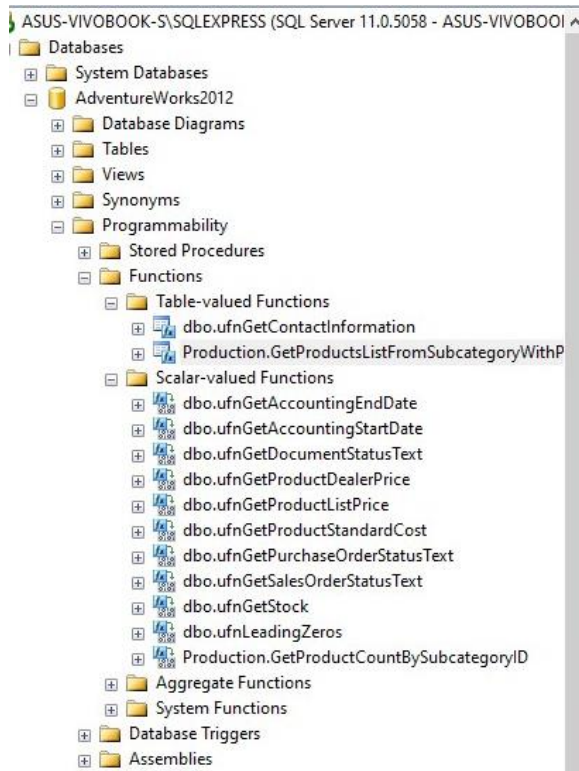
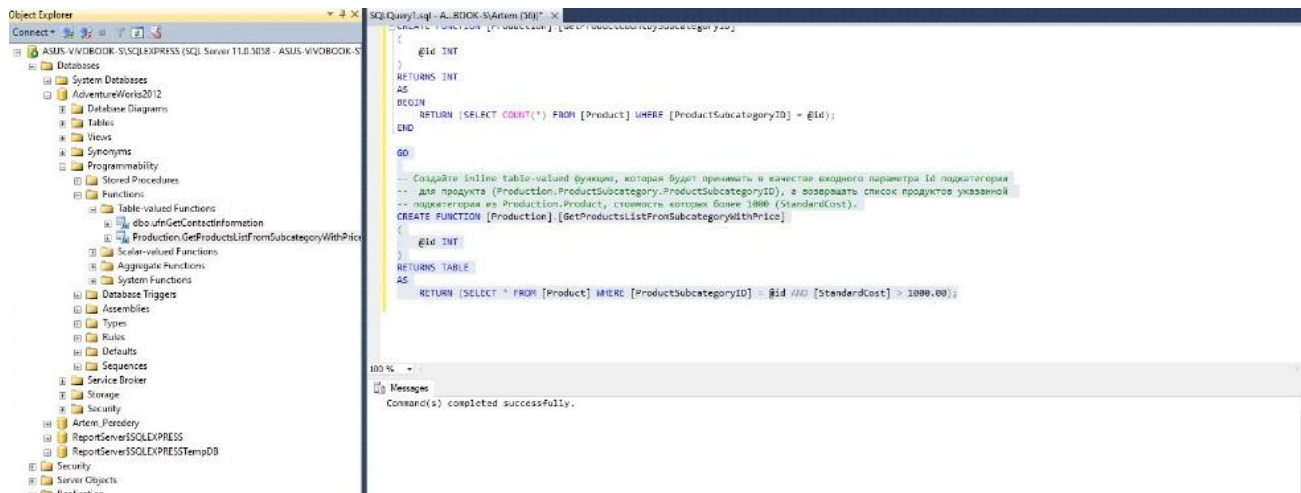


1. Scalar-valued:



2. Inline table-valued:



```
SQL Query Editor - ASUS-VIVOBOK-S\Artisan [500]
-- Create a function [Production].[GetProductCountBySubcategoryID]
--
CREATE FUNCTION [Production].[GetProductCountBySubcategoryID]
(
    @id INT
)
RETURNS INT
AS
BEGIN
    RETURN (SELECT COUNT(*) FROM [Product] WHERE [ProductSubcategoryID] = @id);
END
GO

-- Create inline table-valued function, which will accept as input parameter ID subcategory
-- for product (Production.ProductSubcategoryID), and return list of products of specified
-- subcategory as Production.Product, whose cost is more than 1000 (StandardCost).
CREATE FUNCTION [Production].[GetProductsListFromSubcategoryWithPrice]
(
    @id INT
)
RETURNS TABLE
AS
RETURN (SELECT * FROM [Product] WHERE [ProductSubcategoryID] = @id AND [StandardCost] > 1000.00);

100 %
Messages
Command(s) completed successfully.
```

3. CROSS APPLY:

```
-- CROSS APPLY
SELECT * FROM [Production].[Product] CROSS APPLY [Production].[GetProductsListFromSubcategoryWithPrice]([ProductSubcategoryID]);
```

ProductID	Name	ProductNumber	MakeFlag	FinishedGoodsFlag	Color	SafetyStockLevel	ReorderPoint	StandardCost	ListPrice	Size	SizeUnitMeasure
1	HL Road Frame - Black, 58	FR-R308-58	1	1	Black	500	375	1059.31	1431.50	58	CM
2	HL Road Frame - Black, 58	FR-R308-58	1	1	Black	500	375	1059.31	1431.50	58	CM
3	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
4	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
5	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
6	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
7	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
8	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
9	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
10	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
11	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
12	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
13	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
14	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
15	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
16	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
17	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
18	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
19	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
20	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
21	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
22	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
23	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM
24	HL Road Frame - Red, 58	FR-R308-58	1	1	Red	500	375	1059.31	1431.50	58	CM

4. OUTER APPLY:

```
-- OUTER APPLY
SELECT * FROM [Production].[Product] OUTER APPLY [Production].[GetProductsListFromSubcategoryWithPrice]([ProductSubcategoryID]);
```

ProductID	Name	ProductNumber	MakeFlag	FinishedGoodsFlag	Color	SafetyStockLevel	ReorderPoint	StandardCost	ListPrice	Size	SizeUnitMeasure
1	Adjustable Race	AR-5381	0	0	NULL	1000	750	0.00	0.00	NULL	NULL
2	Bearing Ball	BA-8327	0	0	NULL	1000	750	0.00	0.00	NULL	NULL
3	BB Ball Bearing	BE-2349	1	0	NULL	800	600	0.00	0.00	NULL	NULL
4	Headset Ball Bearings	BE-2908	0	0	NULL	800	600	0.00	0.00	NULL	NULL
5	Blade	BL-2036	1	0	NULL	800	600	0.00	0.00	NULL	NULL
6	LL Crankarm	CA-9965	0	0	Black	500	375	0.00	0.00	NULL	NULL
7	ML Crankarm	CA-8738	0	0	Black	500	375	0.00	0.00	NULL	NULL
8	HL Crankarm	CA-7457	0	0	Black	500	375	0.00	0.00	NULL	NULL
9	Channing Bolts	CB-2903	0	0	Silver	1000	750	0.00	0.00	NULL	NULL
10	Channing Nut	CN-6137	0	0	Silver	1000	750	0.00	0.00	NULL	NULL
11	Channing	CR-7833	0	0	Black	1000	750	0.00	0.00	NULL	NULL
12	Crown Race	CR-9981	0	0	NULL	1000	750	0.00	0.00	NULL	NULL
13	Chain Stays	CS-2812	1	0	NULL	1000	750	0.00	0.00	NULL	NULL
14	Decal 1	DC-8732	0	0	NULL	1000	750	0.00	0.00	NULL	NULL
15	Decal 2	DC-8824	0	0	NULL	1000	750	0.00	0.00	NULL	NULL
16	Down Tube	DT-2377	1	0	NULL	800	600	0.00	0.00	NULL	NULL
17	Mountain End Caps	EC-M092	1	0	NULL	1000	750	0.00	0.00	NULL	NULL
18	Road End Caps	EC-R096	1	0	NULL	1000	750	0.00	0.00	NULL	NULL
19	Touring End Caps	EC-T209	1	0	NULL	1000	750	0.00	0.00	NULL	NULL
20	Fork End	FE-3760	1	0	NULL	800	600	0.00	0.00	NULL	NULL
21	Freewheel	FW-2981	0	0	Silver	500	375	0.00	0.00	NULL	NULL
22	Flat Washer 1	FW-1000	0	0	NULL	1000	750	0.00	0.00	NULL	NULL
23	Flat Washer 6	FW-1200	0	0	NULL	1000	750	0.00	0.00	NULL	NULL
24	Flat Washer 2	FW-1400	0	0	NULL	1000	750	0.00	0.00	NULL	NULL

5. Multistatement table-valued:

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the 'Object Explorer' pane shows the database structure for 'ASUS-VIVOBOOK-S/SQL EXPRESS (SQL Server 11.0.5058 - ASUS-VIVOBOOK-S)'. The 'Functions' folder is expanded, showing a list of functions under 'Table-valued Functions'. The function 'Production.GetProductsListFromSubcategoryWithPrice_Multistatement' is selected.

The main pane shows the SQL script for the function:

```
CREATE FUNCTION [Production].[GetProductsListFromSubcategoryWithPrice_Multistatement]
(
    @Id INT
)
RETURNS @products TABLE
(
    [ProductID] INT NOT NULL PRIMARY KEY,
    [StandardCost] MONEY NOT NULL,
    [ProductNumber] NVARCHAR(25) NOT NULL,
    [ProductSubcategoryID] INT NOT NULL
)
AS
BEGIN
    INSERT INTO @products
    SELECT
        [P].[ProductID],
        [P].[StandardCost],
        [P].[ProductNumber],
        [P].[ProductSubcategoryID]
    FROM [Production].[Product] AS [P]
    WHERE [ProductSubcategoryID] = @Id AND [StandardCost] > 1000.00;

    RETURN;
END
```

The 'Messages' pane at the bottom shows the execution result: 'Command(s) completed successfully.'