**Assignment #4**

**Due Date:** Midnight of April 6 (Wednesday)

Weight: 15% of final grade

The purpose of this assignment is to help you:

1. Apply your comprehensive database knowledge to solve practical problem
2. Become familiar with Sequences / indexes, Exceptions, Procedures, Functions and packages

Be sure to read the following general instructions carefully:

**Instructions**: This assignment should be completed individually by all the students. Submit your solution **through the dropbox.** Your submission should include script file(s) to create table(s) and populate sample data to the database, ERD of your database, PL/SQL codes(s), the submission must be named according to the following rule: **studentID(yourlastname)\_Assignment#number.txt**. e.g., 300123456(**smith)\_Assignment#4**.txt or \*.doc

**Task:**

Create database back-end functionality for an application, for example and e-commerce solution, air line’s official website, an insurance quotation calculator, etc.

**Deliverables**

1.Script file  (.txt file) which should contain all the commands to create the above tables, insert data, sequences, indexes, triggers, procedures and functions, package , code to test all one by one.

2.ER diagram file.

**Note: Create scripts to run samples of your functions, procedures and triggers, packages, etc.**

**5 Marks** - Database: (to be included in the script file)

Tables (data, lookup, audit/log tables, constrains)

ER diagram file.

Minimum – 5 and Maximum 10 tables. You can think and build these tables according to web application project (COMP229) or as an independent database project if you are not taking course – COMP229 in this term.

**3 marks**   - Sequences

a. Create at least one sequence

b. Use it to insert sample data

c. Use it to update table(s)

**2 marks**  - Indexes

a. Search is one of common functionalities, index plays a critical role in search

b. create few (min 2) indexes for those tables where search is performed frequently

**5 marks** - Triggers

For behind the scenes table entry/updating, you need to create at least 2 triggers.

**4 marks** - Procedures

You need to define at least two procedures so carrying out common operations on database. Include exception section.

**4 marks** - Functions

You need to define at least two functions so carrying out common operations on database. Include exception section.

**4 marks** – Packages

a. Use at least two procedures (could be previously created ones)

b. Use at least two functions (could be previously created ones)

c. Include global and private variables / constructs.

d. Use TYPE attribute and/or ROWTYPE attribute whenever it is appropriate

**Note: Include created scripts to run samples of your functions, procedures and triggers, packages, etc.**

More info about them can be discussed in the class.

Note: There should be minimum ten records (10 insert statements for data tables) and five records (for reference/lookup type tables). You should be populating your tables with meaningful data.

Note: Any form of plagiarism will be severely dealt with, and no mark will be awarded for the project. Please refer to the College policy outlined in the student’s rights and responsibilities provided to you by the college.