Practice SQL – 10 Final Query Questions

Exercise 1

Find the average salary of the male and female employees in each department.

Exercise 2

Find the lowest department number encountered in the 'dept_emp' table. Then, find the highest department number.

Exercise 3

Obtain a table containing the following three fields for all individuals whose employee number is not greater than 10040:

- employee number

- the lowest department number among the departments where the employee has worked in *(Hint: use a subquery to retrieve this value from the 'dept_emp' table)*

- assign '110022' as 'manager' to all individuals whose employee number is lower than or equal to 10020, and '110039' to those whose number is between 10021 and 10040 inclusive.

Use a CASE statement to create the third field.

If you've worked correctly, you should obtain an output containing 40 rows.

Here's the top part of the output. Does it remind you of an output you've obtained earlier in the course?

emp_no	dept_no	manager
10001	d005	110022
10002	d007	110022
10003	d004	110022
10004	d004	110022
10005	d003	110022
10006	d005	110022

Exercise 4

Retrieve a list of all employees that have been hired in 2000.

<u>Exercise 5</u>

Retrieve a list of all employees from the 'titles' table who are engineers.

Repeat the exercise, this time retrieving a list of all employees from the 'titles' table who are senior engineers.

After LIKE, you could indicate what you are looking for with or without using parentheses. Both options are correct and will deliver the same output. We think using parentheses is better for legibility and that's why it is the first option we've suggested.

<u>Exercise 6</u>

Create a procedure that asks you to insert an employee number and that will obtain an output containing the same number, as well as the number and name of the last department the employee has worked in.

Finally, call the procedure for employee number 10010.

If you've worked correctly, you should see that employee number 10010 has worked for department number 6 - "Quality Management".

<u>Exercise 7</u>

How many contracts have been registered in the 'salaries' table with duration of more than one year and of value higher than or equal to $100,000?

Hint: You may wish to compare the difference between the start and end date of the salaries contracts.

<u>Exercise 8</u>

Create a trigger that checks if the hire date of an employee is higher than the current date. If true, set the hire date to equal the current date. Format the output appropriately (YY-mm-dd).

Extra challenge: You can try to declare a new variable called 'today' which stores today's data, and then use it in your trigger!

After creating the trigger, execute the following code to see if it's working properly.

<u>Exercise 9</u>

Define a function that retrieves the largest contract salary value of an employee. Apply it to employee number 11356.

In addition, what is the lowest contract salary value of the same employee? You may want to create a new function that to obtain the result.

Exercise 10

Based on the previous exercise, you can now try to create a third function that also accepts a second parameter. Let this parameter be a character sequence. Evaluate if its value is 'min' or 'max' and based on that retrieve either the lowest or the highest salary, respectively (using the same logic and code structure from Exercise 9). If the inserted value is any string value *different* from 'min' or 'max', let the function return the difference between the highest and the lowest salary of that employee.