

## Database Programming with PL/SQL

### 3-1: Review of SQL DML Practice Activities

#### Vocabulary

Identify the vocabulary word for each definition below:

<b>DELETE</b>	Statement used to remove existing rows in a table.
<b>INSERT</b>	Statement used to add new rows to a table.
<b>MERGE</b>	Statement used to INSERT and/or UPDATE a target table, based on matching values in a source table.
<b>UPDATE</b>	Statement used to modify existing rows in a table.
<b>DDL</b>	When you create, change, or delete an object in a database.
<b>DML</b>	When you change data in an object (for example, by inserting or deleting rows).

#### Try It / Solve It

1. Evaluate the following SQL statement.

DELETE FROM students;

This SQL statement will:

- A. Not execute due to wrong syntax
- B. Delete the first row from STUDENTS
- C. Delete all rows from STUDENTS
- D. None of the above

2. Evaluate the following SQL statement.

```
INSERT INTO STUDENTS (id, last_name, first_name)
VALUES (29,'Perez','Jessica');
```

This SQL statement:

- A. Does an explicit insert
- B. Does an implicit insert

Use the following table for questions 3 through 8.

grocery_items		
product_id	brand	description
110	Colgate	Toothpaste
111	Ivory	Soap
112	Heinz	Ketchup

3. Write a SQL statement to create the above table.

```
CREATE TABLE grocery_items (product_id INT, brand VARCHAR(20), description VARCHAR(20));
```

4. Write and execute three SQL statements to explicitly add the above data to the table.

```
INSERT INTO grocery_items (product_id, brand, description) VALUES ('110', 'Colgate', 'Toothpaste');
INSERT INTO grocery_items (product_id, brand, description) VALUES ('111', 'Ivory', 'Soap');
INSERT INTO grocery_items (product_id, brand, description) VALUES ('112', 'Heinz', 'Ketchup');
```

5. Write and execute a SQL statement that will explicitly add your favorite beverage to the table.

```
INSERT INTO grocery_items (product_id, brand, description) VALUES ('113', 'Nescafe', 'Coffe');
```

6. Write and execute a SQL statement that modifies the description for Heinz ketchup to “tomato catsup”.

```
UPDATE grocery_items SET description='tomato catsup' WHERE brand='Heinz';
```

7. Write and execute a SQL statement that will implicitly add your favorite candy to the table.

```
INSERT INTO grocery_items ('114', 'Relaxa', 'Candy');
```

8. Write and execute a SQL statement that changes the soap brand from “Ivory” to “Dove”.  
**UPDATE grocery\_items SET brand="Dove" WHERE brand="Ivory";**  
 Use the following table for questions 9 through 14.

new_items		
product_id	brand	Description
110	Colgate	Dental paste
175	Dew	Soda
275	Palmolive	Dish detergent

9. Write and execute SQL statements to create the new\_items table and populate it with the data in the table.  
**CREATE TABLE new\_items (product\_id INT, brand VARCHAR(20), Description VARCHAR(20));**  
**INSERT INTO new\_items(product\_id) (SELECT product\_id FROM grocery\_items WHERE product\_id < 115);**
10. Write a SQL statement that will update the grocery\_items table with the brand and description from the new\_items table when the product ID values match. If they don't match, add a new row to the grocery\_items table. DO NOT EXECUTE YOUR STATEMENT YET.  
**MERGE INTO grocery\_items USING new\_items ON (product\_id.grocery\_items = product\_id.new\_items) WHEN MATCHED THEN UPDATED SET grocery\_items.brand = new\_items.brand , grocery\_items.description = new\_items.description;**
11. How many rows will be updated by the SQL statement in question 10?  
**1 row**
12. How many rows will be inserted by the SQL statement in question 10?  
**2 row**
13. Which of the following is true about the SQL statement in question 10?  
 A. new\_items is the source table and grocery\_items is the target table.  
**B. grocery\_items is the source table and new\_items is the target table.**
14. Execute the SQL statement you wrote in question 10, and then SELECT all data from the grocery\_items table to verify your answers to questions 11 and 12.

product_id	brand	description
110	Colgate	Dental Paste
111	Ivory	Soap
112	Heinz	tomato catsup
113	Nescafe	Coffe
114	Relaxa	Candy
175	Dew	Soda
275	Palmolive	Dish Detergent

7 rows in set (0.00 sec)