Laboratory 3
Using data definition and basic data manipulations statements of SQL

It is expected that you do Homework 3 before implementation of the tasks included in Laboratory 3.

This laboratory consists of 3 tasks.

Task 1 Discovering the structures of a relational database

Download and unzip a file `scripts3.zip`. Connect to your database account on one of the available Oracle database servers and execute SQL script `create-unknown.sql` to create a sample database. Use the scripts `clist.sql`, `list.sql`, `tlist.sql` and `DESCRIBE` command of SQL*Plus to discover a diagram that represents the relational tables and referential integrity constraints in a sample database. Use Microsoft Visio (or Powerpoint) to draw a simple diagram of relational tables linked through primary-foreign keys. There is no need to type the names of attributes. Save your drawing in a file `task1.pdf` (or in file `task1.ppt`)

Execute a script `drop-unknown.sql` to drop a sample database.

Task 2 Changing the structures of a relational database

Connect to your database account on one of the available Oracle database servers and execute a script `dbcreate.sql` to create a sample database.

Implement SQL script `task2.sql` that performs the following structural modifications of a sample database:

(1) add information about a manager of each project, assume that information about all managers must be included in a relational table `EMPLOYEE`,
(2) add information about the hobbies possessed by the employees; an employee possesses one or more hobbies, and a hobby is possessed by zero or more employees
(3) remove information about the budgets of departments.

Assume that it is NOT acceptable to drop the current implementation and to create a new one from scratch. You have to modify the existing implementation with `ALTER TABLE` statements. You do not have to insert any new data into a sample database.

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.

Execute `DROP TABLE` statements and SQL script `dbdrop.sql` to drop all relational tables created in the implementation of this task.

Task 3 Changing the contents of a sample database

Connect to your database account on one of the available Oracle database servers and execute a script `dbcreate.sql` to create a sample database.

Implement SQL script `task3.sql` that performs the following changes of the contents of a sample database:

(1) add information about a new project, which has number 8, its budget is unknown at the moment, its start date is today and it suppose end after 100 days,
(2) move an employee number 7698 to a department Accounting and located in New York, street number 30, building number 123, level 99,
(3) remove from a sample database all information about department Transport and all its locations and all employees at these locations.

You have to change the contents of a sample database with `INSERT`, `UPDATE`, and `DELETE` statements.

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.

Execute `DROP TABLE` statements and SQL script `dbdrop.sql` to drop all relational tables created in the implementation of this task.

Submission

Zip the files `task1.pdf` (or `task1.ppt`), `task2.lst`, and `task3.lst` obtained as the solutions of tasks 1, 2, and 3 into a file `solutions3.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 3, Submit your solutions here` link.
(4) Click at `Add Attachments` button.
(5) Navigate to a location where a file `solutions3.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 3