Practices for Lesson 4: Using Single-Row Functions to Customize Output

Chapter 4

Practices for Lesson 4: Overview

Practice Overview

This practice covers the following topics:

- Writing a query that displays the system date
- Creating queries that require the use of numeric, character, and date functions
- Performing calculations of years and months of service for an employee

Practice 4-1: Using Single-Row Functions to Customize Output

Overview

In this practice, you use the different functions that are available for character, number, and date data types. Remember that for nested functions, the results are evaluated from the innermost function to the outermost function.

Tasks

1. Write a query to display the system date. Label the column `Date`.

   Note: If your database is remotely located in a different time zone, the output will be the date for the operating system on which the database resides.

	Date
1	14-JUL-16

2. 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`. Save your SQL statement in a file named `lab_04_02.sql`.
3. Run your query in the `lab_04_02.sql` file.

	EMPLOYEE_ID	LAST_NAME	SALARY	New Salary
1	100	King	24000	27720
2	101	Kochhar	17000	19635
3	102	De Haan	17000	19635
4	103	Hunold	9000	10395
5	104	Ernst	6000	6930
6	107	Lorentz	4200	4851
7	124	Mourgos	5800	6699
8	141	Rajs	3500	4043
9	142	Davies	3100	3581
10	143	Matos	2600	3003
11	144	Vargas	2500	2888
12	149	Zlotkey	10500	12128
13	174	Abel	11000	12705
14	176	Taylor	8600	9933
15	178	Grant	7000	8085
16	200	Whalen	4400	5082
17	201	Hartstein	13000	15015
18	202	Fay	6000	6930
19	205	Higgins	12008	13869
20	206	Gietz	8300	9587

4. Modify your query in `lab_04_02.sql` to add a column that subtracts the old salary from the new salary. Label the column `Increase`. Save the contents of the file as `lab_04_04.sql`. Run the revised query.

	EMPLOYEE_ID	LAST_NAME	SALARY	New Salary	Increase
1	100	King	24000	27720	3720
2	101	Kochhar	17000	19635	2635
3	102	De Haan	17000	19635	2635
4	103	Hunold	9000	10395	1395
5	104	Ernst	6000	6930	930
6	107	Lorentz	4200	4851	651
7	124	Mourgos	5800	6699	899
8	141	Rajs	3500	4043	543
9	142	Davies	3100	3581	481
10	143	Matos	2600	3003	403
11	144	Vargas	2500	2888	388
12	149	Zlotkey	10500	12128	1628
13	174	Abel	11000	12705	1705
14	176	Taylor	8600	9933	1333
15	178	Grant	7000	8085	1085
16	200	Whalen	4400	5082	682
17	201	Hartstein	13000	15015	2015
18	202	Fay	6000	6930	930
19	205	Higgins	12008	13869	1861
20	206	Gietz	8300	9587	1287

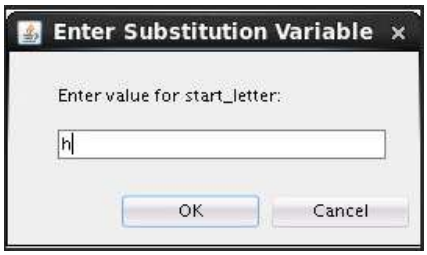
5. Perform the following tasks:
   a. Write a query that displays the last name (with the first letter in uppercase and all the other letters in lowercase) and the length of the last name for all employees whose name starts with the letters “A,” or “M.” Give each column an appropriate label. Sort the results by the employees’ last names.

	Name	Length
1	Abel	4
2	Matos	5
3	Mourgos	7

   b. Rewrite the query so that the user is prompted to enter the letter that the last name starts with. For example, if the user enters “H” (capitalized) when prompted for a letter, the output should show all employees whose last name starts with the letter “H.”

	Name	Length
1	Hartstein	9
2	Higgins	7
3	Hunold	6

c. Modify the query such that the case of the letter that is entered does not affect the output. The entered letter must be capitalized before being processed by the `SELECT` query.



	Name	Length
1	Hartstein	9
2	Higgins	7
3	Hunold	6

If you have time, complete the following exercises:

6. 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. The number of months must be rounded to the closest whole number.

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

	LAST_NAME	MONTHS_WORKED
1	Zlotkey	6
2	Mourgos	8
3	Grant	14
4	Ernst	14
5	Lorentz	17
6	Vargas	24
7	Matos	28
8	Taylor	28
9	Hunold	30
10	Fay	35
11	Davies	42
12	Abel	50
13	Hartstein	53
14	Rajs	57
15	Whalen	58
16	King	61
17	Higgins	73
18	Gietz	73
19	Kochhar	82
20	De Haan	90

7. 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 `SALARY`.

	LAST_NAME	SALARY
1	King	$$$$$$$$$24000
2	Kochhar	$$$$$$$$$17000
3	De Haan	$$$$$$$$$17000
4	Hunold	$$$$$$$$$$9000
5	Ernst	$$$$$$$$$$6000
6	Lorentz	$$$$$$$$$$4200
7	Mourgos	$$$$$$$$$$5800
8	Rajs	$$$$$$$$$$3500
9	Davies	$$$$$$$$$$3100
10	Matos	$$$$$$$$$$2600
11	Vargas	$$$$$$$$$$2500
12	Zlotkey	$$$$$$$$$10500
13	Abel	$$$$$$$$$11000
14	Taylor	$$$$$$$$$$8600
15	Grant	$$$$$$$$$$7000
16	Whalen	$$$$$$$$$$4400
17	Hartstein	$$$$$$$$$13000
18	Fay	$$$$$$$$$$6000
19	Higgins	$$$$$$$$$12008
20	Gietz	$$$$$$$$$$8300

8. Create a query that displays the employees' last names, and indicates the amounts of their salaries with asterisks. Each asterisk signifies a thousand dollars. Sort the data in descending order of salary. Label the column `SALARIES_IN_ASTERISK`.

	LAST_NAME	SALARIES_IN_ASTERISK
1	King	************************
2	Kochhar	******************
3	De Haan	******************
4	Hartstein	**************
5	Higgins	************
6	Abel	************
7	Zlotkey	**********
8	Hunold	*********
9	Taylor	********
10	Gietz	********
11	Grant	*******
12	Ernst	******
13	Fay	******
14	Mourgos	*****
15	Whalen	****
16	Lorentz	****
17	Rajs	***
18	Davies	***
19	Matos	**
20	Vargas	**

9. 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 because it depends on the date on which you run the query.

	LAST_NAME	TENURE
1	De Haan	391
2	Kochhar	355
3	King	264