

## Exercise 11

## Trigger

**Create a trigger to update the 'product\_price\_history' table when the price of the product is updated in the 'product' table to maintain the history of the prices of the products when the price of a product changes constantly.**

**Objective:** The objective of this exercise is to enable you to use trigger in PL/SQL.

### Procedure and description:

A trigger is a database object that is used with other transactions. A trigger is a pl/sql block structure which is fired when a DML statements like Insert, Delete, Update is executed on a database table. A trigger is triggered automatically when an associated DML statement is executed.

The Syntax for creating a trigger is:

```
CREATE [OR REPLACE ] TRIGGER trigger_name
{BEFORE | AFTER | INSTEAD OF }
{INSERT [OR] | UPDATE [OR] | DELETE}
[OF col_name]
ON table_name
[REFERENCING OLD AS o NEW AS n]
[FOR EACH ROW]
WHEN (condition)
BEGIN
    --- sql statements
END;
```

### Sample Code:

Create the 'product' table and 'product\_price\_history' table:

```
CREATE TABLE product_price_history
(product_id number(5),
product_name varchar2(32),
supplier_name varchar2(32),
unit_price number(7,2) );
```

```
CREATE TABLE product
(product_id number(5),
product_name varchar2(32),
supplier_name varchar2(32),
unit_price number(7,2) );
```

Create the price\_history\_trigger:

```
CREATE or REPLACE TRIGGER price_history_trigger
BEFORE UPDATE OF unit_price
ON product
FOR EACH ROW
BEGIN
INSERT INTO product_price_history
VALUES
(:old.product_id,
:old.product_name,
:old.supplier_name,
:old.unit_price);
END;
/
```

Update the price of a product:

```
UPDATE PRODUCT SET unit_price = 800 WHERE product_id = 100
```

**Algorithm:** The steps for this exercise are given below:

- Step – 1:** Create tables with suitable attributes.
- Step – 2:** Create the trigger and execute it. (Hints: Use commands CREATE or REPLACE TRIGGER, BEFORE, AFTER etc. as shown in syntax above with appropriate values)
- Step – 3:** Update the table. (Hint: use commands - insert, update, delete)
- Step – 4:** Check

**Expected Output:**

Creation of Trigger.