

```

-- connect the database & tables
use week1
select * from members
select * from menu
select * from sales

--1. What is the total amount each customer spent at the restaurant?
select s.customer_id, sum(price) as total_spend
from menu inner join sales s
on menu.product_id=s.product_id
group by s.customer_id

--2. How many days has each customer visited the restaurant?
select customer_id, count( distinct order_date) as total_day_visited from
sales
group by customer_id

--3. What was the first item from the menu purchased by each customer?
(assuming only one item purchased for each order on a particular day)
select customer_id, product_name as first_item_purchased from
    (select s.customer_id, menu.product_name, s.order_date, row_number()
over(partition by customer_id order by order_date) as rn
    from menu inner join sales s
    on menu.product_id=s.product_id) as x
where rn = 1

--3. What was the first item from the menu purchased by each customer?
(assuming more items purchased an order on a particular day)
select customer_id, product_name as first_item_purchased from
    (select s.customer_id, menu.product_name, s.order_date, rank()
over(partition by customer_id order by order_date) as rn
    from menu inner join sales s
    on menu.product_id=s.product_id) as x
where rn = 1

--4. What is the most purchased item on the menu and how many times was it
purchased by all customers?
select TOP 1 menu.product_name as most_purchased_item, count(*) as
frequency from menu inner join sales s
on menu.product_id=s.product_id
group by product_name
order by frequency desc

--5. Which item was the most popular for each customer?
with cte as
    (select customer_id, product_name, count(*) as cnt,
    rank() over(partition by customer_id order by count(*) desc) rnk
from menu
    inner join sales s
    on menu.product_id=s.product_id
    group by customer_id, product_name)
select customer_id, product_name from cte
where rnk=1

```

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

```
with cte1 as
    (select s.customer_id, menu.product_name, s.order_date,
m.join_date, DATEDIFF(day, m.join_date, s.order_date) as diff
    from sales s inner join menu on s.product_id=menu.product_id inner
join members m on s.customer_id=m.customer_id
    where DATEDIFF(day, m.join_date, s.order_date) >= 0),
cte2 as
    (select customer_id, product_name, diff, rank() over(partition by
customer_id order by diff) as rn from cte1)
select customer_id, product_name as first_item_as_member from cte2
where rn = 1
```

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

```
with cte1 as
    (select s.customer_id, menu.product_name, s.order_date,
m.join_date, DATEDIFF(day, s.order_date, m.join_date) as diff
    from sales s inner join menu on s.product_id=menu.product_id inner
join members m on s.customer_id=m.customer_id
    where DATEDIFF(day, m.join_date, s.order_date) < 0),
cte2 as
    (select *, rank() over(partition by customer_id order by diff) as rn
from cte1)
select customer_id, product_name from cte2
where rn=1
```

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

```
with cte as
    (select s.customer_id, menu.product_name, menu.price, s.order_date,
m.join_date, DATEDIFF(day, s.order_date, m.join_date) as diff
    from sales s inner join menu on s.product_id=menu.product_id inner
join members m on s.customer_id=m.customer_id
    where DATEDIFF(day, m.join_date, s.order_date) < 0)
select customer_id, count(*) as total_item_ordered, sum(price) as
total_spent from cte
group 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?

```
select customer_id, sum(case when product_name = 'sushi' then price*2*10
else price*10 end) as points
from menu inner join sales s on menu.product_id=s.product_id
group by 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 order_date between join_date and dateadd(day, 6,
join_date) then price*2*10
```

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        when product_name='sushi' then price*2*10
        else price*10 end) as points
from sales as s
inner join menu on s.product_id=menu.product_id
inner join members as m on s.customer_id=m.customer_id
where order_date <= '2021-01-31'
group by s.customer_id
```