EAST TENNESSEE STATE UNIVERSITY

CSCI 2020 – Database Fundamentals

Lab 5 – Advanced SQL (Writing Reports)

Header Comments

Enter the standard header comments into your SQL Worksheet in SQL Developer. Failure to include the standard header will result in a 5-point (10%) reduction in your grade.

Save your file as LastnameFirstinitial_Lab5.sql (e.g., RezwanaT_Lab5.sql).

Generating Reports with SQL (50 total points)

For today's lab, you will be using joins and set operations (as necessary) to generate reports from the HR schema. The schema appears on the last page. Include comments for each of your queries so I can locate each one quickly and easily. Your column headings and formatting must match those specified.

1. Salary Report (10 Points)

The boss needs to see a Salary Report for all employees. This report will list the Employee ID, Name (last, first), job title, current salary, maximum salary for the job, and the percentage of the maximum salary. The headings for this report, and the formatting requirements are as follows:

Employee ID	Name	Job Title	Current Salary	Maximum Salary	Percent of Maximum
	Last, First		$#####.##	$#####.##	##.##%

Use TO_CHAR to format the salaries and percentage correctly.

Sort the report by last name (ascending) and first name (ascending).

2. Employee Location Report (10 Points)

List All Employees who formerly worked in Texas. *Hint*: One way to solve this is by using subqueries (but that is not the only way). Include the following fields.

Employee ID	Employee Name
	Last, First

Order by Employee Name (Last and then First).

3. Manager Discrepancy Report (10 points)

In the HR database, an employee's manager may not be the same person as the manager of their department. The HR department needs a list of employees whose manager is not the same person as their department's manager. The report should contain the following fields.

Employee ID	Employee Name	Department Name	Department Manager	Employee Manager
	Last, First		Last, First	Last, First

Sort by Department Name (ascending), then by Employee Last/First Name (ascending).

4. Departments Without Employees Report (10 points)

List all departments that have no employees associated with them. The report should contain the following fields.

Department ID	Department Name

Sort by Department Name (ascending).

5. Asian Employees Report (10 points)

List all employees who work in Asia. The report should contain the following fields.

Employee ID	Employee Name	Country Name	Region Name
	Last, First		

Sort by Employee Name (Last then First) ascending.

BONUS. Maximum Salary For Each Location

This bonus will add up to 5 points to your score.

This is a hard problem. You will need to use a subquery to solve it, AND you will need an SQL function that you have never used before: DENSE_RANK(). DENSE_RANK() allows for a ranking (based on the specific order you supply) within a partition (a specific grouping of rows similar to a GROUP BY).

List the maximum salary for each location, and the name of the person who makes that salary. The report should contain the following fields:

Location	City	State/Province	Postal Code	Country	Employee Name	Salary
					Last, First	$#####.##

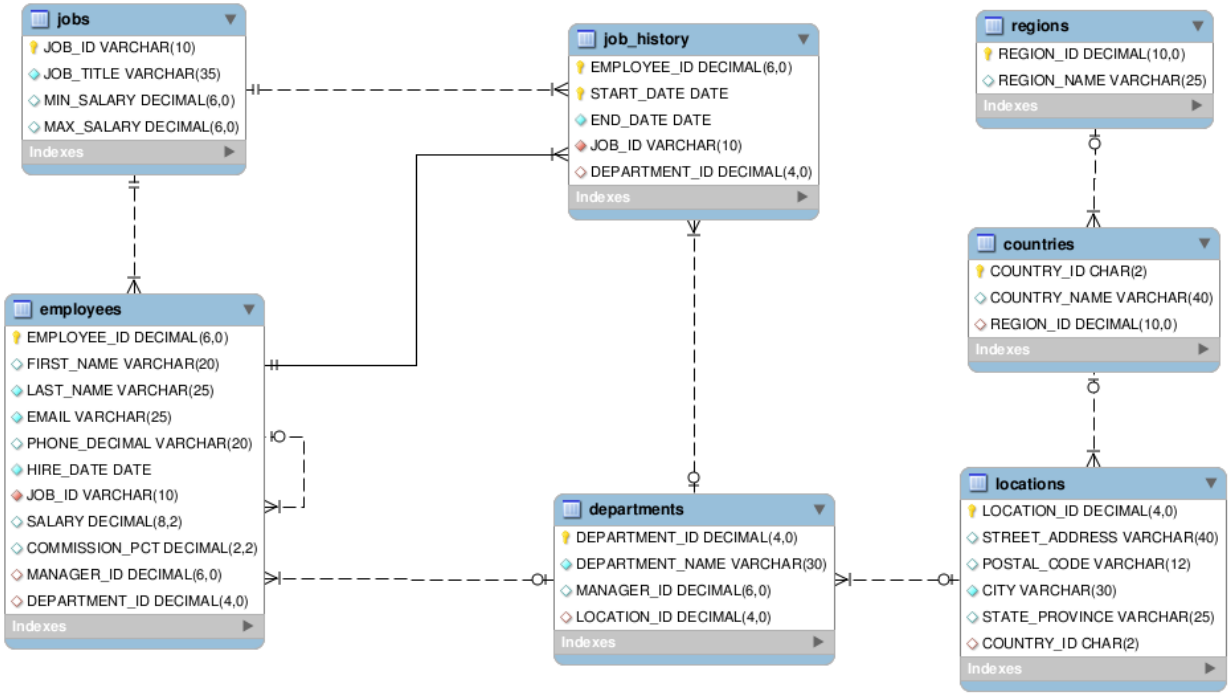
Order by City, ascending. The correct output appears on the following page.

Submission

Submit your file, named LastnameFirstinitial_Lab5.sql, to the Lab 5 Dropbox area on D2L on or prior to **Wednesday, 02/23/2022 at 11:59 PM**. **Late Submission Permitted as per the Late Submission Policy.**

Location	City	State/Province	Postal Code	Country	Employee Name	Salary
8204 Arthur St	London			UK	Mavris, Susan	$6500.00
Schwanthalerstr. 7031	Munich	Bavaria	80925	DE	Baer, Hermann	$10000.00
Magdalen Centre, The Oxford Science Park	Oxford	Oxford	OX9 9ZB	UK	Russell, John	$14000.00
2004 Charade Rd	Seattle	Washington	98199	US	King, Steven	$24000.00
2011 Interiors Blvd	South San Francisco	California	99236	US	Fripp, Adam	$8200.00
2014 Jabberwocky Rd	Southlake	Texas	26192	US	Hunold, Alexander	$9000.00
147 Spadina Ave	Toronto	Ontario	M5V 2L7	CA	Hartstein, Michael	$13000.00

Tables Used in this Exercise



To see the description of any of these tables, run the command:

```
DESC HR.Table_Name
```

where Table_Name is the name of any table shown above.