



UNIVERSIDAD AUTÓNOMA DE ZACATECAS
INGENIERÍA DE SOFTWARE
LABORATORIO DE SISTEMAS DE BASE DE DATOS II
FORMATO DE PRÁCTICAS

PRÁCTICA:	6
TÍTULO:	Using Single-Row Functions to Customize Output
OBJETIVO:	Realizar ejercicios sobre los temas del capítulo 3: Using Single-Row Functions to Customize Output
DURACIÓN:	4 horas
FECHA:	
FECHA DE ENTREGA:	

ACTIVIDADES A REALIZAR:

Actividad 1:

Practices for Lesson 3

This practice provides a variety of exercises using different functions that are available for character, number, and date data types.

Practice 3-1: Using Single-Row Functions to Customize Output

- 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 10 JUN 00

- 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_03_02.sql`.

- 3) Run your query in the `lab_03_02.sql` file.

	EMPLOYEE_ID	LAST_NAME	SALARY	New Salary
1	200	Whalen	4400	5082
2	201	Hartstein	13000	15015
3	202	Fay	6000	6930
4	205	Higgins	12000	13860
5	206	Gietz	8300	9507

...

19	176	Taylor	8600	9933
20	178	Grant	7000	8085

- 4) Modify your query lab_03_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_03_04.sql. Run the revised query.

	EMPLOYEE_ID	LAST_NAME	SALARY	New Salary	Increase
1	200	Whalen	4400	5082	682
2	201	Hartstein	13000	15015	2015
3	202	Fay	6000	6930	930
4	205	Higgins	12000	13060	1060
5	206	Gietz	8300	9587	1287

19	176	Taylor	8600	9933	1333
20	178	Grant	7000	8085	1085

- 5) 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 "J," "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

Rewrite the query so that the user is prompted to enter a letter that the last name starts with. For example, if the user enters "H" (capitalized) when prompted for a letter, then 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

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

Enter Substitution Variable

START_LETTER:

h

OK

Cancel

	Name	Length
1	Hartstein	9
2	Higgins	7
3	Hunold	6

- 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. Round the number of months up 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	112
2	Mourgos	115
3	Grant	121
4	Lorentz	124
5	Vargas	131

...

19	Whalen	261
20	King	264

If you have time, complete the following exercises:

- 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	Whalen	\$\$\$\$\$\$\$\$\$\$\$4400
2	Hartstein	\$\$\$\$\$\$\$\$\$\$\$13000
3	Fay	\$\$\$\$\$\$\$\$\$\$\$6000
4	Higgins	\$\$\$\$\$\$\$\$\$\$\$12000
5	Gietz	\$\$\$\$\$\$\$\$\$\$\$8300

...

19	Taylor	\$\$\$\$\$\$\$\$\$\$\$8600
20	Grant	\$\$\$\$\$\$\$\$\$\$\$7000

- 8) Create a query that displays the first eight characters of 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 EMPLOYEES_AND_THEIR_SALARIES.

	EMPLOYEES_AND_THEIR_SALARIES
1	King *****
2	Kochhar *****
3	De Haan *****
4	Hartstei *****
5	Higgins *****

...

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 **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.

	LAST_NAME	TENURE
1	King	1147
2	Kochhar	1028
3	De Haan	856

Actividad 2:

The following questions will help you measure your understanding of the material presented in this topic. Read all the choices carefully because there might be more than one correct answer. Choose all the correct answers for each question.

Describe Various Types of Functions Available in SQL

1. Which statements regarding single-row functions are true? (Choose all that apply.)
 - A. They may return more than one result.
 - B. They execute once for each record processed.
 - C. They may have zero or more input parameters.
 - D. They must have at least one mandatory parameter.
2. Which of these are single-row character-case conversion functions? (Choose all that apply.)
 - A. LOWER
 - B. SMALLER
 - C. INITCASE
 - D. INITCAP

Use Character, Number, and Date Functions in SELECT Statements

3. What value is returned after executing the following statement:
`SELECT LENGTH('How_long_is_a_piece_of_string?') FROM DUAL;` (Choose the best answer.)

A. 29

B. 30

C. 24

D. None of the above

4. What value is returned after executing the following statement:

SELECT SUBSTR('How_long_is_a_piece_of_string?', 5,4) FROM DUAL; (Choose the best

answer.)

A. long

B. _long

C. string?

D. None of the above

5. What value is returned after executing the following statement?

SELECT INSTR('How_long_is_a_piece_of_string?','_',5,3) FROM DUAL; (Choose the best

answer.)

A. 4

B. 14

C. 12

D. None of the above

6. What value is returned after executing the following statement?

SELECT REPLACE('How_long_is_a_piece_of_string?','_','') FROM DUAL; (Choose the best

answer.)

A. How long is a piece of string?

B. How_long_is_a_piece_of_string?

C. Howlongisapieceofstring?

D. None of the above

7. What value is returned after executing the following statement?

SELECT MOD(14,3) FROM DUAL; (Choose the best answer.)

A. 3

B. 42

C. 2

D. None of the above

8. Assuming SYSDATE=07-JUN-1996 12:05pm, what value is returned after executing the

following statement?

SELECT ADD_MONTHS(SYSDATE,-1) FROM DUAL; (Choose the best answer.)

A. 07-MAY-1996 12:05pm

B. 06-JUN-1996 12:05pm

C. 07-JUL-1996 12:05pm

D. None of the above

9. What value is returned after executing the following statement? Take note that 01-JAN-2009

occurs on a Thursday. (Choose the best answer.)

SELECT NEXT_DAY('01-JAN-2009','wed') FROM DUAL;

A. 07-JAN-2009

B. 31-JAN-2009

C. Wednesday

D. None of the above

10. Assuming SYSDATE=30-DEC-2007, what value is returned after executing the following

statement?

SELECT TRUNC(SYSDATE,'YEAR') FROM DUAL; (Choose the best answer.)

A. 31-DEC-2007

B. 01-JAN-2008

C. 01-JAN-2007

D. None of the above

Ejercicio 3: Para la base de datos de "Hotel", elabore 3 sentencias SELECT para cada una de las siguientes funciones:

- LOWER
- UPPER
- INITCAP
- CONCAT
- SUBSTR
- LENGTH
- INSTR
- LPAD | RPAD

- **TRIM**
- **REPLACE**
- **ROUND**
- **TRUNC**
- **MOD**
- **ROUND PARA FECHAS**
- **TRUNC PARA FECHAS**
- **OPERADORES ARITMETICOS CON FECHA**
- **MONTHS_BETWEEN**
- **ADD_MONTHS**
- **NEXT_DAY**
- **LAST_DAY**