# SQL Workshop Week 2

## UC Davis DSI

### 2018

# 1 Review

1. Which tickers have a beta of 3 or more?

2. How many days in 2014-2015 did Amazon (AMZN) shares close above 350?

3. Are any values missing from the state populations table?

# 2   Aggregation

## Aggregation Functions

1. What's the total assets of all companies in the company info table?

2. How many companies are in the "Energy" sector?

3. Which ticker has the most assets? Which has the least? Answer this question without using ORDER BY.

4. What happens if you aggregate two different columns in the same query? Give an example and explain the result. What happens if you also include columns that aren't aggregated?

## Grouping

5. How many companies are in each state?

6. According to the company locations table, how many companies went down in Fortune 500 rankings from 2014 to 2015? How many went up? Try to get all of this information in one query.

7. What is the average opening price for each stock in the daily share prices table? Sort the result from lowest to highest average price.

8. Which companies in the daily share prices table had the 3 highest average closing prices for 2014? Hint: use STRFTIME('%Y', date) to extract the year.

## Filter Rows After Aggregation

9. Which states have between 5 and 10 companies?

10. Which stocks have negative average daily increase (close − open)) over the 5-year period?

11. Which year and month combinations (e.g., April 2017, June 2016) have less than 8000 share prices? Hint: use STRFTIME('%Y-%m', date) to extract the year and month.

12. Which industries have a negative average earning per share?

# 3 Combining Data

From Wikipedia:

> The Standard Industrial Classification (SIC) is a system for classifying industries by a four-digit code. Established in the United States in 1937, it is used by government agencies to classify industry areas.

1. How many different SIC codes appear in the `company_info` table?

2. Which SIC codes appear in `company_name` but have no description in the `sic` table?

## Single Joins

3. Select the ticker, company name, and SIC code with corresponding description for companies that have SIC codes.

4. Select the ticker, company name, and SIC code with corresponding description (possibly NULL) for all companies in the `company_info` table.

5. Which 4 digit SIC codes have the most companies?

## Sub-Queries

6. Focusing only on 2014 and the `daily_share_prices` table, find the names of the companies which had any closing price that exceed the average closing price of AAPL in 2014.

   Bonus Question Count the number of days these stocks had a close price above this average.

## Multiple Joins

7. Write a query that produces a table with columns for state, SIC code, SIC description, and count of companies located in that state with that SIC code.

8. Modify the query above to only return rows with a count of three or more companies.

9. Which ticker symbols appear in both `company_locations` and `daily_share_prices`?