

CS 325 - Week 5 Lab Exercise

Deadline

You can find the due date and time for Lab 5 in the Assignment tab on Canvas, listed under your specific lab section.

Purpose

To practice writing more SQL `select` statements, including some using new features discussed this week, and including some combining several relational operations in a single `select` statement.

How to submit

EACH person in the pair/trio should submit a copy of `325lab5.zip` on Canvas.

Important notes

- I have included an example `325lab5-out.pdf` along with this lab exercise handout, for comparison purposes.
 - This is both to let you know if you are on the right track, AND to hopefully encourage DEBUGGING of your SQL `select` statements if you see significant differences.
- You may find the following useful for this lab exercise:
 - Course Slides
 - SQL Reading Packet 3 - More where clause options and aggregate functions
- For this lab exercise, you are required to work in pairs - 2-person (a single 3-person team will be allowed if there are an odd total number of students in the lab). The point here is to have teams discuss the answers to be given below – if nobody in the team knows the answer, please consult the lecture slides, posted readings, and online documentation for guidance. Ask the team next to you **ONLY** if you have exhausted these other options first!
- **RECOMMENDATION:** RUN your script-in-progress FREQUENTLY as you are developing it -- do not create the entire script before running it for the first time.

Lab Exercise set-up

- On nrs-projects, **CREATE** a directory `325lab5`, protect it, and go to it:

```
mkdir 325lab5
chmod 700 325lab5
cd 325lab5
```
- **IF** you do not already have tables `empl`, `dept`, and `customer`, **PUT** the SQL script (`set-up-ex-tb1s.sql` under week 5 lab module on canvas) to your `325lab5` directory on nrs-projects through **sftp** (with a **put** command):
 - ...and **run** it in `sqlplus` to get your own versions of these tables

Lab Exercise tasks

- Then, begin a SQL script `325lab5.sql` with comment(s) including at least **BOTH (all)** of your **names** and **today's date**. Add commands for the following into this SQL script.

- Start spooling to a file **325lab5-out.txt**.
- Write a `prompt` command to print a message to the screen containing **both** of your names.
- Write a `prompt` command outputting **lab query 1**, then write a query that projects just the employee last names for employees who have a `mgr` column whose value is null.
- Write a `prompt` command outputting **lab query 2**, then write a query that projects just the employee last name and hire dates for employees whose job title is 'Sales'.
- Write a `prompt` command outputting **lab query 3**, then write a query that projects the `dept_name` and `salary` for employees whose `mgr` column contains '7839'.
- Write a `prompt` command outputting **lab query 4**, then write a query performing a true relational projection - with NO duplicate rows in the result - of the `job_title` and `mgr` columns of the `empl` table.
- Write a `prompt` command outputting **lab query 5**, then write a query using **IN** that selects those rows in `dept` whose location is either 'Dallas', 'Boston', or 'New York'.
- Write a `prompt` command outputting **lab query 6**, then write a query that projects the employee last names, job titles, and salaries for employees who either have salaries greater than 3000 or who have salaries less than 1000.
- Write a `prompt` command outputting **lab query 7**, then write a query, using **between**, that selects the rows for employees hired between September 1, 2018 and September 30, 2018.
- Write a `prompt` command outputting **lab query 8**, then write a query, using **like**, that selects those rows from the employee table for employees whose last name begins with the letter 'M'.
- Turn off spooling.

When you believe your SQL script is working properly, zip the 325lab5 folder, submit the 325lab5.zip on Canvas, your folder should contain at least the following files:

- 325lab5.sql
- 325lab5-out.txt

Once your lab exercise files have been submitted, you may leave the lab if you wish.