Assignment: SQL #1

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1 Assignment-Specific Packaging

The general packaging is unchanged from the basic "Homework Requirements" (see slides from first lecture and "Homework Policies for COM 3563" on Piazza).

This assignment's "DIR" **must be named** *SQL1*. Your report **must be named** *$DIR/SQL1.pdf*.

2 Advice

Because of the large number of SQL topics, and especially because they don't always have a natural progression that builds from one to another, I will be assigning drill exercises on material that we may not have fully covered in lecture. I **expect that you've read (or at least skimmed)** the textbook (or equivalent material), so that you know where to look for the knowledge to solve these exercises.

> This exercise relates to Chapter 3 material.

3 Requirements

Consider the *employee* relational database below, where the primary keys are underlined.

employee (*ID*, *person_name*, *street*, *city*)
works (*ID*, *company_name*, *salary*)
company (*company_name*, *city*)
manages (*ID*, *manager_id*)

- Download the SQL "population" script SQL1_Populate.sql. Use that script to create and populate the database tables per the above schema.

> Note: in all such exercises, you are responsible for (re)initializing the database to this initial state. All subsequent interactions with the databases must execute the specified steps, **in the specified order**!

- For each of the following *natural language* queries, you must
  1. Show me a formatted SQL "translation" of that query
  2. Show a **clear snapshot** of your POSTGRESQL executing that query and the results therefrom.
  3. If the result-set contains *more than three tuples*, you **must** append the clause ORDER BY ID ASC LIMIT 3 to your query to show only the first three tuples.
- Note: most, if not all, your grade depends on "correctness": i.e., the result of your query!

1. Find the ID, name, and city of residence of each employee who works for "Browsedrive".
2. Find the ID, name, and city of residence of each employee who works for "Browsedrive" and earns more than $85000.
3. Find the ID of each employee who does not work for "Browsedrive"
4. Find the ID of each employee who earns more than every employee of "Skiptube".

5. Find the name of the company that has the most employees (or companies, in the case where there is a tie for the most)
6. Find the name of each company whose employees earn a higher salary, on average, than the average salary at “Browsedrive”.