

SQL AND FINAL REVIEW

CS 61A GROUP MENTORING

April 23 to April 25, 2018

1 Creating Tables, Querying Data

Examine the table, `mentors`, depicted below.

Name	Food	Color	Editor	Language
Jacob	Thai	Purple	Notepad++	Java
Rachel	Pie	Green	Sublime	Java
Jemmy	Sushi	Orange	Emacs	Ruby
Daniel	Tacos	Blue	Vim	Python
Amy	Ramen	Green	Vim	Python

1. Create a new table `mentors` that contains all the information above. (You only have to write out the first two rows.)

2. Write a query that lists all the mentors along with their favorite food if their favorite color is green.

Rachel | Pie

Amy | Ramen

3. Write a query that lists the food and the color of every person whose favorite language is *not* Python.

Sushi | Orange

Pie | Green

Thai | Purple

4. Write a query that lists all the pairs of mentors who like the same language. (How can we make sure to remove duplicates?)

Rachel | Jacob

Daniel | Amy

The table `competitor` contains the competitor's price for each species.

Species [species]	\$/piece [price]
Salmon	2
Eel	3.4
Yellowtail	3.2
Tuna	2.6

4. Business is good, but a bunch of competition has sprung up! Through some cunning corporate espionage, we have determined one such competitor's selling prices.

Write a query that returns, for each species, the difference between our hatchery's revenue versus the competitor's revenue for one whole fish. For example, the table should contain the following row `Salmon | 60`.

Because we make 30 pieces at \$4 a piece for \$120, whereas the competitor will make 30 pieces at \$2 a piece for \$60. Finally, the difference is 60.

5. Suppose these fish breed every day. The population of each fish gets multiplied by its breeding rate every year. Write a series of SQL statements which will create a table containing each species of fish, their population, and the year for this year (year 0), next year, and the year after. You have access to all tables defined in previous parts.

```
CREATE TABLE yearly_pop(species, pop, n);
```

6. Mutate the same table to only include rows for year 2.
7. Tragedy strikes! In year 2, all fish with a population less than 1,000 die, so remove them from the table. In addition, the remaining fish have their population halved, so mutate the table for them similarly.