

CS 325 - Week 13 Lab Exercise

Deadline

Due by the end of lab on 2021-11-19.

Purpose

To practice with some SQL*Plus features that can be useful for creating reports

How to submit

JUST this "driver" for each pair should use `~st10/325submit` to submit the pair's copy of this lab exercise's files, with a lab number of **93**

Important notes

- **I have included an example** `325lab13-out.txt` **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:
 - NOTE that on the course Canvas site, under Modules, in the "Class Recordings" section, the **FIRST** link in that section leads to the public course web site's "In-class Examples" section.
 - SQL Reading Packet 8 - Simple reports, parts 1 and 2
 - `325lect13-2.sql` - the SQL script "built" during the Week 13 Asynchronous Material - part 2
- You are required to work in **pairs** for this lab exercise. If you are not pair-programming, then you may not receive full credit for your lab exercise.
 - If there are an odd number of students attending lab, or too many students with connectivity issues, some teams may have 3 students.
- **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 `325lab13`, protect it, and go to it:

```
mkdir 325lab13
chmod 700 325lab13
cd 325lab13
```
- **IF** you do not already have tables `empl`, `dept`, and `customer`, or if you have made any changes to their contents, **COPY** the following script to your directory:

```
cp ~st10/set-up-ex-tbls.sql . # remember the space and period
...and run it in sqlplus to get restored versions of these tables.
```

Lab Exercise tasks

- Then, begin a SQL script **325lab13.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 **325lab13-out.txt**.
- Write a prompt command to print a message to the screen containing **both** of your names.
- Write a prompt command outputting **lab problem 1**, then write a query that does a join of dept and emp1, BUT it only projects the columns dept_name and salary, ORDERING the results by dept_name.
- Write a prompt command outputting **lab problem 2**, then...
 - set the page size to 50 lines, and
 - set feedback to off.
 - use / to re-run the previous query
- Write a prompt command outputting **lab problem 3**, then...
 - write a column command that gives the dept_name column a noticeably-different heading *and* format of your choice, and
 - use / to re-run the previous query, to show this change in action.
- Write a prompt command outputting **lab problem 4**, then...
 - write a column command that gives the salary column a noticeably-different heading *and* format of your choice, and
 - use / to re-run the previous query, to show this change in action.
- Write a prompt command outputting **lab problem 5**, then...
 - write a break command to break on column dept_name, skipping 1 row after each different value
 - use / to re-run the previous query, to show this change in action.
- Write a prompt command outputting **lab problem 6**, then...
 - write a compute command to print the average of the salaries for each dept_name, and
 - use / to re-run the previous query, to show the compute's effects.
- Write a prompt command outputting **lab problem 7**, then...
 - write a ttitle to add a top title of your choice,
 - use / to re-run the previous query, and show the resulting top title.

- Write a prompt command outputting **lab problem 8**, then:
 - Write a second query of your choice (at least somewhat **different** from that in lab problem 1) that projects at least 3 different columns and/or computations, and contains at least 4 rows, and uses `order by` to specify the order its rows are displayed.
 - Use `column` commands to give each column a noticeably-different heading and format of your choice.
 - Use at least one other of the SQL*Plus features we have discussed, or from SQL Reading Packet 8, to make one other noticeable change (you could change the top title; you could add a bottom title; you could use a `break`, or a `break` and a `compute`; you could change the `linesize` or `pagesize` in some noticeable way; etc.)
 - (For this problem, it is fine to put your `column` commands and other SQL*Plus commands *before* your query, rather than putting your query, then these commands, then a `/`.
We played around a lot with `/` in the earlier problems, but it really is more typical in a SQL script building a report to put the SQL*Plus commands setting what you want and *then* the query whose display is to make use of them!)
- Write a prompt command outputting **lab problem 9**, then...
 - be polite, and write the command(s) to clear breaks, columns, and computes,
 - and turn top titles off,
 - and set `pagesize` back to 14,
 - and set `feedback` back to 6.
 - (And if you reset any other SQL*Plus defaults for lab problem 8, restore those to their default values, also.)
- Turn off spooling.
- When you believe your SQL script is working properly, submit your `325lab13.sql` and `325lab13-out.txt` files using `~st10/325submit` with a homework number of **93**.
 - (Once you have submitted your lab exercise files, you may leave lab if you wish. Or, you can ask questions, (noting that lab-exercise-related questions need to receive 1st priority), work on the CS 325 Project Design Draft milestone, etc.)