95 – 703: Database Management

SQL #3 (hardcopy due on July 28, in class before the lecture starts)

*Turn in a well formatted printout of your SQL statements as they were executed in the SQL*Plus environment and the results of running each statement (provide echo and feedback). Set the LINESIZE and PAGESIZE values optimally to ensure that there are no wrapping lines or repeated column headers in the results (refer to the "**Formatting SQL Output**" document available on the class website). Identify each answer clearly.*

Execute script '**SQL_script2.txt**' provided on the class website to recreate the "Training" database needed to answer the following questions. Each question should be answered by a single query unless requested otherwise. If a query generates **NULL** values in any column, replace the **NULL** value with an appropriate information/value. Any string comparison requires using LOWER or UPPER function to prevent case mismatch.

1. Sometimes, an employee will take more than one class with the same instructor. List the employee name, instructor name, and for each class list course ID, title, and semester when the class was completed (all of the information in a single row).

2. Find which semester(s) had the most classes attended by our employees. Answer this question in two different ways:
   a) Using a "Rank" function
   b) Using a subquery but without Rank function, pseudocolumn "rownum", or FETCH clause

3. For each semester when we had classes taken by the employees, list the class ID, class title, and the number of employees who attended each class that semester. List the results in chronological order by semester.

4. For employees who took any class within years 2019 to 2021, provide the number of classes they took in each of the years and then (as last column) the total number of classes for the years. Last row should have the totals for each year (number of classes taken by all employees that year). The output should look like this:

Employee	2019	2020	2021	Total for 2019-2021:
100: Mary Krall				
. . .				
Year Total :				

5. Rank all courses by their popularity. Display course id, course title, number of employees who have taken that course, and the rank. Courses which have been taken the same number of times must be given the same rank.

6. Compute the MA(3) of the tuition being paid per year by the company. Display the year, total tuition for the year and the value of MA(3).

7. List the top 2 employees who received highest tuition support. Also include the total amount spent on the employee and the number of classes they took.