Database Programming with PL/SQL
3-1: Review of SQL DML
Practice Activities

Vocabulary

Identify the vocabulary word for each definition below:

DELETE	Statement used to remove existing rows in a table.
INSERT	Statement used to add new rows to a table.
MERGE	Statement used to INSERT and/or UPDATE a target table, based on matching values in a source table.
UPDATE	Statement used to modify existing rows in a table.
DDL	When you create, change, or delete an object in a database.
DML	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

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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.

```
3.
CREATE TABLE GROCERY_ITEMS(

PRODUCT_ID NUMBER PRIMARY KEY,

BRAND VARCHAR2(25),

DESCRIPTION VARCHAR2(25) );
```

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

```
4.
INSERT INTO GROCERY_ITEMS (PRODUCT_ID, BRAND, DESCRIPTION) VALUES (110, 'Colgate', 'Thoothpaste');
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, 'Sprite','Drink');
```

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 VALUES (114, 'Kinder Bueno', 'Chocolate');
```

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.
CREATE TABLE NEW_ITEMS(
PRODUCT_ID NUMBER PRIMARY KEY,
BRAND VARCHAR2(25),
DESCRIPTION VARCHAR2(25));

//////////////////////////////////////////////////////
INSERT INTO new_items VALUES
(110, 'Colgate', 'Dental paste');
INSERT INTO new_items VALUES
(175, 'Dew', 'Soda');
INSERT INTO new_items VALUES
(275, 'Palmolive ', 'Dish detergent');
```

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9. Write and execute SQL statements to create the new_items table and populate it with the data in the table.

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.

11. How many rows will be updated by the SQL statement in question 10?

1

12. How many rows will be inserted by the SQL statement in question 10?

2

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.

10.

```
MERGE INTO grocery_items g
USING new_items i ON
(g.product_id = i.product_id)
WHEN MATCHED THEN UPDATE
SET g.brand = i.brand,
g.description = i.description
WHEN NOT MATCHED THEN
INSERT VALUES(i.product_id,
i.brand, i.description) ;
```

3 rows updated

```
SELECT * FROM grocery_items;
```

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