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**SQL Exercise**

**Total Time = 2 hours**

**Data = See email attachments**

* organization\_data**:**

**One row per organization**

* monthly\_debit\_card\_spend**:** 
  + **One row per organization per month**
* monthly\_account\_balances**:** 
  + **One row per account per month**
  + **Note that an organization can have more than one account**
  + **There is an organization\_id column you can use to join to the other tables**

**Prompt**

**Use SQL to answer the below questions; any tool is fine. If you don’t have a tool preference, we recommend:** [**https://sqliteonline.com/**](https://sqliteonline.com/)

**Please make sure to include your work when you send us the completed exercise. We’d like to see the queries, and any other relevant information that gives us insight into your process.**

**We make 2.5% revenue from debit card spent, and 1% / year revenue from deposits we hold.**

**So, a customer holding $1m in their account and spending $10k / month on their card would generate:**

**1m x 1/100 + 10k x 2.5/100 x 12 = $13k / year**

**Questions**

1. **SQL**
   1. **What was the total end of month balance for each month?**
   2. **What was the total debit card spend each month?**
   3. **Which industries had the highest average balances and debit card spend in September 2019?**
   4. **What was the proportion of our users from California each month?**
2. **Interpretation**
   1. **In September, the five states with the highest average balance per customer were Utah, Michigan, California, Washington, and Massachusetts. Which of these states should we prioritize for marketing / advertising. Why?**
   2. **Likewise, our six highest debit card spending states that month were Texas, Washington, Tennessee, Nevada, Illinois, and New York. Which of these states should be higher priority?**
3. **Analysis**
   1. **Based on the data, where might we want to focus our marketing efforts?**
   2. **What is the month 3 debit card usage by cohort, and how is that changing? (*Note: You may do this in Excel / Google Sheets* or *SQL. You may also skip this question if you run out of time*)**