# Practices for Lesson 6: Reporting Aggregated Data Using the Group Functions

Practices for Lesson 6: Overview

Overview

This practice covers the following topics:

Writing queries that use group functions

Grouping by rows to achieve multiple results

Restricting groups by using the HAVING clause

Practice 6-1: Reporting Aggregated Data by Using Group Functions

Overview

In this practice, you use group functions and select groups of data.

Tasks

Determine the validity of the following statements. Circle either True or False.

Group functions work across many rows to produce one result per group. True/False

Group functions include nulls in calculations. True/False

The WHERE clause restricts rows before inclusion in a group calculation. True/False

The HR department needs the following reports:

Find the highest, lowest, sum, and average salary of all employees. Label the columns Maximum, Minimum, Sum, and Average, respectively. Round your results to the nearest whole number. Save your SQL statement as lab\_06\_04.sql. Run the query.

Modify the query in lab\_06\_04.sql to display the minimum, maximum, sum, and average salary for each job type. Save lab\_06\_04.sql as lab\_06\_05.sql. Run the statement in lab\_06\_05.sql.

Write a query to display the number of people with the same job.

Generalize the query so that a user in the HR department is prompted for a job title. Save the script to a file named lab\_06\_06.sql. Run the query. Enter IT\_PROG when prompted.

Determine the number of managers without listing them. Label the column Number of Managers.

**Hint:** Use the MANAGER\_ID column to determine the number of managers.

Find the difference between the highest and lowest salaries. Label the column

DIFFERENCE.

If you have time, complete the following exercises:

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.

If you want an extra challenge, complete the following exercises:

Create a query to display the total number of employees and, of that total, the number of employees hired in 2009, 2010, 2011, and 2012. Create appropriate column headings.

Create a matrix query to display the job, the salary for that job based on the department numbers 20, 50, 80, and 90, and the total salary for that job. Ensure to give each column an appropriate heading.

Solution 6-1: Reporting Aggregated Data by Using Group Functions

Determine the validity of the following statements. Circle either True or False.

Group functions work across many rows to produce one result per group.

**True/**False

Group functions include nulls in calculations. True/**False**

The WHERE clause restricts rows before inclusion in a group calculation.

**True**/False

The HR department needs the following reports:

Find the highest, lowest, sum, and average salary of all employees. Label the columns Maximum, Minimum, Sum, and Average, respectively. Round your results to the nearest whole number. Save your SQL statement as lab\_06\_04.sql. Run the query.

Modify the query in lab\_06\_04.sql to display the minimum, maximum, sum, and average salary for each job type. Save lab\_06\_04.sql as lab\_06\_05.sql. Run the statement in lab\_06\_05.sql.

Write a query to display the number of people with the same job.

Generalize the query so that a user in the HR department is prompted for a job title. Save the script to a file named lab\_06\_06.sql. Run the query. Enter IT\_PROG when prompted and click OK.

Determine the number of managers without listing them. Label the column Number of Managers.

**Hint:** Use the MANAGER\_ID column to determine the number of managers.

Find the difference between the highest and lowest salaries. Label the column

DIFFERENCE.

If you have time, complete the following exercises:

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.

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Create a query that displays the total number of employees and, of that total, the number of employees hired in 2009, 2010, 2011, and 2012. Create appropriate column headings.

Create a matrix query to display the job, the salary for that job based on the department numbers 20, 50, 80, and 90, and the total salary for that job. Ensure to give each column an appropriate heading.