

CSCI 4127/5127 Advanced Database
Assignment 3 – PL/SQL

DUE: March 14 (Wednesday) via D2L dropbox, see Turnin/Grading. The dropbox will have an extended date to allow for late submissions (with penalty).

Assignment Objectives:

- To know the elements of a PL/SQL package
- To be able to create public and private functions/procedures for PL/SQL packages.
- Reinforce Data Dictionary usage.

Assignment Reference:

- *Oracle Database 11g, The Complete Reference, Loney, K*
- In class notes

Assignment Overview:

We wish to create a package called **DataDict**, that will create a data dictionary based on:

- table name,
- column name,
- type,
- size,
- constraints
- Check value (if check constraint)
- Description

The following questions will (if processed in order) accomplish this. **Show all code necessary to answer the following.**

1. Create and show the header for the package **Datadict** to declare (see remaining questions for proper signatures):
 - a. The procedures **setTable**, **setColumn**, **showAll**, **showTable**, and **showColumn**.
 - b. Show the code for a package body for the package **Datadict** to create the following hidden variables:

Variable	Type	Default Values
tablename	varchar2(50)	“Staff”
Column_name	varchar2(50)	“Staffno”

2. Show the code for a function called `getType` (this is a private function) with parameters `constraint` type and `check condition` to return the constraint name spelled out (e.g. R is Foreign Key) or if a check constraint (C) (see page 739), also return "CHECK" with the check condition (up to 20 chars), for example CHECK (age<100).
3. Show the code for a procedure called `showAll` to create the following report (italics indicate values) for each column ordered by column then tablename:
columnname is in table *tablename* is *datatype(datasize)* with constraints *c1,c2,c3(check condition),...,desc*
4. Show the code for a procedure called `showTable` using the `tablename` variable (see above) to create the following report (italics indicate values) for each column ordered by column name:
columnname is in table *tablename* is *datatype(datasize)* with constraints *c1,c2,c3(check condition),...,desc*
5. Show the code for a procedure called `showColumn` using the `columnname` variable (see above) to create the following report (italics indicate values) for each column ordered by column then tablename:
columnname is in table *tablename* is *datatype(datasize)* with constraints *c1,c2,c3(check condition),...,desc*
6. Create a `setTable` procedure to set the `tablename` variable.
7. Create a `columnName` procedure to set the `columnname` variable.
8. Show the code to execute the following:
 - a. `showAll`,
 - b. `setTable(Branch)`
 - c. `showTable`
 - d. `setColumn(Staffno)`
 - e. `showColumn`
9. You may create as many functions and procedures as you see fit to facilitate this assignment.

Turn in:

A file called *lastnamefirstnameHW3.sql* into the D2l dropbox containing the script necessary to create the package DataDict package and execute it.