

CS 4611 – Fall 2017 – Laboratory 6

Assigned: 10/10/2017

Due: 10/17/2017 at 11:59 PM. Submit your file(s) to canvas.

Maximum Grade: 100 pts.

Objectives: The objectives of this lab are the following:

- Learn the fundamentals of PL/SQL: assignment statements, conditional statements, iteration statements.
- Learn how to write procedures and functions in PL/SQL.
- Learn how to use cursors to iterate through a query result set.

Activity: Consider the following relation schemas:

book(book_id, title, publisher_name, no_of_copies)

book_authors(book_id, author_name)

publisher(name, address, phone)

book_loans(book_id, card_no, date_out, due_date)

borrower(card_no, name, address, phone)

Write a file named `your_last_name_lab6.sql` containing your name at the top, and also containing the following:

- A function that computes the average (mean) number of books that borrowers have borrowed. *You cannot use AVG.*
- A function that computes the standard deviation of the number of books that borrowers have borrowed.
- A procedure that calls your functions in parts (a) and (b) to compute the mean and standard deviation of the number of books that borrowers have borrowed.
- A call from within a block to the procedure described in part (c).

Notes:

- Your file must run in Oracle, so remember to comment everything that is not an Oracle statement.
- I will post some slides in Canvas that could help you with this lab.

Here are the formulas for the mean and standard deviation (sd):

$$\text{mean}(x_1, x_2, \dots, x_n) = \frac{x_1 + x_2 + \dots + x_n}{n}$$

$$\text{sd}(x_1, x_2, \dots, x_n) = \sqrt{\frac{(x_1 - \text{mean})^2 + \dots + (x_n - \text{mean})^2}{n - 1}}$$