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

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 NUMBER(3) NOT NULL PRIMARY KEY,
brand VARCHAR2(20) NOT NULL,
description VARCHAR2(20) NOT NULL
);
```

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,'Coca-cola','Fanta');
```

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 product_id=112;
```

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

```
INSERT INTO grocery_items(product_id, brand, description)
VALUES(114,'De la Rosa','Mazapan');
```

8. Write and execute a SQL statement that changes the soap brand from “Ivory” to “Dove.”

```
UPDATE GROCERY_ITEMS SET brand=’Dove’ where product_id=111;
```

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 NUMBER(3) NOT NULL PRIMARY KEY,
brand VARCHAR2(20) NOT NULL,
description VARCHAR2(20) NOT NULL
);
INSERT INTO new_items(product_id, brand, description)
VALUES(110,'Colgate','Dental paste');
INSERT INTO new_items(product_id, brand, description)
VALUES(175,'Dew','Soda');
INSERT INTO new_items(product_id, brand, description)
VALUES(275,'Palmolive','Dish detergent');
```

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 grocer_items grocer

USING new_items new ON (grocer.product_id= new.product_id)

WHEN MATCHED THEN

UPDATE grocery_items SET product_id=(select product_id from new_items), brand=(select brand from new_items), description=(select product_id from new_items);

WHEN NO MATCHED THEN

INSERT INTO grocery_items(product_id, brand, description)

VALUES(new_items.product_id, new_items.brand, new_items.description);

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.

SELECT * FROM grocery_items;