

# CS107 / AC207

## SYSTEMS DEVELOPMENT FOR COMPUTATIONAL SCIENCE

### LECTURE 21

Tuesday, November 16th 2021

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# RECAP OF LAST TIME

- Introduction to databases
- Data models
- SQLite and python

# OUTLINE

- Hands-on exercises using python and sqlite3
  - Reading data into tables
  - Queries
  - Sorting
  - Selecting columns
  - Altering tables
  - Aggregation
  - Deleting rows

# SQLITE EXERCISES (I)

- The exercise sheet is located at:  
<https://harvard-iacs.github.io/2021-CS107/lectures/lecture21/>
- You may work through the tasks in a Jupyter notebook.
- Commit your completed work to your class git repo inside the directory `lectures/lecture21` on the main (or master) branch.

## *Deliverables:*

1. Make a copy of the exercise notebook and call it `L21_Exercises.ipynb`.
2. For each step in the exercise notebook, there are instructions labeled **Do the following:** (except for Setup and Interlude). Put all the code for those instructions in a *single cell immediately following* the instructions. The code in that cell should look like a python script. You *must* place comments where appropriate that describe your intentions and understanding. When in doubt add a comment. **Note:** to get the pandas tables to display in a cell, use `display()`.
3. Save and close your database. Be sure to upload your database with the lecture exercises. You must name your database `L21DB.sqlite`.