

HW 3. SQL

Submission Instructions

- Include your name on your solution.
- Submit as a PDF.
- Optionally, you may include a brief description of the assumptions you made if clarifications are necessary

Assignment

For each question below, provide an answer with a **single SELECT** statement (you can nest **SELECT** statements as necessary). Use the HW1 and HW2 solutions as a references, which also has data to test your queries (and feel free to load more data to experiment with!). Apply the concepts from Module 4 and Module 5. Note that each problem may have multiple solutions. Favor readability and simplicity over complex statements. Also refrain from advanced MySQL shortcuts if applicable (favor standard SQL, although MySQL conveniences such as referencing aliases should be used).

1. What is the average review rating for each of the top 10 ranked restaurants? Include the restaurant name in the result set.
2. How many users have created more than one review?
3. What day of the week is most popular for making a reservation? Use the DAYOFWEEK() function on the 'Start' column.
4. Which UserNames have made multiple reservations at the same SitDownRestaurant?
5. Identify the number of credit cards per provider. The credit card provider is determined by the leading digit(s) of the CardNumber. Use this mapping for card providers:

Provider	CardNumber Starts With
American Express	34, 37
Discover	6011, 644, 645, 646, 647, 648, 649, 65
MasterCard	51, 52, 53, 54, 55
Visa	4
NA	(Everything else)

6. What is the total number of active restaurants for each type of restaurant (SitDownRestaurant, TakeOutRestaurant, FoodCartRestaurant)?

7. Which UserNames have not created a review, nor created a recommendation, nor created a reservation? In other words, users that have not created any of the following: reviews, recommendations, reservations.

8. What is the ratio of the total number of recommendations to the total number of reviews?

9. Of the users that have created a reservation at a SitDownRestaurant, what is the percentage that the user has recommended that SitDownRestaurant?

10. Which UserNames have created more than twice the number of recommendations than number of reviews? Also take into account users that have not created recommendations or reviews -- if a user has create one recommendation but zero reviews, then that user should be included in the result set.