CREATE DATABASE restaurant\_loyalty;

USE restaurant\_loyalty;

CREATE TABLE sales (

-> customer\_id VARCHAR(1),

-> order\_date DATE,

-> product VARCHAR(20),

-> amount INT

-> );

CREATE TABLE menu (

-> product VARCHAR(20),

-> price INT

-> );

CREATE TABLE members (

-> customer\_id VARCHAR(1),

-> join\_date DATE

-> );

INSERT INTO sales (customer\_id, order\_date, product, amount) VALUES

-> ('A', '2021-01-01', 'sushi', 10),

-> ('A', '2021-01-01', 'curry', 15),

-> ('A', '2021-01-07', 'ramen', 12),

-> ('A', '2021-01-10', 'sushi', 10),

-> ('B', '2021-01-01', 'curry', 15),

-> ('B', '2021-01-02', 'sushi', 10),

-> ('B', '2021-01-03', 'curry', 15),

-> ('B', '2021-01-04', 'ramen', 12),

-> ('B', '2021-01-10', 'ramen', 12),

-> ('C', '2021-01-05', 'sushi', 10),

-> ('C', '2021-01-08', 'curry', 15);

INSERT INTO menu (product, price) VALUES

-> ('sushi', 10),

-> ('curry', 15),

-> ('ramen', 12);

INSERT INTO members (customer\_id, join\_date) VALUES

-> ('A', '2021-01-07'),

-> ('B', '2021-01-05');

SELECT customer\_id, SUM(amount) AS total\_spent

-> FROM sales

-> GROUP BY customer\_id;

SELECT customer\_id, COUNT(DISTINCT order\_date) AS visit\_days

-> FROM sales

-> GROUP BY customer\_id;

SELECT customer\_id, product

-> FROM (

-> SELECT customer\_id, product, order\_date,

-> RANK() OVER (PARTITION BY customer\_id ORDER BY order\_date) AS rk

-> FROM sales

-> ) AS ranked

-> WHERE rk = 1;

SELECT product, COUNT(\*) AS purchase\_count

-> FROM sales

-> GROUP BY product

-> ORDER BY purchase\_count DESC

-> LIMIT 1;

SELECT customer\_id, product

-> FROM (

-> SELECT customer\_id, product, COUNT(\*) AS cnt,

-> RANK() OVER (PARTITION BY customer\_id ORDER BY COUNT(\*) DESC) AS rk

-> FROM sales

-> GROUP BY customer\_id, product

-> ) AS ranked

-> WHERE rk = 1;

SELECT customer\_id, product

-> FROM (

-> SELECT s.customer\_id, s.product, s.order\_date, m.join\_date,

-> RANK() OVER (PARTITION BY s.customer\_id ORDER BY s.order\_date) AS rk

-> FROM sales s

-> JOIN members m ON s.customer\_id = m.customer\_id

-> WHERE s.order\_date >= m.join\_date

-> ) AS ranked

-> WHERE rk = 1;

SELECT customer\_id, product

-> FROM (

-> SELECT s.customer\_id, s.product, s.order\_date, m.join\_date,

-> RANK() OVER (PARTITION BY s.customer\_id ORDER BY s.order\_date DESC) AS rk

-> FROM sales s

-> JOIN members m ON s.customer\_id = m.customer\_id

-> WHERE s.order\_date < m.join\_date

-> ) AS ranked

-> WHERE rk = 1;

SELECT s.customer\_id, COUNT(\*) AS total\_items, SUM(amount) AS total\_spent

-> FROM sales s

-> JOIN members m ON s.customer\_id = m.customer\_id

-> WHERE s.order\_date < m.join\_date

-> GROUP BY s.customer\_id;

SELECT customer\_id,

-> SUM(

-> CASE

-> WHEN product = 'sushi' THEN amount \* 10 \* 2

-> ELSE amount \* 10

-> END

-> ) AS total\_points

-> FROM sales

-> GROUP BY customer\_id;

SELECT s.customer\_id,

-> SUM(

-> CASE

-> WHEN s.order\_date BETWEEN m.join\_date AND DATE\_ADD(m.join\_date, INTERVAL 6 DAY) THEN amount \* 10 \* 2

-> WHEN product = 'sushi' THEN amount \* 10 \* 2

-> ELSE amount \* 10

-> END

-> ) AS january\_points

-> FROM sales s

-> JOIN members m ON s.customer\_id = m.customer\_id

-> WHERE MONTH(s.order\_date) = 1

-> GROUP BY s.customer\_id;