Danny's case study part 1

```
CREATE TABLE sales (
  "customer_id" VARCHAR(1),
  "order_date" DATE,
  "product_id" INTEGER
);

INSERT INTO sales
  ("customer_id", "order_date", "product_id")
VALUES
  ('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'),
  ('B', '2021-01-11', '1'),
  ('B', '2021-01-16', '3'),
  ('B', '2021-02-01', '3'),
  ('C', '2021-01-01', '3'),
  ('C', '2021-01-01', '3'),
  ('C', '2021-01-07', '3');



CREATE TABLE menu (
  "product_id" INTEGER,
  "product_name" VARCHAR(5),
  "price" INTEGER
);

INSERT INTO menu
  ("product_id", "product_name", "price")
VALUES
  ('1', 'sushi', '10'),
  ('2', 'curry', '15'),
```

```
  ('3', 'ramen', '12');


CREATE TABLE members (
  "customer_id" VARCHAR(1),
  "join_date" DATE
);

INSERT INTO members
  ("customer_id", "join_date")
VALUES
  ('A', '2021-01-07'),
  ('B', '2021-01-09');
```

Question

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

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

2.How many days has each customer visited the restaurant?

```
with mycte as
(select customer_id,extract(day from order_date) as days
from sales
group by extract(day from order_date),customer_id
)
select customer_id,count(customer_id) as count_of_visited_customer
from mycte
group by customer_id
```

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

```
select s.customer_id,s.order_date,
first_value(m.product_name) over(partition by s.order_date order by s.order_date)
```

```
from sales as s
join menu as m
on s.product_id = m.product_id
limit 3
```

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

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

5.Which item was the most popular for each customer ?

```
select m.product_name,sum(m.price) as max_spend_item
from sales as s
join menu as m
on s.product_id = m.product_id
group by m.product_name
order by max_spend_item desc
limit 1
```

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

```
with mycte as
(select s.customer_id,s.order_date,m.join_date,me.product_name
from sales as s
join members as m on s.customer_id = m.customer_id
join menu as me on me.product_id = s.product_id
where order_date >= join_date
),
mycte2 as(select mycte.*,
row_number() over(partition by customer_id) as ranking
from mycte)
select * from mycte2
where ranking = 1
```

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

```
with mycte as
(select s.customer_id,s.order_date,m.join_date,me.product_name
from sales as s
join members as m on s.customer_id = m.customer_id
join menu as me on me.product_id = s.product_id
where order_date < join_date
),
mycte2 as(select mycte.*,
row_number() over(partition by customer_id) as ranking
from mycte)
select * from mycte2
where ranking = 1
```

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

```
select s.customer_id,sum(me.price)
from sales as s
join members as m on s.customer_id = m.customer_id
join menu as me on me.product_id = s.product_id
where order_date < join_date
group by s.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 mycte as
(select s.*,m.* ,
case
    when m.product_name in ('curry','ramen') then m.price * 10
else price * (2*10)
end as product_points
from sales as s
join menu as m
on s.product_id = m.product_id)
select
```

```
customer_id,sum(product_points) as total_point
from mycte
group by customer_id
order by customer_id
```

10. In the first week after become a member (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 mycte as
(select s.*,me.*,
case
    when me.product_name in ('curry','sushi','ramen') then me.price * (2*10)
else me.price
end as product_points,
 extract(week from s.order_date) as week_num,
 extract(month from s.order_date) as month_number
from sales as s
join members as m on s.customer_id = m.customer_id
join menu as me on me.product_id = s.product_id
where order_date >= join_date)
select customer_id,sum(product_points)
from mycte
where month_number = 1
group by customer_id
order by customer_id
```