SQL Case Study - 1

Contents

Introduction

Jeremy seriously loves Japanese food so in the beginning of 2021, he decides to embark upon a risky venture and opens up a cute little restaurant that sells his 3 favourite foods: sushi, curry and ramen.

Jeremy's Diner is in need of your assistance to help the restaurant stay afloat - the restaurant has captured some very basic data from their few months of operation but have no idea how to use their data to help them run the business.

Problem Statement

Jeremy wants to use the data to answer a few simple questions about his customers, especially about their visiting patterns, how much money they've spent and also which menu items are their favourite. Having this deeper connection with his customers will help him deliver a better and more personalised experience for his loyal customers.

He plans on using these insights to help him decide whether he should expand the existing customer loyalty program - additionally he needs help to generate some basic datasets so his team can easily inspect the data without needing to use SQL.

Jeremy has shared with you 3 key datasets for this case study:
- sales
- menu
- members

You can inspect the entity relationship diagram and example data below:
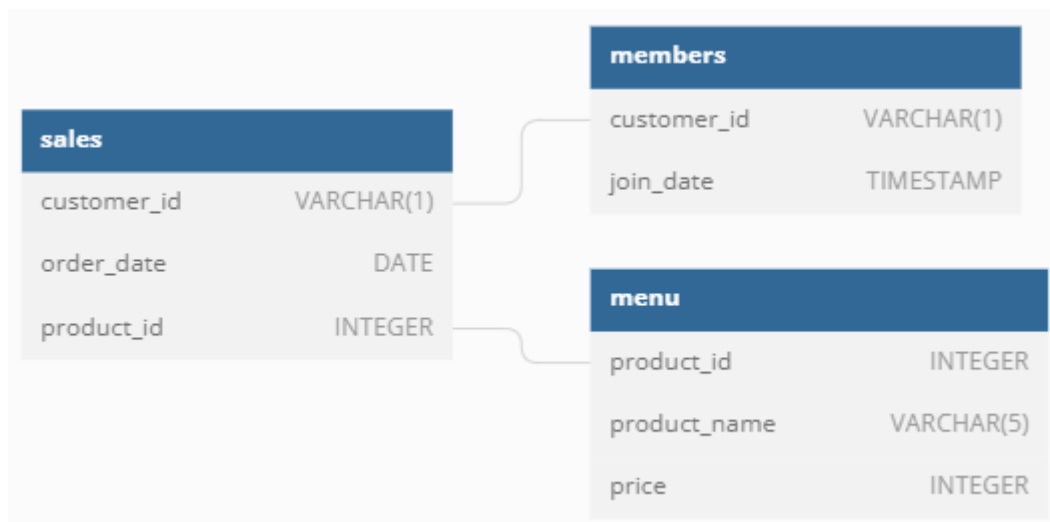
Example Datasets

All datasets exist within the *case_study_1* database schema - be sure to include this reference within your SQL scripts as you start exploring the data and answering the case study questions.

Table 1: *sales*

The *sales* table captures all *customer_id* level purchases with an corresponding *order_date* and *product_id* information for when and what menu items were ordered.

customer_id	order_date	product_id
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

Table 2: *menu*

The *menu* table maps the *product_id* to the actual *product_name* and price of each menu item.

product_id	product_name	price
1	sushi	10
2	curry	15
3	ramen	12

Table 3: *members*

The final *members* table captures the *join_date* when a *customer_id* joined the beta version of the Jeremy's Diner loyalty program.

customer_id	join_date
A	2021-01-07
B	2021-01-09

Schema Creation

SQL Script to create the tables

case_study_1.sql

Case Study Questions

Each of the following case study questions can be answered using a single SQL statement:

1. What is the total amount each customer spent at the restaurant?
2. How many days has each customer visited the restaurant?
3. What was the first item from the menu purchased by each customer?
4. What is the most purchased item on the menu and how many times was it purchased by all customers?
5. Which item was the most popular for each customer?
6. Which item was purchased first by the customer after they became a member?
7. Which item was purchased just before the customer became a member?
8. What is the total items and amount spent for each member before they became a member?
9. If each $1 spent equates to 10 points and sushi has a 2x points multiplier - how many points would each customer have?
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?