Assignment 3 Functions and Procedures in Packages

Objectives

- Learn how to define types inside packages
- Design functions and procedures for packages
- Use custom types inside packages

Instructions

Follow the instructions below to create an SQL file called assignment3.sql. This file should be run on PDBORA19C. Ensure that your file runs from start to finish without error and displays the correct output. For this assignment, you will need to setup the JUSTLEE database in PDBORA19C.

Expanding Packages

Using the book_store package created in assignment 2, add the following functions to the package. If the function requires a special type, ensure you also add that type to the package.

- Create a subprogram called **book_purchasers**, which takes an ISBN and returns a VARRAY containing the customer ID's of every customer that has purchased the book with that ISBN.

- Create a procedure called **show_purchases** which:
    - Uses a cursor to search through the books table
    - For each book, it uses the **book_purchasers** subprogram to find the list of people who bought it.
    - Prints out using dbms_output the ISBN and Title of the book, along with the names of each person who has purchased it. Note, the line should have the following format: "ISBN : Title: Names", where names is a comma separated list of names.

        E.g. "0401140733 : REVENGE OF MICKEY : BONITA MORALES, BECCA NELSON, TAMMY GIANA, GREG MONTIASA, CINDY GIRARD,"
- Create a procedure called **add_book** which:
    - Takes in any parameters needs to add a new book
    - If the book does not exist, i.e., its ISBN is not in the Books table, adds it
    - If the book does exists, it checks what fields have changed and updates only those fields that are different
        - Note, you can use %ROWTYPE to create a variable for a given row from the books table

Testing the Package

Write an anonymous PL/SQL block that calls **show_purchases**. Ensure you get the correct output.

Write an anonymous PL/SQL block that calls **add_book.** Add an entirely new book and change the cost of REVENGE OF MICKEY to 99.99. Ensure your books have been added or modified by selecting from the database and displaying it in a DBMS output.

Deliverable

Submit a file named assignment3.sql to Moodle. The sql file should run from start to finish without error and display the correct output. Ensure that any previously defined packages or types with the same name are dropped at the beginning of the script. For the due date see Moodle.

Resources