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Class IT-314-DL1  
Practice Problems: Database Triggers

**Assignment 9-1: Creating a Trigger to Handle Product Restocking**

Brewbean’s has a couple of columns in the product table to assist in inventory tracking. The

REORDER column contains the stock level at which the product should be reordered. If the

stock falls to this level, Brewbean’s wants the application to insert a row in the

BB\_PRODUCT\_REQUEST table automatically to alert the ordering clerk that additional

inventory is needed. Brewbean’s currently uses the reorder level amount as the quantity that

should be ordered. This task can be handled by using a trigger.

1. Take out some scrap paper and a pencil. Think about the tasks the triggers needs to

perform, including checking whether the new stock level falls below the reorder point. If so,

check whether the product is already on order by viewing the product request table; if not,

enter a new product request. Try to write the trigger code on paper. Even though you learn

a lot by reviewing code, you improve your skills faster when you create the code on

your own.

2. Open the c9reorder.txt file in the Chapter09 folder. Review this trigger code, and

determine how it compares with your code.

3. In SQL Developer, create the trigger with the provided code.

4. Test the trigger with product ID 4. First, run the query shown in Figure 9-36 to verify the

current stock data for this product. Notice that a sale of one more item should initiate

a reorder.

5. Run the UPDATE statement shown in Figure 9-37. It should cause the trigger to fire. Notice

the query to check whether the trigger fired and whether a product stock request was

inserted in the BB\_PRODUCT\_REQUEST table.

6. Issue a ROLLBACK statement to undo these DML actions to restore data to its original state for use in later assignments. 7. Run the following statement to disable this trigger so that it doesn’t affect other projects:

ALTER TRIGGER bb\_reorder\_trg DISABLE;

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**Assignment 9-2: Updating Stock Information When a Product Request Is Filled**

Brewbean’s has a BB\_PRODUCT\_REQUEST table where requests to refill stock levels are

inserted automatically via a trigger. After the stock level falls below the reorder level, this trigger

fires and enters a request in the table. This procedure works great; however, when store clerks

record that the product request has been filled by updating the table’s DTRECD and COST

columns, they want the stock level in the product table to be updated. Create a trigger named

BB\_REQFILL\_TRG to handle this task, using the following steps as a guideline:

1. In SQL Developer, run the following INSERT statement to create a product request you can

use in this assignment:

INSERT INTO bb\_product\_request (idRequest, idProduct, dtRequest, qty)

VALUES (3, 5, SYSDATE, 45);

COMMIT;

2. Create the trigger (BB\_REQFILL\_TRG) so that it fires when a received date is entered in the

BB\_PRODUCT\_REQUEST table. This trigger needs to modify the STOCK column in the

BB\_PRODUCT table to reflect the increased inventory.

3. Now test the trigger. First, query the stock and reorder data for product 5, as shown in

Figure 9-38.

4. Now update the product request to record it as fulfilled by using the UPDATE statement

shown in Figure 9-39.

5. Issue queries to verify that the trigger fired and the stock level of product 5 has been

modified correctly. Then issue a ROLLBACK statement to undo the modifications.

6. If you aren’t doing Assignment 9-3, disable the trigger so that it doesn’t affect

other assignments.

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**Assignment 9-3: Updating the Stock Level If a Product Fulfillment Is Canceled**

The Brewbean’s developers have made progress on the inventory-handling processes;

however, they hit a snag when a store clerk incorrectly recorded a product request as fulfilled.

When the product request was updated to record a DTRECD value, the product’s stock level

was updated automatically via an existing trigger, BB\_REQFILL\_TRG. If the clerk empties the

DTRECD column to indicate that the product request hasn’t been filled, the product’s stock

level needs to be corrected or reduced, too. Modify the BB\_REQFILL\_TRG trigger to solve

this problem.

1. Modify the trigger code from Assignment 9-2 as needed. Add code to check whether the

DTRECD column already has a date in it and is now being set to NULL.

2. Issue the following DML actions to create and update rows that you can use to test

the trigger:

INSERT INTO bb\_product\_request (idRequest, idProduct, dtRequest, qty,

dtRecd, cost)

VALUES (4, 5, SYSDATE, 45, '15-JUN-2012',225);

UPDATE bb\_product

SET stock = 86

WHERE idProduct = 5;

COMMIT;

3. Run the following UPDATE statement to test the trigger, and issue queries to verify that the

data has been modified correctly.

UPDATE bb\_product\_request

SET dtRecd = NULL

WHERE idRequest = 4;

4. Be sure to run the following statement to disable this trigger so that it doesn’t affect other

assignments:

ALTER TRIGGER bb\_reqfill\_trg DISABLE;

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