**1. DANNY DINNER**

CREATE SCHEMA vinay\_collection;

SET search\_path = vinay\_collection;

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');

**QUESTIONS & SOLUTIONS:**

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

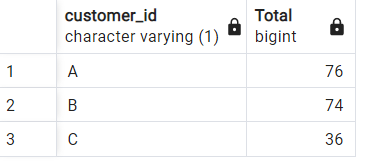
select t1.customer\_id,sum(t2.price) as "Total" from

sales as t1 Join menu as t2

on t1.product\_id = t2.product\_id

group by t1.customer\_id

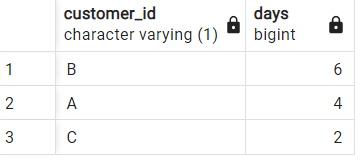
order by "Total" desc;



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

select customer\_id, count(distinct order\_date) as "days" from sales

group by customer\_id order by "days" desc;



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

select distinct t1.customer\_id,

(with p1 as (select t2.product\_id from sales t2 where t2.customer\_id = t1.customer\_id

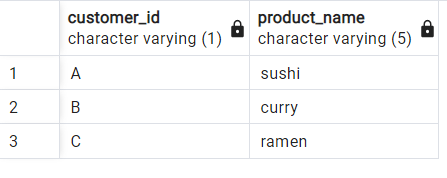
 order by t2.order\_date limit 1)

 select t2.product\_name from p1 as t1

 join menu as t2

 on t1.product\_id = t2.product\_id)

from sales as t1;



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

with purchased\_items as (

Select t1.customer\_id,t1.order\_date,t2.product\_name,t2.price

from sales as t1

join menu as t2 on t1.product\_id = t2.product\_id

  order by t1.customer\_id),

***--4 a) Most purchased item***

temp1 as (select product\_name,count(product\_name) from purchased\_items

  group by product\_name order by count(product\_name) desc limit 1)

***--4 b) How many times it was ordered***

select customer\_id,count(product\_name) from purchased\_items where

product\_name = (select product\_name from temp1)

group by customer\_id;

***--4 Combined***

with purchased\_items as (

Select t1.customer\_id,t1.order\_date,t2.product\_name,t2.price

from sales as t1

join menu as t2 on t1.product\_id = t2.product\_id

  order by t1.customer\_id),

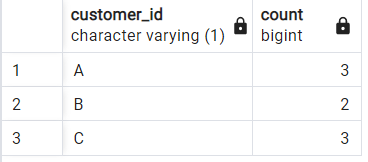
temp1 as (select product\_name,count(product\_name) from purchased\_items

  group by product\_name order by count(product\_name) desc limit 1)

select customer\_id,count(product\_name) from purchased\_items where

product\_name = (select product\_name from temp1)

group by customer\_id;



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

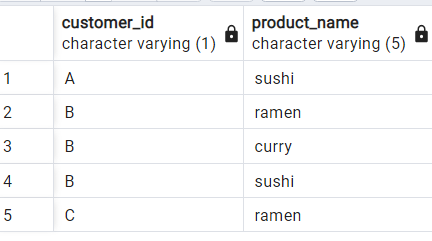
with popular\_item as

(select customer\_id,product\_name,

rank() over(Partition by customer\_id order by count(\*)) as rnk

from purchased\_items group by customer\_id,product\_name)

select customer\_id,product\_name from popular\_item where rnk = 1;



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

with first\_table as (select t1.customer\_id,(t1.order\_date-t2.join\_date) as diff,

t1.product\_name

from purchased\_items as t1

join members as t2

on

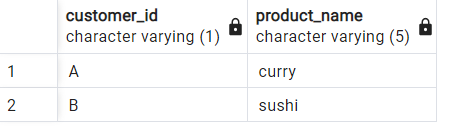
t1.customer\_id = t2.customer\_id where t1.order\_date-t2.join\_date >=0),

second\_table as (select customer\_id,min(diff) as diff from first\_table group by customer\_id)

select t1.customer\_id,t2.product\_name

from second\_table as t1 join first\_table as t2

on t1.customer\_id = t2.customer\_id and t1.diff = t2.diff;



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

with table1 as (select t1.customer\_id,min(abs(t1.order\_date-t2.join\_date)) as diff

from purchased\_items as t1

join members as t2

on

t1.customer\_id = t2.customer\_id where t1.order\_date-t2.join\_date < 0

group by t1.customer\_id),

table2 as (

select t1.customer\_id,abs(t1.order\_date-t2.join\_date) as diff,

t1.product\_name

from purchased\_items as t1

join members as t2

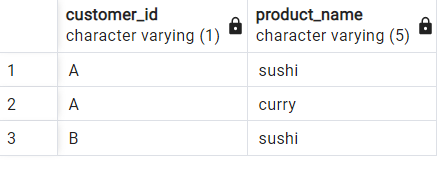
on

t1.customer\_id = t2.customer\_id where t1.order\_date-t2.join\_date < 0)

select  t1.customer\_id, t2.product\_name

from table1 as t1 left join table2 as t2

on t1.customer\_id = t2.customer\_id and t1.diff = t2.diff;



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

select t1.customer\_id,

count(t1.product\_name) as Total\_items,

sum(t1.price) as Total\_amount

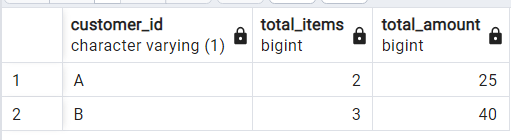
from purchased\_items as t1

join members as t2

on

t1.customer\_id = t2.customer\_id where t1.order\_date-t2.join\_date < 0

group by t1.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 table1 as (select t1.customer\_id,

case

when t1.product\_name = 'sushi' then t1.price\*20

else t1.price\*10

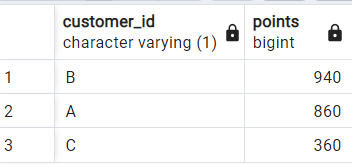
end as Points

from purchased\_items as t1)

select customer\_id,sum(points) as points

from table1 group by customer\_id

order by sum(points) desc;



***/\* 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? \*/***

with table1 as (

select t1.customer\_id,

case

when t1.product\_name = 'sushi' then t1.price\*20

when t1.product\_name != 'sushi' and t1.order\_date-t2.join\_date >= 0

and t1.order\_date-t2.join\_date < 7 then t1.price\*20

else t1.price\*10

end as points

from purchased\_items as t1

join members as t2

on

t1.customer\_id = t2.customer\_id)

select customer\_id,sum(points) as points

from table1 group by customer\_id

order by sum(points) desc;

