, CASE
  when order_date between join_date and after_join_7day then price*20
  when (order_date < join_date or order_date > after_join_7day) and product_name =
'sushi' then price*20
  when (order_date < join_date or order_date > after_join_7day) and product_name !=
'sushi' then price*10
end as pointt
from (SELECT s.customer_id,s.order_date,mb.join_date,dateadd(day,6,mb.join_date) as
after_join_7day,s.product_id,mn.product_name,mn.price
from sales as s
join members as mb
on s.customer_id = mb.customer_id
join menu as mn
on s.product_id = mn.product_id
where s.customer_id in ('A','B')
and s.order_date < '2021-02-01') a
) b
```

group by customer_id

customer_id	total_point
A	1370
B	820