Laboratory 5
Using SELECT statement (2)

It is expected that you do Homework 5 before implementation of the tasks included in Laboratory 5.

This laboratory consists of 4 tasks.

Task 1 Implementing self join queries

Download and unzip a file `scripts5.zip`. Connect to your database account on any of the available Oracle database servers and execute a script `dbcreate1.sql` to create a sample database. A script `dbdrop1.sql` drops a sample database.

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

(1) Find the names of all skills directly required by the skills that required by a skill `C++ Programming`.

(2) Find the names of all skills that require at least one skill that require a skill `writing`.

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`. 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.

Execute SQL script `dbdrop1.sql` to drop all relational tables created in implementation of this task.

Task 2 Implementing outer join queries

Connect to your database account on any of the available Oracle database servers and execute a script `dbcreate2.sql` to create a sample database. A script `dbdrop2.sql` drops a sample database.

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

(1) Find the full names of applicants together with the names of skills possessed by each applicant. Include the applicants that possess no skills.

(2) Find names of skills together with the names of positions that require the skills. Include the names of skills that are not required by any position.

(3) Find the names of applicants together with the total number of skills possessed by each applicant. The applicants who posses no skills should be listed with a total number of skills equal to zero.

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`. 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.

Execute SQL script `dbdrop2.sql` to drop all relational tables created in implementation of this task.

Task 3 Implementing nested queries

Connect to your database account on any of the available Oracle database servers and execute a script `dbcreate2.sql` to create a sample database. A script `dbdrop2.sql` drops a sample database.

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

(1) Find the numbers and titles of all positions that require a skill `cooking` at level higher than 5.

(2) Find the names of skills not possessed by any applicant.

(3) Find the names of skills need by at least 3 different positions.

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`. 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.

Execute SQL script `dbdrop2.sql` to drop all relational tables created in implementation of this task.

Task 4 Implementing nested queries with existential quantifiers

Connect to your database account on any of the available Oracle database servers and execute a script `dbcreate2.sql` to create a sample database. A script `dbdrop2.sql` drops a sample database.

Create SQL script `task4.sql` that implements the following queries as nested `SELECT` statements with existential quantifiers (`EXISTS` / `NOT EXISTS` clause).

(1) Find the titles of positions that have at least one application.

(2) Find the full names of applicants who applied for at least one position.

(3) Find the titles of courses passed by the applicants who applied for the positions that need a skill `C programming`.

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`. 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 created in implementation of this task.

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 `solutions5.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 5, Submit your solutions here` link.
(4) Click at `Add Attachments` button.
(5) Navigate to a location where a file `solutions5.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 5