Laboratory 4
Using SELECT statement (1)

It is expected that you do Homework 4 before implementation of the tasks included in Laboratory 4.

This laboratory consists of 4 tasks.

Task 1 Implementing simple SELECT statements

Download script files `dbcreate.sql` and `dbdrop`. Connect to your database account on any of the available Oracle database servers and execute a script `dbcreate.sql` to create a sample database. A script `dbdrop.sql` drops a sample database.

Create SQL script `task1.sql` that implements the following queries as `SELECT` statements:

(1) *Find the names of all cities, do not list the same names more than one time.*
(2) *Find the names and budgets of departments and order the results in ascending way by budgets*.
(3) *Find the names of employees hired between 1980 and 1990.*

Execute a script `task1.sql` with SQL*Plus option `ECHO` set to `ON` and save a report from the execution in a file `task1.lst`. To set `ECHO` option to `ON` put a SQL*Plus statement `SET ECHO ON` in the first line of the script. A file `task1.lst` will be submitted at the end of laboratory class.

Task 2 Implementing set algebra `SELECT` statements

Create SQL script `task2.sql` that implements the following queries as `SELECT` statements:

(1) Find the names of all departments located either in BOSTON or in DALLAS and not in both cities.

(2) Find the names of all departments that have no employees.

(3) Find if SALES department has its locations in exactly the same cities as TRANSPORT department (assume that an empty result means YES and any nonempty result means NO).

(4) Find which of the following departments: SALES, TRANSPORT, RESEARCH has its locations in all cities included in CITY column of DEPTLOC table.

Execute a script `task2.sql` with SQL*Plus option `ECHO` set to `ON` and save a report from the execution in a file `task2.lst`. To set `ECHO` option to `ON` put a SQL*Plus statement `SET ECHO ON` in the first line of the script. A file `task2.lst` will be submitted at the end of laboratory class.

Task 3 Implementing `SELECT` statements with `GROUP BY` and `HAVING` clauses

Create SQL script `task3.sql` that implements the following queries as `SELECT` statements:

(1) *Find the names of cities together with the total number of employees in each city*.
(2) *Find the names of departments that have more than 2 locations*.
(3) *Find the cities that host less than 2 departments*.

Execute a script `task3.sql` with SQL*Plus option `ECHO` set to `ON` and save a report from the execution in a file `task3.lst`. To set `ECHO` option to `ON` put a SQL*Plus statement `SET ECHO ON` in the first line of the script. A file `task3.lst` will be submitted at the end of laboratory class.

Task 4 Implementing simple join queries

Create SQL script `task4.sql` that implements the following queries as `SELECT` statements:

(1) *Find the names and budgets of departments together with their locations. Assume that a location means a combination of (CITY, STREET#, BLDG#, LEVEL#).*

(2) *Find the names of departments together with the titles of projects the departments are involved in.*

(3) *Find full information about departments (DNAME, BUDGET, CHAIRMAN) and full information about projects the departments are involved in (TITLE, BUDGET, STARTD, ENDD).*

Execute a script `task4.sql` with SQL*Plus option `ECHO` set to `ON` and save a report from the execution in a file `task4.lst`. To set `ECHO` option to `ON` put a SQL*Plus statement `SET ECHO ON` in the first line of the script. A file `task4.lst` will be submitted at the end of laboratory class.

Execute SQL script `dbdrop.sql` to drop all relational tables after all the tasks have been finished.

Submission

Zip the files `task1.lst`, `task2.lst`, `task3.lst`, and `task4.lst` obtained as the solutions of tasks 1, 2, 3, and 4 into a file `solutions4.zip` and submit the file through eLearning. A submission procedure is the following.

(1) Connect to eLearning.
(2) Navigate to a folder `SUBMISSIONS`
(3) Click at `LABORATORY 4, Submit your solutions` link.
(4) Click at `Add Attachments` button.
(5) Navigate to a location where a file `solutions4.zip` has been saved.
(6) Select the file and click at `Open` button.
(7) Click at `Submit` button.
(8) Click at `OK` button to return to `Home Page`.

End of laboratory 4