CS 325 - Homework 1

Deadline

11:59 pm on **Friday, September 3, 2021**.

Purpose

To encourage you to carefully read the course syllabus, to see if you are gleaning some important concepts from required class reading, and to practice a bit with writing and running SQL scripts, creating and dropping a table, inserting rows into a table, and submitting files using the course submit tool.

How to submit

Problems 1 and 2 are completed on the course Canvas site.

For Problem 3 onward:

Each time you wish to submit, within the directory `325hw1` on nrs-projects.humboldt.edu (and at the nrs-projects UNIX prompt, **NOT inside** `sqlplus`!) type:

```
~st10/325submit
```

...to submit your current files, using a homework number of `1`.

(**Make sure** that the files you intend to submit are listed as having been submitted!)

Additional notes:

- You are required to use the HSU Oracle `student` database for this homework.
- **SQL Reading Packet 1**, on the course Canvas site, is a useful reference for this homework.
- For convenience, in a SQL script, sometimes one chooses to precede a `create table` command with a corresponding `drop table` command, so that when you re-run the script, the script drops and re-creates the table.
  - We'll often do this in this course -- in a production system one might be more wary of this! BUT if you are really re-creating a table, it has to be dropped first, anyway.
  - The `drop table` command will fail the very first time you run such a script, since the table is not there yet to be dropped. That's fine -- the subsequent `create table` command will still work, and you can always re-run the script a second time to ensure that the error message indeed goes away.

Problem 1 - 20 points

Problem 1 is correctly answering the "HW 1 - Problem 1 - required syllabus confirmation and reading questions" on the course Canvas site.

Problem 2 - 12 points

Problem 2 is correctly answering the "HW 1 - Problem 2 - Reading Questions for DB Reading Packet 1 - Database Processing and Development" on the course Canvas site.

Setup for Problems 3 onward

Use `ssh` to connect to `nrs-projects.humboldt.edu`, and create a directory named `325hw1` on nrs-projects:

```
mkdir 325hw1
```

...and change this directory's permissions so that only you can read it:

```
chmod 700 325hw1
```

...and change your current directory to that directory (go to that new directory) to do this homework:

```
cd 325hw1
```

Put all of your files for this homework in this directory. (And it is from this directory that you should type `~st10/325submit` to submit your files each time you would like to submit your work-so-far.)

Problem 3

Use `nano` (or `vi` or `emacs`) to create a file named `325hw1-1.sql` within directory `325hw1`:

```
nano 325hw1-1.sql
```

While within `nano` (or whatever), type in the following within one or more SQL comments:

- your name
- `325 HW 1 - my first table`
- the date this file was last modified

This script is still not yet complete -- you have more to add to it.

Problem 4

Consider SQL Reading Packet 1, pages 7-10, introducing the SQL `create table`, `drop table`, and `insert` statements.

Think of a table on some topic of your choice that you would like to create, and then add commands for the following to your SQL script `325hw1-1.sql`:

- write a SQL `drop table` statement for that table
- write a SQL `create table` statement for that table, such that:
  - your new table has **at least FOUR columns**, each with an appropriate type for that column's meaning
  - it declares a **primary key**: a set of one or more columns whose (combined) value must be **unique** for each row of your table
- insert **at least FIVE rows** into your new table

IF you haven't already, this would be a good time to save your 325hw1-1.sql file, and go into sqlplus and see if:

```
start 325hw1-1.sql
```

...works -- is your new table dropped and created? (Remember that the drop table command will fail until you actually create that table for the first time, since until then there is nothing to drop.)

This file 325hw1-1.sql is now complete.

Problem 5

Consider SQL Reading Packet 1, page 6, introducing the SQL*Plus spool command, and page 10, introducing the simplest form of the SQL select statement.

You may have noticed that we didn't use spool in 325hw1-1.sql! That's because I want to make a point about how tables **persist** in a database --- once created, they STAY until they are dropped! We're going to display your table's contents using a **DIFFERENT** SQL script, to show that we *can*.

Use nano (or vi or emacs) to create a file named 325hw1-2.sql:

```
nano 325hw1-2.sql
```

While within nano (or whatever), type in the following within one or more SQL comments:

- your name
- 325 HW 1 - using a table
- the date this file was last modified
- use spool to start writing the results for this script's actions into a file 325hw1-out.txt
- add a SQL select statement for the table you created in your 325hw1-1.sql, to show its contents
- then include a spool off command, at the BOTTOM/END of this file.

IF you haven't already, this would be a good time to save your 325hw1-2.sql file, and go into sqlplus and see if:

```
start 325hw1-2.sql
```

...works -- do you see the at-least-5-rows of your table?

(Do not worry about "ugliness" like chopped-off column headings, or too-long rows that wrap to the next line, or how values are formatted - we'll discuss how to change how these display later.)

This would also be a good time to look at the contents of 325hw1-out.txt --- at the nrs-projects prompt (the UNIX level, **NOT** in sqlplus!), type:

```
more 325hw1-out.txt
```

You should see that 325hw1-out.txt shows the file contents you just saw within sqlplus.

When you are satisfied with these, then 325hw1-2.sql and 325hw1-out.txt are complete.