SQL Zoo Lab - Subqueries

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DIRECTIONS:

- *Copy your answers from SQLZoo into this document on the next page. If you can't get one right, come see me in office hours or call me over during class to discuss.*

- *Add any notes you need to your google cheatsheet, ie, examples that you may want to review for the proficiency exam.*

- *To get credit, you will submit the link to this document in BB. Note: You will receive a 0 if you share this file with me incorrectly, which will mean that I cannot open it. If needed, here's a video on how to correctly share the google doc with me when giving me a link in BB.*

VIDEO ON HOW TO SHARE A GOOGLE DOC LINK WITH A PROFESSOR

SQL Lab: Subqueries

The goal of this lab is to become familiar with:

- ➢ Nested SELECT statements
- ➢ CONCAT(XXX, YYY) function
- ➢ Correlated Subqueries
- ➢ INSTEAD OF using the ALL keyword, use MAX/MIN

DIRECTIONS:

- Make a copy of this document and replace your name above.
- Go to the link below which takes you to a SQL ZOO Practice area for joins.
- As you complete each problem, paste your answer below.
- Take notes in your notes google doc if needed.
- Paste a shareable link to your copied document in BB by the due date.

WRITE YOUR ANSWERS TO THIS LINK BELOW:

https://sqlzoo.net/wiki/SELECT_within_SELECT_Tutorial

- Your answer to #1:

```
SELECT name FROM world
  WHERE population >
     (SELECT population FROM world
      WHERE name='Russia')
```

- Your answer to #2:

```
SELECT name
FROM world
  WHERE continent = 'Europe' AND
        gdp/population>(SELECT gdp/population
                        FROM world
                        WHERE name='United Kingdom')
```

- Your answer to #3:

```
SELECT name, continent
FROM world
  WHERE continent IN (SELECT continent
                      FROM world
                        WHERE name IN ('Argentina', 'Australia')) ORDER BY name;
```

- Your answer to #4:

```
SELECT name, population
FROM world
WHERE population > (SELECT population
                    FROM world
                      WHERE name = 'United Kingdom')
                        AND population < (SELECT population
                                          FROM world
                                            WHERE name =  'Germany');
```

- Your answer to #5:

  Hint - You will likely get marked wrong on #5 but it could be right. Call me over and I'll check it for you! Also, note that the video uses ROUND incorrectly – ROUND takes two inputs.

  Examples: ROUND(3.1415926, 2) —> 3.14

  ROUND(3.1415926, 4) —> 3.1416

```
SELECT name,
    CONCAT
    (ROUND(population*100/(SELECT population
          FROM world WHERE name = 'Germany')
           ,0)
            AS INT),
             '%')
  FROM world
   WHERE continent = 'Europe'
```

- Your answer to #6:

```
SELECT name
  FROM world
  WHERE gdp > ALL(SELECT gdp
                  FROM world
                  WHERE gdp > 0 AND
                        continent = 'Europe');
```

Questions 7-10 may require correlated subqueries so if you don't know what that is, then wait till we discuss it in class to tackle those.

- Your answer to #7:

```
SELECT continent, name, area
  FROM world x
  WHERE area >= (SELECT MAX(area)
                 FROM world y
                 WHERE x.continent = y.continent AND y.area>0);
```

- Your answer to #8:

HINT: How can "MIN" help you? Recall: you can use MIN/MAX with text/strings!

EXAMPLE: MIN("cat", "dog", "ant") is "ant"

```
SELECT continent, name
FROM world x
WHERE name <= (SELECT MIN(name)
               FROM world y
               WHERE x.continent = y.continent);
```

- Your answer to #9:

Hint: Don't forget that population might be null for some rows

```
SELECT name, continent, population
  FROM world
  WHERE continent IN (SELECT continent
                      FROM world x
                      WHERE 25000000 >= (SELECT MAX(population)
                                         FROM world y
                                         WHERE x.continent = y.continent));
```

- Your answer to #10:

  You want countries whose populations are at least 3 times the population *of all other countries* in the same continent. …. REMEMBER: DO NOT USE THE ALL keyword in this lab because SQLite doesn't support it.

```
SELECT name, continent
  FROM world x
  WHERE population > (SELECT 3 * MAX(population)
                      FROM world y
                      WHERE x.continent = y.continent AND
                           x.name <> y.name)
```