



## **CL219 - Database Systems Lab**

### **Assignment 01: Basic SQL**

**Due Date:** Monday, October 26<sup>th</sup>, by 10:00AM

#### **Objectives:**

In this assignment, your understanding and grasp of basic SQL statements will be tested.

#### **Submission Instructions:**

Assignments are to be done individually. No late assignments will be accepted.

Submissions that do not comply with the specifications given in this document will not be marked and a zero grade will be assigned.

You only have to submit a txt file, with your university ID as the file name (eg, if your ID is 20i-1234, your file name becomes i201234.txt). The file will consist of only the queries. By no means will you show the result in the txt file. Simply place 'Q1' at the head of the file, and in the next line, your query in ONE LINE. Then after giving a space of one empty line, repeat pattern for 'Q2' and so on. NOTE, do not add the quotation marks for Q1, Q2, etc. Do not add any colons, or any other punctuation marks. (I have mentioned details in the labs)

#### **Task:**

You have been provided with sql files to recreate a sample database (you can view the sample data using the provided xls files). You are requested to run queries on the new database for this assignment.

First, use the sql file to recreate the database and input the data in the database. Second, answer the questions mentioned below:

1. Because of budget issues, the HR department needs a report that displays the last name and salary of employees who earn more than \$12,000.
2. Create a report to display the last name, job ID, and hire date for employees with the last names of Matos and Taylor. Order the query in ascending order by the hire date.
3. Create a report to display the last name and job title of all employees who do not have a manager.
4. The HR department needs a report to display the employee number, last name, salary, and salary increased by 15.5% (expressed as a whole number) for each employee. Label the column New Salary.
5. The HR department wants to find the duration of employment for each employee. For each employee, display the last name and calculate the number of months between today and the date on which the employee was hired. Label the column as MONTHS\_WORKED. Order your results by the number of months employed. Round the number of months up to the closest whole number.



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Note: Because this query depends on the date when it was executed, the values in the MONTHS\_WORKED column will differ for you.

6. Create a query to display the last name and salary for all employees. Format the salary to be 15 characters long, left-padded with the \$ symbol. Label the column as SALARY.
7. Create a query to display the last name and the number of weeks employed for all employees in department 90. Label the number of weeks column as TENURE. Truncate the number of weeks value to 0 decimal places. Show the records in descending order of the employee's tenure.  
Note: The TENURE value will differ as it depends on the date on which you run the query.
8. Create a report that produces the following for each employee: <employee last name> earns <salary> monthly but wants <3 times salary.>. Label the column Dream Salaries
9. Write a query that displays the grade of all employees based on the value of the column JOB\_ID, using the following data:

JOB	Grade
AD_PRES	A
ST_MAN	B
IT_PROG	C
SA_REP	D
ST_CLERK	E
None of the above	0

10. Determine the number of managers without listing them. Label the column as Number of Managers. Hint: Use the MANAGER\_ID column to determine the number of managers.
11. Create a report to display the manager number and the salary of the lowest-paid employee for that manager. Exclude anyone whose manager is not known. Exclude any groups where the minimum salary is \$6,000 or less. Sort the output in descending order of salary.
12. Find the difference between the highest and lowest salaries. Label the column DIFFERENCE.

## Honor Policy:

This assignment is a learning opportunity that will be evaluated based on your ability to think in a group setting, work through a problem in a logical manner and complete a task on your own. You may however discuss verbally or via email the assignment with your classmates or the course instructor, but you are to write the actual task for this assignment without copying or plagiarizing the work of others. You may use the Internet to do your research, but the written work should be your own. Plagiarized tasks or code will get a zero. If in doubt, ask the course instructor.