Due Date: Feb 25, 2015 11:00 PM (Late date Feb 26, 11:00 pm) **Points:** 30 point max

General Directions

This assignment uses the tables from the a_vets database.
The goal of the assignment is to get you to think about joins- inner join, outer joins, and subqueries that do the work of joins by working with data from two tables.

If you do a join- where you have the names of two or more tables in the From clause, then you must use the column name join syntax or the condition join syntax. If you do the join in the Where clause, you will not get any credit for that task. That join is referred to in the notes as the Legacy Comma Join- do not use that join for assignments.
Take care that you do not accidentally do a Cartesian product. If your result set contains a thousand rows, you have done a Cartesian product and you need to correct the query.

The tasks require specific techniques to be used. If you do not use the technique specified you will get no points for that task.
Do not assume that these will all require outer joins because that was the topic for the week. Use an inner join if that will solve the task; use an outer join only if it is required.

Use the fewest tables possible for the queries. For example if I ask you to find animals with no exams, you need to use the exam headers table. But you do *not* need the exam details table. Sometimes adding extra tables makes your query less efficient; other times it makes your query incorrect.

The use of meaningful table aliases is encouraged in this and future assignments. The table names are fairly long and when you need to qualify a column, that expression gets longer and it can be harder to read. You define the table aliases in each query. It can help to have a consistent set of table aliases to use. These are the ones I use; you can use them or different aliases that suggest the table. The use of non-meaningful aliases such as A, B, C is not allowed.

clients	cl
animals	an
exam headers	eh
exam details	ed

The use of user-variables is allowed if it makes the query easier to write.

For this assignment the term "reptile" is defined as the animal types: snake, chelonian, crocodilian, and lizard; the term "rodent" is defined as the animal types: hamster, capybara, porcupine and dormouse.
An animal that does not have a name is still an animal; if the name is null then just display the system default for a null.

Review the General Assignment Rules as required.

Tasks

For Tasks 01, 02, 03 and 04 use a subquery. Do not use any join for these tasks- just the subquery.

Task 01: Use a subquery to display the client id and last name for any client who does not have an animal. Do not use any join for this task- just the subquery

Task 02: Use a subquery to display the client id and last name for any client who has at least one animal. Do not use any join for this task- just the subquery

Task 03: Use a subquery to display the client id and last name for any client who has at least one rodent. Do not use any join for this task- just the subquery

Task 04: Use a subquery to display the client id and last name for any client who has at least one animal that is not a reptile.

For Tasks 05, 06, and 07 use a join. Do not use any subquery for these tasks. Do not display duplicate rows; but think carefully about this and do not use Distinct if it is not required by the logic of the query.

Task 05: Use a join to display the animal ID and animal name for any animals which has at least ONE exam which was done by a staff member with the job title 'vet assnt'.

Task 06: We want to find animals for which we have no exam records (use the exam header table). Show the client id, and last name and the an_id, name and type for every animal that does not have any exam records in the exam table. Sort by the client id and animal id. For this query, do not display clients who have no animals.

Task 07: For this task use the same logic as in Task 06 except that your result will include clients with no animals.

For Task 08, use the Multiple Subqueries technique in the document on Subqueries as Table Expressions

Task 08: Display the client id and last name for any client who has a rodent and a reptile.

The End