

## Database Programming with SQL

### 5-2: NULL Functions

#### Practice Activities

##### Objectives

- Demonstrate and explain the evaluation of a nested function
- List at least four general functions that work with any data type and relate to handling null values
- Explain the use of the COALESCE and the NVL functions
- Explain the use of general functions to deal with null values in data
- Construct and execute a SQL query that correctly applies NVL, NVL2, NULLIF, and COALESCE single-row functions

##### Vocabulary

Identify the vocabulary word for each definition below.

NVL	Converts nulls to an actual value
COALESCE	Returns the first non-null expression in the list
NVL2	Examines the first expression; if the first expression is not null, it returns the second expression; if the first expression is null, it returns the third expression
NULLIF	Compares two expressions; if they are equal, the function returns null; if they are not equal, the function returns the first expression

##### Try It / Solve It

Use aliases to make the output more readable.

1. Create a report that shows the Global Fast Foods promotional name, start date, and end date from the f\_promotional\_menus table. If there is an end date, temporarily replace it with “end in two weeks.” If there is no end date, replace it with today’s date.

```
SELECT name, start_date, end_date, NVL2(end_date, 'end in two weeks', TO_CHAR( SYSDATE, 'DD-Mon-YYYY')) as nvl2
FROM f_promotional_menus;
```

2. Not all Global Fast Foods staff members receive overtime pay. Instead of displaying a null value for these employees, replace null with zero. Include the employee’s last name and overtime rate in the output. Label the overtime rate as “Overtime Status”.

```
SELECT last_name, NVL(overtime_rate,0) as "Overtime Status"
FROM f_staffs;
```

3. The manager of Global Fast Foods has decided to give all staff who currently do not earn overtime an overtime rate of \$5.00. Construct a query that displays the last names and the overtime rate for each staff member, substituting \$5.00 for each null overtime value.

```
SELECT last_name, TO_CHAR( NVL(overtime_rate,5), '$9999.99') as "Overtime Status"
FROM f_staffs;
```

4. Not all Global Fast Foods staff members have a manager. Create a query that displays the employee last name and 9999 in the manager ID column for these employees.

```
SELECT last_name, NVL(manager_id,9999) as manager_id
FROM f_staffs;
```

5. Which statement(s) below will return null if the value of v\_sal is 50?

- a. SELECT nvl(v\_sal, 50) FROM emp;
  - b. SELECT nvl2(v\_sal, 50) FROM emp;
  - c. SELECT nullif(v\_sal, 50) FROM emp;
  - d. SELECT coalesce (v\_sal, Null, 50) FROM emp;
- c) cause statement1=statement2  
THEN NULL IF RETURNS NULL

6. What does this query on the Global Fast Foods table return?

```
SELECT COALESCE(last_name, to_char(manager_id)) as NAME
FROM f_staffs;
```

All last names cause last\_name is not NULLABLE

- 7.
- a. Create a report listing the first and last names and month of hire for all employees in the EMPLOYEES table (use TO\_CHAR to convert hire\_date to display the month).
  - b. Modify the report to display null if the month of hire is September. Use the NULLIF function.
8. For all null values in the specialty column in the DJs on Demand d\_partners table, substitute "No Specialty." Show the first name and s

7.a

```
SELECT NVL(first_name,'FNU') , last_name, TO_CHAR(hire_date, 'Month') as "month of hire"
FROM employees;
```

7.b

```
SELECT NVL(first_name,'FNU') , last_name, NULLIF( TO_CHAR(hire_date, 'Month'), 'September') as "hire_month"
FROM employees;
```

8.

```
SELECT first_name, NVL(specialty, 'No Specialty')
```

```
FROM d_partners;
```