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

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

Results Messages

	customer_id	total_price
1	A	76
2	B	74
3	C	36

2 How many days has each customer visited the restaurant?

```
with customer(id, dayss) as
(select s.customer_id, s.order_date as dates
from sales s
group by s.customer_id, s.order_date)

select id, count(*) as no_of_days
from customer
group by id;
```

Results Messages

	id	no_of_days
1	A	4
2	B	6
3	C	2

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

#######

```
select s.customer_id, m.product_name
from sales s join menu m on s.product_id = m.product_id
where (s.customer_id, s.order_date) in (select customer_id, min(order_date)
                                        from sales
                                                group by customer_id)
group by s.customer_id, m.product_name
order by s.customer_id;
```

#######

An expression of non-boolean type specified in a context where a condition is expected, near ','.
Msg 156, Level 15, State 1, Line 6
Incorrect syntax near the keyword 'group'.

```
select s.customer_id, m.product_name
from sales s join menu m on s.product_id = m.product_id
where s.order_date in (select min(order_date)
                       from sales sa
                       where sa.customer_id = s.customer_id)
group by s.customer_id, m.product_name
order by s.customer_id;
```

Results Messages

	customer_id	product_name
1	A	curry
2	A	sushi
3	B	curry
4	C	ramen

```
with item as (select s.customer_id, m.product_name, row_number() over(
                                                    partition by s.customer_id
                                                    order by s.order_date)
                                                    as order_item
              from sales s join menu m on s.product_id = m.product_id )

select customer_id, product_name from item
where order_item=1
```

Results Messages

	customer_id	product_name
1	A	sushi
2	B	curry
3	C	ramen

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

```
with purchased(product_name, total_count)
as (select m.product_name, count(s.product_id) as total_count
from sales s join menu m on s.product_id = m.product_id
group by m.product_name)

select top 1 * from purchased
order by total_count desc
```

Results Messages

	product_name	total_count
1	ramen	8

5 Which item was the most popular for each customer?

```
with popular(customer_id, product_name, total_count)
as (select s.customer_id, m.product_name, count(s.product_id) as total_count
from sales s join menu m on s.product_id = m.product_id
group by product_name, s.customer_id)

select customer_id, product_name
from popular p
where total_count in (select max(total_count)
                      from popular pp
                      where p.customer_id = pp.customer_id)
order by customer_id
```

Results | Messages

	customer_id	product_name
1	A	ramen
2	B	curry
3	B	ramen
4	B	sushi
5	C	ramen

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

```
with purchased(customer_id, product_name, order_date)
as ( select s.customer_id, m.product_name, s.order_date
     from sales s join menu m
     on s.product_id = m.product_id join members mb on s.customer_id= mb.customer_id
     where s.order_date >= mb.join_date)

select customer_id, product_name
from purchased p
where order_date in (select min(order_date)
                     from purchased pp
                     where p.customer_id = pp.customer_id)
order by customer_id
```

Results | Messages

	customer_id	product_name
1	A	curry
2	B	sushi

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

```
with purchased(customer_id, product_name, order_date)
as ( select s.customer_id, m.product_name, s.order_date,
from sales s join menu m on s.product_id = m.product_id join members mb on s.customer_id=
mb.customer_id
where s.order_date < mb.join_date)


select customer_id, product_name
from purchased p
where order_date in (select max(order_date)
                from purchased pp
                                where p.customer_id = pp.customer_id)
order by customer_id
```

Results Messages

	customer_id	product_name
1	A	sushi
2	A	curry
3	B	sushi

```
with purchased(customer_id, product_name, order_date, rank)
as ( select s.customer_id, m.product_name, s.order_date,
                        row_number() over (partition by s.customer_id
                        order by order_date)
          from sales s join menu m on s.product_id = m.product_id join members mb on
          s.customer_id=        mb.customer_id
          where s.order_date < mb.join_date)


select customer_id, product_name
from purchased p
where rank = 1
```

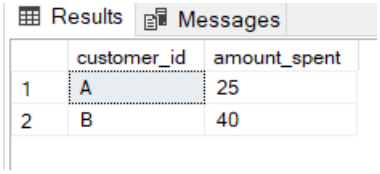
Results Messages

	customer_id	product_name
1	A	sushi
2	B	sushi

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

```
with purchased(customer_id, product_name, price)
as ( select s.customer_id, m.product_name, m.price
from sales s join menu m on s.product_id = m.product_id join members mb on s.customer_id=
mb.customer_id
where s.order_date < mb.join_date)
```

```
select customer_id, sum(price)
from purchased p
group by customer_id
```



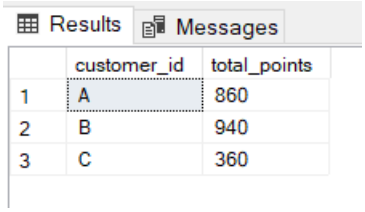
Results | Messages

	customer_id	amount_spent
1	A	25
2	B	40

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

```
with points(customer_id, points) as (select s.customer_id, (case
                                                when m.product_name = 'sushi' then m.price*20
                                                when m.product_name = 'curry' then m.price*10
                                                when m.product_name = 'ramen' then m.price*10
                                                end) points
from sales s join menu m on s.product_id = m.product_id )

select customer_id, sum(points)
from points
group by customer_id
```



Results | Messages

	customer_id	total_points
1	A	860
2	B	940
3	C	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?

```
DECLARE @date1 DATE= '2021-02-01';

with points(customer_id, points) as

(select s.customer_id, (case
            when m.product_name = 'sushi' then m.price*20
                                                when m.product_name = 'curry' then m.price*10
                                                when m.product_name = 'ramen' then m.price*10
```

```
                                        end) points
from sales s join menu m on s.product_id = m.product_id
        join members mb on s.customer_id= mb.customer_id
where s.order_date < @date1 and ( s.order_date < mb.join_date or s.order_date >= DATEADD(day, 7,
join_date))
union all
select s.customer_id, m.price*20
from sales s join menu m on s.product_id = m.product_id
        join members mb on s.customer_id= mb.customer_id
where s.order_date >=mb.join_date and s.order_date < DATEADD(day, 7, join_date))


select customer_id, sum(points)
from points
group by customer_id;
```

Results | Messages

	customer_id	total_points
1	A	1370
2	B	820