CSE 344 Section 3 Worksheet

```
CREATE TABLE Class (
    dept   VARCHAR(50),
    number INT,
    title  VARCHAR(50),
    PRIMARY KEY (dept, number));

CREATE TABLE Instructor (
    username   VARCHAR(50) PRIMARY KEY,
    fname      VARCHAR(50),
    lname      VARCHAR(50),
    started_on CHAR(10));

CREATE TABLE Teaches(
    username VARCHAR(50),  -- alternately, can use the REFERENCES syntax here
    dept     VARCHAR(50),
    number   INT,
    PRIMARY KEY (username, dept, number),
    FOREIGN KEY (username) REFERENCES Instructor,
    FOREIGN KEY (dept, number) REFERENCES Class);
```

Warmup

1. Return the first and last name of all instructors who are teaching at least one class.

2. For each instructor, return their username and the number of classes they teach.

Subqueries Practice

3. Unnest the following SQL queries so they do not use subqueries:

```
SELECT I.username, (
     SELECT COUNT(*)
       FROM Teaches AS T
      WHERE T.username = I.username
     )
  FROM Instructor AS I;
```

```
SELECT C1.dept, C1.number
FROM Class AS C1
WHERE C1.number >= ALL (
         SELECT C2.number
           FROM Class AS C2
          WHERE C1.dept = C2.dept
      );
```

4. Return the number of instructors who are teaching at least one class. (1 row)

5. Return the first and last name of the newest instructor(s) (who started on the latest date). Assume Instructor.started_on uses yyyy-mm-dd format. If there are multiple instructors, list all of them.

6. Return the username, first name, and last name of the instructors who teach the most number of classes. If there are multiple instructors, list all of them.

7. Which CSE courses do neither Dr. Levy (username ‘levy’) nor Dr. Wetherall (username ‘djw’) teach? Give the department, number, and title of these courses.