COMP 3311: Database Management Systems

Lab 6 Exercise: Oracle Indexing and PL/SQL Exceptions

HOW TO GET THE CREDIT FOR THIS LAB

- 1. <u>Download</u> the zipped folder Lab6Exercise.zip from the *Oracle Indexing and PL/SQL Exceptions* entry of the Lab Schedule course webpage and unzip it. The folder contains the script files Lab6.sql, Lab6CqaCalculations.sql, Lab6DuplicateEmailCheck.sql and Lab6TestQueries.sql.
- 2. Place your InsertMyself.sql script file constructed in the previous lab inside the Lab6Exercise folder.
- 3. <u>Modify</u> your InsertMyself.sql script file so that it creates a unique index on the attribute email of the Student table.
- 4. <u>Complete</u> the PL/SQL procedure in the Lab6DuplicateEmailCheck.sql script file to check whether a unique index has been created on the attribute email of the Student table. If an attempt is made to insert a Student record with a duplicate email, then output the message:

Tried to insert duplicate email into the Student table.

Note: There is a predefined exception to check for this error.

- 5. **Complete** the PL/SQL procedure in the Lab6CgaCalulations.sql script file to do the following <u>additional</u> tasks.
 - a. If a student has not enrolled in any course, then he/she will not have any related EnrollsIn tuples. In this case, when the student's CGA is calculated, the denominator will be zero and a divide-by-zero error will be raised. Therefore, add an exception handler that checks whether a divide-by-zero error occurs when calculating a student's CGA.

Note: You must use the predefined exception ZERO_DIVIDE to check for this error. If a divide-by-zero error occurs, then output the following message:

<student name> (<student id>) is not enrolled in any course.

You should also ensure that if a divide-by-zero error occurs, then the student's CGA is not updated (i.e., it remains set to null). Note: This exception should be handled in a sub block.

- b. If the CGA is less than or equal to 2, output the following message:
 - *** Low CGA alert for <student name> (<student id>) with CGA=<cga>.

In the preceding messages, you should replace <student name> with the concatenation of the first and last name of the student, <student id> with the student's student id and <cga> with the student's calculated CGA.

6. **Execute** the Lab6TestQueries.sgl script file inside the Lab6Exercise folder in SQL Developer.

WHAT TO SUBMIT

- 1. Your completed Lab6DuplicateEmailCheck.sql script file.
- 2. A screenshot of the SQL Developer window or a text file that shows the result of running the Lab6TestQueries.sql script file in the Script Output pane as shown in Figure 1.

How To Submit

By 11:59 p.m. on Friday of the current week, upload your Lab6DuplicateEmailCheck.sql script file and the screenshot or text file showing the result of running the Lab6TestQueries.sql script file to Canvas by clicking on "Lab 6" in the Assignments section of Canvas, and then clicking the "Submit Assignment" button. To check your submission, click the "Submission Details" button on the right side. For help, click the "Help" button at the topright of Canvas.

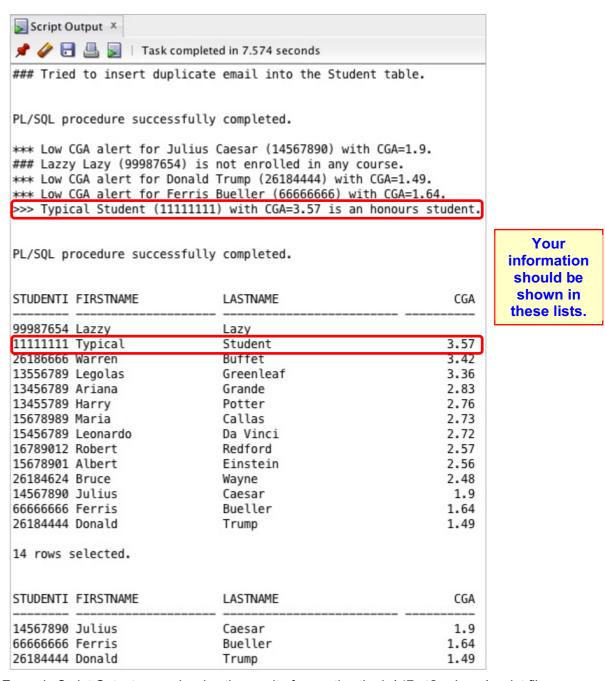


Figure 1: Example Script Output pane showing the result of executing the Lab6TestQueries.sql script file.