

Задание 1.

Новые объекты:

Триггер:

```
CREATE TRIGGER [SpecialOfferHst_Trigger]
ON [Sales].[SpecialOffer]
AFTER INSERT, UPDATE, DELETE
AS
IF EXISTS (SELECT * FROM inserted) AND EXISTS (SELECT * FROM deleted)
    INSERT INTO [Sales].[SpecialOfferHst]
    SELECT
        'update'
        , CURRENT_TIMESTAMP
        , [SpecialOfferID]
        , CURRENT_USER
    FROM inserted
ELSE IF EXISTS (SELECT * FROM inserted)
    INSERT INTO [Sales].[SpecialOfferHst]
    SELECT
        'insert'
        , CURRENT_TIMESTAMP
        , [SpecialOfferID]
        , CURRENT_USER
    FROM inserted
ELSE IF EXISTS (SELECT * FROM deleted)
    INSERT INTO [Sales].[SpecialOfferHst]
    SELECT
        'delete'
        , CURRENT_TIMESTAMP
        , [SpecialOfferID]
        , CURRENT_USER
    FROM deleted;
```

Вью:

```
CREATE VIEW [SpecialOffer_View]
WITH ENCRYPTION
AS
SELECT * FROM [Sales].[SpecialOffer];
```

Результаты выполнения запросов:

1.a

Messages
Command(s) completed successfully.

1.b

Messages
Command(s) completed successfully.

1.c

Messages

Command(s) completed successfully.

1.d

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

Results

Messages

	ID	Action	ModifiedDate	SourceID	UserName
1	1	insert	2020-10-25 11:28:36.380	17	dbo
2	2	update	2020-10-25 11:30:36.623	17	dbo
3	3	delete	2020-10-25 11:31:41.447	17	dbo

Задание 2.

Новые объекты:

Вью:

```
CREATE VIEW [SpecialOfferInfo_View]
WITH SCHEMABINDING
AS
SELECT
    [sop].[ProductID]
    , [p].[Name]
    , [so].[SpecialOfferID]
    , [so].[Description]
    , [so].[DiscountPct]
    , [so].[Type]
    , [so].[Category]
    , [so].[StartDate]
    , [so].[EndDate]
    , [so].[MinQty]
    , [so].[MaxQty]
    , [so].[rowguid] [SpecialOfferRowGuid]
    , [so].[ModifiedDate] [SpecialOfferModifiedDate]
    , [sop].[rowguid] [SpecialOfferProductRowGuid]
    , [sop].[ModifiedDate] [SpecialOfferProductModifiedDate]
FROM [Sales].[SpecialOffer] [so]
INNER JOIN [Sales].[SpecialOfferProduct] [sop]
    ON ([sop].[SpecialOfferID] = [so].[SpecialOfferID])
INNER JOIN [Production].[Product] [p]
    ON ([p].[ProductID] = [sop].[ProductID]);
GO

CREATE UNIQUE CLUSTERED INDEX [SpecialOfferInfo_Index]
ON [SpecialOfferInfo_View]([ProductID], [SpecialOfferID]);
GO
```

Триггер:

```

-----#define SUBTASK_B -----
CREATE TRIGGER [SpecialOfferInfo_Trigger]
ON [SpecialOfferInfo_View]
INSTEAD OF INSERT, UPDATE, DELETE
AS
IF EXISTS (SELECT * FROM inserted) AND EXISTS (SELECT * FROM deleted)
    IF UPDATE([SpecialOfferID])
    BEGIN
        RAISERROR('UPDATE of SpecialOfferID is not allowed.', 18, 1);
        ROLLBACK;
    END
ELSE
    BEGIN
        UPDATE [Sales].[SpecialOffer]
        SET
            [Description] = inserted.[Description]
            , [DiscountPct] = inserted.[DiscountPct]
            , [Type] = inserted.[Type]
            , [Category] = inserted.[Category]
            , [StartDate] = inserted.[StartDate]
            , [EndDate] = inserted.[EndDate]
            , [MinQty] = inserted.[MinQty]
            , [MaxQty] = inserted.[MaxQty]
            , [ModifiedDate] = CURRENT_TIMESTAMP
        FROM inserted
        INNER JOIN [Production].[Product] [p]
            ON ([p].[Name] = inserted.[Name])
        WHERE [Sales].[SpecialOffer].[SpecialOfferID] = inserted.[SpecialOfferID];
    END
ELSE IF EXISTS (SELECT * FROM inserted)
    BEGIN
        INSERT INTO [Sales].[SpecialOffer]
        SELECT
            [Description]
            , [DiscountPct]
            , [Type]
            , [Category]
            , [StartDate]
            , [EndDate]
            , [MinQty]
            , [MaxQty]
            , NEWID()
            , CURRENT_TIMESTAMP
        FROM inserted
        INNER JOIN [Production].[Product] [p]
            ON ([p].[Name] = inserted.[Name]);
        INSERT INTO [Sales].[SpecialOfferProduct]
        SELECT
            SCOPE_IDENTITY()
            , [p].[ProductID]
            , NEWID()
            , CURRENT_TIMESTAMP
        FROM inserted
        INNER JOIN [Production].[Product] [p]
            ON ([p].[Name] = inserted.[Name]);
    END
ELSE IF EXISTS (SELECT * FROM deleted)
    BEGIN
        CREATE TABLE #SOToDelete (
            [SpecialOfferID] INT NOT NULL);
        INSERT INTO [#SOToDelete]
        SELECT DISTINCT
            [sop].[SpecialOfferID]
        FROM deleted
        INNER JOIN [Production].[Product] [p]
            ON ([p].[Name] = deleted.[Name])
        INNER JOIN [Sales].[SpecialOfferProduct] [sop]
            ON ([sop].[ProductID] = [p].[ProductID]);
        DELETE
        FROM [Sales].[SpecialOfferProduct]
        WHERE [Sales].[SpecialOfferProduct].[ProductID] IN (
            SELECT DISTINCT deleted.[ProductID]
            FROM deleted
            INNER JOIN [Production].[Product] [p]
                ON ([p].[Name] = deleted.[Name]));
        DELETE
        FROM [Sales].[SpecialOffer]
        WHERE [Sales].[SpecialOffer].[SpecialOfferID] IN (
            SELECT [sotd].[SpecialOfferID]
            FROM [#SOToDelete] [sotd]
            LEFT JOIN [Sales].[SpecialOfferProduct] [sop]
                ON ([sop].[SpecialOfferID] = [sotd].[SpecialOfferID])
            WHERE [sop].[SpecialOfferID] IS NULL);
    END;
GO
-----#undef SUBTASK_B -----

```

Результаты выполнения запросов:

2.a

Messages

Command(s) completed successfully.

Messages

Command(s) completed successfully.

2.b

Messages

Command(s) completed successfully.

2.c

Insert:

Results Messages												
SpecialOfferID	Description	DiscountPct	Type	Category	StartDate	EndDate	MinQty	MaxQty	rowguid	Modi		
5	Volume Discount 41 to 60	0,15	Volume Discount	Reseller	2005-07-01 00:00:00.000	2008-06-30 00:00:00.000	41	60	677E1D9D-944F-4E81-90E8-47EB0A82D48C	2005		
6	Volume Discount over 60	0,20	Volume Discount	Reseller	2005-07-01 00:00:00.000	2008-06-30 00:00:00.000	61	NULL	8157F569-4E8D-46B6-9347-5D0F726A9439	2005		
7	Mountain-100 Clearance Sale	0,35	Discontinued Product	Reseller	2006-05-15 00:00:00.000	2006-06-30 00:00:00.000	0	NULL	7DF15BF5-6C05-47E7-80A4-22BD1CE59A72	2006		
8	Sport Helmet Discount-2002	0,10	Seasonal Discount	Reseller	2006-07-01 00:00:00.000	2006-07-31 00:00:00.000	0	NULL	20C5D2CC-A38F-48F8-AC9A-8F15943E52AE	2006		
9	Road-650 Overstock	0,30	Excess Inventory	Reseller	2006-07-01 00:00:00.000	2006-08-31 00:00:00.000	0	NULL	0CF8472B-F9E6-4945-9E09-549D7DDE2198	2006		
10	Mountain Tire Sale	0,50	Excess Inventory	Customer	2007-06-15 00:00:00.000	2007-08-30 00:00:00.000	0	NULL	220444AD-2EF3-4E4C-87E9-3AA6EE39A877	2007		
11	Sport Helmet Discount-2003	0,15	Seasonal Discount	Reseller	2007-07-01 00:00:00.000	2007-07-31 00:00:00.000	0	NULL	E72DAB1D-F44D-448B-9FE2-F259A2F0210D	2007		
12	LL Road Frame Sale	0,35	Excess Inventory	Reseller	2007-07-01 00:00:00.000	2007-08-15 00:00:00.000	0	NULL	C0AF1C89-9722-4235-9248-3FBA4D9E5841	2007		
13	Touring-3000 Promotion	0,15	New Product	Reseller	2007-07-01 00:00:00.000	2007-09-30 00:00:00.000	0	NULL	5061CCE4-E021-45A8-9A75-DFB36CBCE85	2007		
14	Touring-1000 Promotion	0,20	New Product	Reseller	2007-07-01 00:00:00.000	2007-09-30 00:00:00.000	0	NULL	1AF84A9E-A98C-4BD9-B48F-DC2B88B010B	2007		
15	Half-Price Pedal Sale	0,50	Seasonal Discount	Customer	2007-08-15 00:00:00.000	2007-09-15 00:00:00.000	0	NULL	03E3594D-6EBB-46A6-B8EE-A9289C0C2E47	2007		
16	Mountain-500 Silver Cleara...	0,40	Discontinued Product	Reseller	2008-05-01 00:00:00.000	2008-06-30 00:00:00.000	0	NULL	EB7CB484-BCCF-4D2D-BF73-521B20014174	2008		
17	Ultra mega discount	0,99	Volume Discount	Reseller	2005-06-01 00:00:00.000	2005-10-01 00:00:00.000	0	10	B51107D6-CCDB-4065-9AF9-80F70C13C97C	2020		

Results

Messages

	SpecialOfferID	ProductID	rowguid	ModifiedDate
526	15	936	09659C40-EE49-4D99-8A4E-EC09C366F383	2007-07-16 00:00:00.000
527	15	937	08A8EB19-1142-4E8E-BB80-38811E485200	2007-07-16 00:00:00.000
528	15	938	FF93AC1F-49DC-4A67-9C96-9592CCE6D2B1	2007-07-16 00:00:00.000
529	15	939	E91B2C2D-A400-4945-9CE0-A1D59063C3C6	2007-07-16 00:00:00.000
530	15	940	A497D0BD-5CF4-46CB-A596-FAA6B28932F7	2007-07-16 00:00:00.000
531	15	941	339358CA-F265-460E-8510-CBC10388DF38	2007-07-16 00:00:00.000
532	16	782	C643F9AE-F5C5-45B1-8D0B-E2BF4D78A315	2008-04-01 00:00:00.000
533	16	784	EEF40E39-872F-45A1-81B0-50857E089A11	2008-04-01 00:00:00.000
534	16	984	52DD0F65-0EA9-4848-9884-7594BA953274	2008-04-01 00:00:00.000
535	16	985	C8127A82-05C3-42FD-A5C6-215D58A236BD	2008-04-01 00:00:00.000
536	16	986	C60FB28D-2431-481C-985E-3FEA8119D705	2008-04-01 00:00:00.000
537	16	987	BEBD6F20-D6C2-4511-8C97-1F53B2099D1F	2008-04-01 00:00:00.000
538	16	988	2981C98B-A18F-4153-A6A2-EC453CB130CE	2008-04-01 00:00:00.000
539	18	1	57ED1929-C4DE-4715-918D-C96A963B5A81	2020-10-25 16:44:16.937

Query executed successfully.

Update:

