

1. Trigger

Trigger is special type of Stored Procedure which is attached to a table and is only executed (also known as fired) when an INSERT, UPDATE or DELETE (i.e., modification of table data) occurs on that table. . One has to specify the modification action(s) that fire the trigger when it is created.

Unlike stored procedures, triggers can not be explicitly executed.

Example: 1 The following trigger shows a message when a row is inserted in Items table

```
CREATE TRIGGER trg_test ON Items FOR INSERT
AS
BEGIN
    PRINT 'Data inserted in Item Table'
END
```

2. Triggers can be used for automatically updating a table when an insert/update/ delete statement takes place in another table. For example, whenever a Transactions takes place, i.e., a row is inserted in the Transactions Table, item_qoh field in the Items table should be updated either by increasing it or decreasing.

In such cases, a table called INSERTED is used by the trigger.

- INSERTED is a temporary table that SQL server automatically creates whenever an insertion takes place in a table. The inserted table holds only the row that is getting inserted.
- Similarly, a temporary table called DELETED consisting of row that is getting deleted is created when a deletion takes place.
- Both INSERTED and DELETED tables get created when an UPDATE statement takes place.

The following trigger updates items table whenever a transaction takes place.

```
CREATE TRIGGER trg_update_item ON Transactions FOR INSERT
AS
BEGIN
    DECLARE @item_id char(6), @tranamount int, @tran_type char(1)
    SELECT @item_id=item_id, @tranamount=tran_quantity, @tran_type=tran_type FROM INSERTED
    IF (@tran_type ='S')
        UPDATE Items SET item_qoh=item_qoh- @tranamount WHERE item_id=@item_id
    ELSE
        UPDATE Items SET item_qoh=item_qoh+ @tranamount WHERE item_id=@item_id
END
```

Assignment

Task 1: Write a trigger on Transaction that automatically updates the sold_amnt or proc_amnt field of CustomersAndSuppliers table whenever a transaction happens.