SQL Data Analysis-1

Role :

As a data analyst ,I need to analyze the data that will help them to understand the operations in the startup.

In this,I have used Mysql to analyze the data

Need of Analysis:

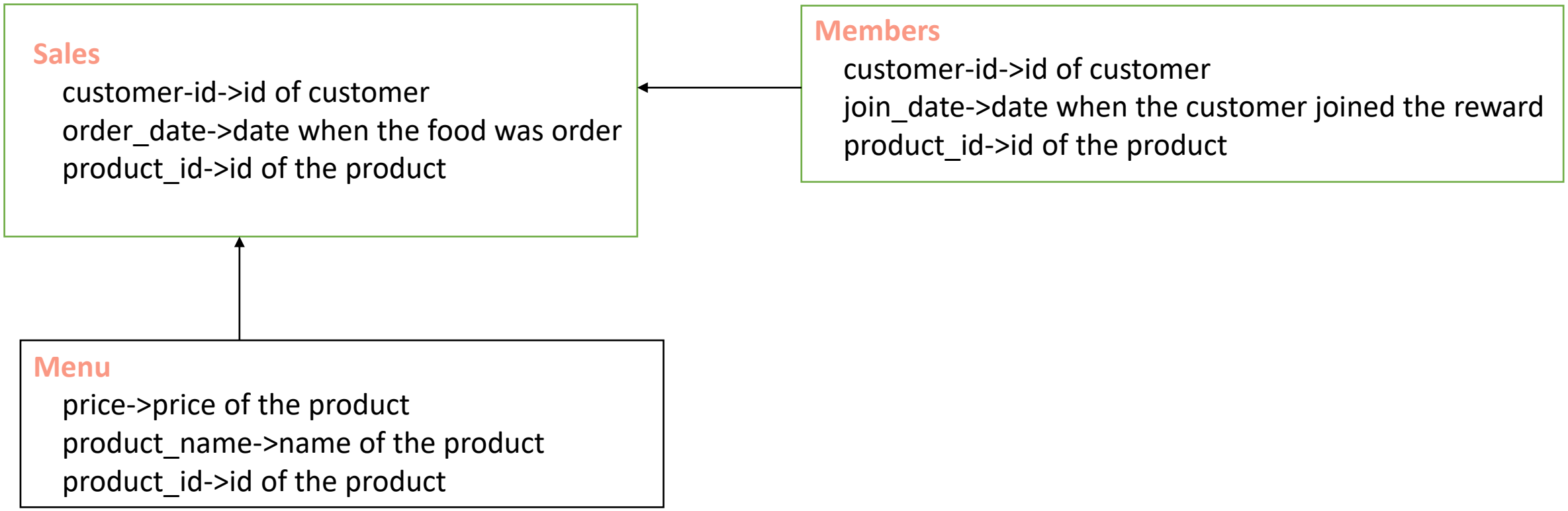
To analyse the data of the restaurant that just started few months ago
That will help to run the business in an efficient manner and
emphasizing on understanding the choices of the customer

A little introduction of the restaurant :
It focuses on the Japanese Food that sell three foods –
Sushi ,curry and ramen.

They had just started the loyalty membership program and that gives rewards to the customer who became a member.
Understanding the ways to expand the membership program.

Three tables:
Sales
Menus
members

Understanding the Schema of this project



Let us begin with the Analysis

Total Item spend by each customer at the restaurant

```
58    -- Total amount spend by the customer in each restaurant
59 •  select sales.customer_id,sum(price) as total from sales inner join menu on sales.product_id=menu.product_id
60    group by sales.customer_id
61    order by total desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	total
A	76
B	74
C	36

How many days each customer visited the restaurant

```
63      -- how many days each customer visited the restaurant
64  •   select customer_id,count(distinct (order_date)) as total_days from
65      sales
66      group by customer_id;
67
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	total_days
A	4
B	6
C	2

The first item from the menu purchased by each customer

```
70 •  select product_id, customer_id,product_name from
71     (select sales.customer_id,sales.order_date,menu.product_name,menu.product_id,
72    row_number() over (partition by sales.customer_id order by order_date) as ranking from sales
73    inner join menu on sales.product_id=menu.product_id) as a
74    where ranking =1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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

Most purchased item on the menu and how many times was it purchased by all customers

```sql
-- most purchased item in the menu and how many times it was purchased
select count(product_name) as total ,menu.product_name,menu.product_id
 from sales
inner join menu on sales.product_id=menu.product_id
group by product_name
order by total desc
limit 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

total	product_name	product_id
8	ramen	3

Item was the most popular for each customer

```sql
-- which item was most popular for each cutomer
select customer_id,product_name,order_count from (
select sales.customer_id,menu.product_name,menu.product_id,count(product_name) as order_count,row_number () over(partition by customer_id
order by count(product_name) desc) as rnk
from sales inner join menu on sales.product_id=menu.product_id
group by customer_id,product_name) as a
where rnk =1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	product_name	order_count
A	ramen	3
B	curry	2
C	ramen	3

Item was purchased first by the customer after they became a member

```
94 •  select customer_id,product_name,product_id,join_date,order_date from
95    (select sales.customer_id,sales.order_date,members.join_date,menu.product_name,menu.product_id,rank()
96    over(partition by customer_id order by order_date asc) as rnk from sales inner join members on sales.customer_id=members.customer_id
97    inner join menu on menu.product_id=sales.product_id
98    where sales.order_date>=members.join_date) as a
99    where rnk=1;
100
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	product_name	product_id	join_date	order_date
A	curry	2	2021-01-07	2021-01-07
B	sushi	1	2021-01-09	2021-01-11

Item was purchased just before the customer became a member

```sql
-- before they became a member
select customer_id,product_name,product_id,join_date,order_date from
(select sales.customer_id,sales.order_date,members.join_date,menu.product_name,menu.product_id,
row_number() over (partition by customer_id order by order_date asc) as rnk from sales
 inner join members on sales.customer_id=members.customer_id
inner join menu on menu.product_id=sales.product_id
where sales.order_date<members.join_date) as a
where rnk=1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	product_name	product_id	join_date	order_date
A	sushi	1	2021-01-07	2021-01-01
B	curry	2	2021-01-09	2021-01-01

Total items and amount spent for each member before they became a member

```
124 •  select sales.customer_id,menu.product_id,sum(menu.price * 20)  as reward from sales inner join members on
125    sales.customer_id=members.customer_id
126    inner join menu on menu.product_id=sales.product_id
127    where sales.order_date>=members.join_date && extract(month from order_date)=1
128    group by customer_id;
129
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	product_id	product_name	total_price
A	1	sushi	860
B	2	curry	940
C	3	ramen	360

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

```
119 • select sales.customer_id,menu.product_id,menu.product_name,sum(case when product_name="sushi" then price*20
120   else  price *10 end ) as total_price from sales inner join menu on sales.product_id=menu.product_id
121   group by customer_id;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	product_id	product_name	total_price
A	1	sushi	860
B	2	curry	940
C	3	ramen	360

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?

```
124 •  select sales.customer_id,menu.product_id,sum(menu.price * 20)  as reward from sales inner join members on
125    sales.customer_id=members.customer_id
126    inner join menu on menu.product_id=sales.product_id
127    where sales.order_date>=members.join_date && extract(month from order_date)=1
128    group by customer_id;
129
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	product_id	product_name	total_price
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Insights about the Restaurant:

- ✓ A spend the most amount followed by B and C.
- ✓ B frequently visit the restaurant followed by A and C.
- ✓ First Dish ordered by A is Sushi. First Dish ordered by B is curry .First Dish ordered By C is ramen.
- ✓ The most item that was purchased is Ramen.
- ✓ The most popular dish for A and C is ramen and B is Curry.
- ✓ A and B became member of the loyalty program and ordered sushi and curry after they became a member.
- ✓ They ordered the same food before they became a member.
- ✓ B has the maximum points followed by A and C.

Thankyou