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Лабораторная №4, Вариант 3.

Задание 4.1

a), b)

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure. The 'Production' database is expanded, and the 'WorkOrder' table is highlighted. Below it, the 'WorkOrderHst' table is also highlighted, showing its columns: ID (PK, int, not null), Action (nvarchar(6), not null), ModifiedDate (datetime, not null), SourceID (int, not null), and UserName (nvarchar(128), not null). The 'Messages' window at the bottom shows the successful completion of the commands.

The SQL Query window on the right shows the following T-SQL code:

```
USE [Adventureworks]
GO

CREATE TABLE [Production].[WorkOrderHst] (
    [ID] INT IDENTITY(1,1) PRIMARY KEY,
    [Action] NVARCHAR(6) NOT NULL,
    [ModifiedDate] DATETIME NOT NULL,
    [SourceID] INT NOT NULL,
    [UserName] nvarchar(128) NOT NULL
);
GO

CREATE TRIGGER [TR_Production_WorkOrder_DML]
ON [Production].[WorkOrder]
AFTER INSERT, UPDATE, DELETE
AS IF EXISTS (SELECT * FROM [inserted]) AND EXI
INSERT INTO [Production].[WorkOrderHst]
SELECT
    'update',
    CURRENT_TIMESTAMP,
    [WorkOrderID],
    CURRENT_USER
FROM inserted
ELSE IF EXISTS (SELECT * FROM [inserted])
INSERT INTO [Production].[WorkOrderHst]
SELECT
    'insert',
    CURRENT_TIMESTAMP,
    [WorkOrderID],
    CURRENT_USER
FROM inserted
```

The Messages window at the bottom shows the following message:

Commands completed successfully.
Completion time: 2020-10-31T20:42:11.6233883+03:00

c)

Object Explorer

Connect

- Purchasing.PurchaseOrderDetail
- Purchasing.PurchaseOrderHeader
- Purchasing.ShipMethod
- Purchasing.Vendor
- Sales.CountryRegionCurrency
- Sales.CreditCard
- Sales.Currency
- Sales.CurrencyRate
- Sales.Customer
- Sales.PersonCreditCard
- Sales.SalesOrderDetail
- Sales.SalesOrderHeader
- Sales.SalesOrderHeaderSalesReason
- Sales.SalesPerson
- Sales.SalesPersonQuotaHistory
- Sales.SalesReason
- Sales.SalesTaxRate
- Sales.SalesTerritory
- Sales.SalesTerritoryHistory
- Sales.ShoppingCartItem
- Sales.SpecialOffer
- Sales.SpecialOfferProduct
- Sales.Store
- Views
 - System Views
 - HumanResources.vEmployee
 - HumanResources.vEmployeeDepartment
 - HumanResources.vEmployeeDepartmentHistory
 - HumanResources.vJobCandidate
 - HumanResources.vJobCandidateEducation
 - HumanResources.vJobCandidateEmployment
 - Person.vAdditionalContactInfo
 - Person.vStateProvinceCountryRegion
 - Production.VI_WorkOrder**

SQLQuery23.sql - DE...Nikita Bitkin (62)*

```
GO
CREATE VIEW [Production].[VI_WorkOrder] AS SELECT * FROM [ProductI]
GO
INSERT INTO [Production].[VI_WorkOrder] (
    [ProductID],
    [OrderQty],
    [ScrappedQty],
    [StartDate],
    [EndDate],
    [DueDate],
    [ScrapReasonID],
    [ModifiedDate]
)
VALUES (
    1,
    1337,
    228,
    CURRENT_TIMESTAMP,
    CURRENT_TIMESTAMP,
    CURRENT_TIMESTAMP,
    1,
    CURRENT_TIMESTAMP
);
UPDATE [Production].[VI_WorkOrder]
SET [ModifiedDate] = CURRENT_TIMESTAMP
WHERE ModifiedDate > '2020-10-30';
GO
DELETE FROM [Production].[VI_WorkOrder]
WHERE ModifiedDate > '2020-10-30';
GO
SELECT * FROM [Production].[WorkOrderHst];
GO
```

82 %

Messages

Commands completed successfully.

Completion time: 2020-10-31T20:45:07.2184564+03:00

d)

```
INSERT INTO [Production].[VI_WorkOrder] (
    [ProductID],
    [OrderQty],
    [ScrappedQty],
    [StartDate],
    [EndDate],
    [DueDate],
    [ScrapReasonID],
    [ModifiedDate]
)
VALUES (
    1,
    1337,
    228,
    CURRENT_TIMESTAMP,
    CURRENT_TIMESTAMP,
    CURRENT_TIMESTAMP,
    1,
    CURRENT_TIMESTAMP
);
UPDATE [Production].[VI_WorkOrder]
SET [ModifiedDate] = CURRENT_TIMESTAMP
WHERE ModifiedDate > '2020-10-30';
GO
DELETE FROM [Production].[VI_WorkOrder]
WHERE ModifiedDate > '2020-10-30';
GO
SELECT * FROM [Production].[WorkOrderHst];
GO
```

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(3 rows affected)

Completion time: 2020-10-31T20:46:02.7334641+03:00

Results

ID	Action	ModifiedDate	SourceID	UserName
1	insert	2020-10-31 20:46:02.587	72592	dbo
2	update	2020-10-31 20:46:02.647	72592	dbo
3	delete	2020-10-31 20:46:02.693	72592	dbo

Задание 4.2.

a), b)

The screenshot shows the SQL Server Enterprise Manager interface. In the Object Explorer, the database 'AdventureWorks' is expanded, and the view 'dbo.VI_WorkOrder_ScrapReason_Product' is selected. The view's columns are listed: WorkOrderID (int, not null), ProductID (int, not null), OrderQty (int, not null), StockedQty (int, not null), ScrappedQty (smallint, not null), StartDate (datetime, not null), EndDate (datetime, null), DueDate (datetime, not null), ScrapReasonID (smallint, null), WorkOrderModifiedDate (datetime, not null), ScrapReasonName (Name(nvarchar(50)), not null), ScrapReasonModifiedDate (datetime, not null), and ProductName (Name(nvarchar(50)), not null). Below the columns, three triggers are listed: TR_DE_WorkOrder_ScrapReason_Product_DML, TR_IN_WorkOrder_ScrapReason_Product_DML, and TR_UP_WorkOrder_ScrapReason_Product_DML. The SQL Query window shows the following code:

```
USE [AdventureWorks]
GO

CREATE VIEW [VI_WorkOrder_ScrapReason_Product]
GO

CREATE UNIQUE CLUSTERED INDEX [VI_WorkOrder_ScrapReason_Product_WorkOrderID_IX]
GO

CREATE TRIGGER [TR_IN_WorkOrder_ScrapReason_Product_DML]
GO

CREATE TRIGGER [TR_UP_WorkOrder_ScrapReason_Product_DML]
GO

CREATE TRIGGER [TR_DE_WorkOrder_ScrapReason_Product_DML]
GO

INSERT INTO [dbo].[VI_WorkOrder_ScrapReason_Product] (
)

DELETE
FROM [VI_WorkOrder_ScrapReason_Product]
WHERE [ProductName] = 'Adjustable Race';
GO
```

The Messages window shows the following message:

```
Commands completed successfully.
Completion time: 2020-10-31T20:47:29.4616564+03:00
```

c)

The screenshot shows the SQL Query window with the following code:

```
INSERT INTO [dbo].[VI_WorkOrder_ScrapReason_Product] (
    ProductName,
    OrderQty,
    ScrappedQty,
    StartDate,
    EndDate,
    DueDate,
    WorkOrderModifiedDate,
    ScrapReasonName,
    ScrapReasonModifiedDate
)
VALUES (
    'Adjustable Race',
    1,
    1,
    CURRENT_TIMESTAMP,
    CURRENT_TIMESTAMP,
    CURRENT_TIMESTAMP,
    CURRENT_TIMESTAMP,
    'New Reason',
    CURRENT_TIMESTAMP
);

SELECT TOP(1) * FROM [Production].[WorkOrder]
order by [WorkOrderID] desc

SELECT TOP(1) * FROM [Production].[ScrapReason]
order by [ScrapReasonID] desc

UPDATE [dbo].[VI_WorkOrder_ScrapReason_Product]
SET
```

The Results window shows the following data:

WorkOrderID	ProductID	OrderQty	StockedQty	ScrappedQty	StartDate	EndDate	DueDate	ScrapReasonID	ModifiedDate
72593	1	1	0	1	2020-10-31 23:50:13.743	2020-10-31 23:50:13.743	2020-10-31 23:50:13.743	17	2020-10-31 23:50:13.743

The Messages window shows the following message:

```
Commands completed successfully.
Completion time: 2020-10-31T20:47:29.4616564+03:00
```

```

UPDATE [dbo].[VI_WorkOrder_ScrapReason_Product]
SET
    [OrderQty] = 2,
    [ScrappedQty] = 2,
    [StartDate] = '2020-10-30',
    [EndDate] = '2020-10-30',
    [DueDate] = '2020-10-30',
    [WorkOrderModifiedDate] = '2020-10-30',
    [ScrapReasonName] = 'new reason name',
    [ScrapReasonModifiedDate] = '2020-10-30'
WHERE [ProductName] = 'Adjustable Race';
GO

SELECT TOP(1) * FROM [Production].[WorkOrder]
order by [WorkOrderID] desc

SELECT TOP(1) * FROM [Production].[ScrapReason]
order by [ScrapReasonID] desc

DELETE
FROM [VI_WorkOrder_ScrapReason_Product]
WHERE [ProductName] = 'Adjustable Race';
GO

```

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Results Messages

	WorkOrderID	ProductID	OrderQty	StockedQty	ScrappedQty	StartDate	EndDate	DueDate	ScrapReasonID	ModifiedDate
1	72593	1	1	-1	2	2020-10-30 00:00:00.000	2020-10-30 00:00:00.000	2020-10-30 00:00:00.000	17	2020-10-30 00:00:00.000

	ScrapReasonID	Name	ModifiedDate
1	17	new reason name	2020-10-30 00:00:00.000

```

DELETE
FROM [VI_WorkOrder_ScrapReason_Product]
WHERE [ProductName] = 'Adjustable Race';
GO

SELECT TOP(1) * FROM [Production].[WorkOrder]
order by [WorkOrderID] desc

SELECT TOP(1) * FROM [Production].[ScrapReason]
order by [ScrapReasonID] desc

```

%

Results Messages

	WorkOrderID	ProductID	OrderQty	StockedQty	ScrappedQty	StartDate	EndDate	DueDate	ScrapReasonID	ModifiedDate
1	72591	531	26	26	0	2008-07-03 00:00:00.000	2008-07-13 00:00:00.000	2008-07-14 00:00:00.000	NULL	2008-07-13 00:00:00.000

	ScrapReasonID	Name	ModifiedDate
1	16	Wheel misaligned	2002-06-01 00:00:00.000