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Лабораторная №5, Вариант 3.

scalar-valued

```
CREATE FUNCTION [Purchasing].[GetOrderTotal] (@OrderID INT)
RETURNS MONEY AS
BEGIN
    RETURN (SELECT SUM(LineTotal) FROM [Purchasing].[PurchaseOrderDetail] [pod] WHERE [pod].[PurchaseOrderID] = @OrderID)
END
GO

PRINT([Purchasing].[GetOrderTotal](2));
GO

CREATE FUNCTION [Sales].[GetTopOrdersByCustomer](@CustomerID INT, @RowCount INT)
RETURNS TABLE AS RETURN (
    SELECT TOP (@RowCount) *
    FROM [Sales].[SalesOrderHeader]
    WHERE [CustomerID] = @CustomerID
    ORDER BY [TotalDue] DESC
);
GO

SELECT * FROM [Sales].[Customer] CROSS APPLY [Sales].[GetTopOrdersByCustomer]([CustomerID], 2);
SELECT * FROM [Sales].[Customer] OUTER APPLY [Sales].[GetTopOrdersByCustomer]([CustomerID], 2);
GO

CREATE FUNCTION [Sales].[GetTopOrdersByCustomerMultiStatement](@CustomerID INT, @RowCount INT)
RETURNS TABLE AS RETURN (
    SELECT * FROM [Sales].[Customer] CROSS APPLY [Sales].[GetTopOrdersByCustomerMultiStatement]([CustomerID], 2);
);
GO
```

Messages

272.10

Completion Time: 2020-11-19T11:18:09.7682346+03:00

inline table-valued

```
CREATE FUNCTION [Purchasing].[GetOrderTotal] (@OrderID INT)
RETURNS MONEY AS
BEGIN
    RETURN (SELECT SUM(LineTotal) FROM [Purchasing].[PurchaseOrderDetail] [pod] WHERE [pod].[PurchaseOrderID] = @OrderID)
END
GO

PRINT([Purchasing].[GetOrderTotal](2));
GO

CREATE FUNCTION [Sales].[GetTopOrdersByCustomer](@CustomerID INT, @RowCount INT)
RETURNS TABLE AS RETURN (
    SELECT TOP (@RowCount) *
    FROM [Sales].[SalesOrderHeader]
    WHERE [CustomerID] = @CustomerID
    ORDER BY [TotalDue] DESC
);
GO

SELECT * FROM [Sales].[Customer] CROSS APPLY [Sales].[GetTopOrdersByCustomer]([CustomerID], 2);
SELECT * FROM [Sales].[Customer] OUTER APPLY [Sales].[GetTopOrdersByCustomer]([CustomerID], 2);
GO

CREATE FUNCTION [Sales].[GetTopOrdersByCustomerMultiStatement](@CustomerID INT, @RowCount INT)
RETURNS TABLE AS RETURN (
    SELECT * FROM [Sales].[Customer] CROSS APPLY [Sales].[GetTopOrdersByCustomerMultiStatement]([CustomerID], 2);
);
GO
```

Results

CustomerID	PersonID	StoreID	OrderDate	DueDate	Status	AccountNumber	CustomerID	TerritoryID	ShipMethodID	CreditCardID	CurrencyRateID	SubTotal	TaxAmt	Freight	TotalDue	Comment	rowguid	ModifiedDate
11000	13531	NULL	2005-07-22 00:00:00.000	2005-08-03 00:00:00.000	5	10-4030-011000	11000	9	1	11981	275	3399.99	271.9952	84.9996	3756.989	NULL	NULL	NULL
11000	13531	NULL	2007-11-04 00:00:00.000	2007-11-16 00:00:00.000	5	10-4030-011000	11000	9	1	11981	9796	2507.03	200.5624	62.6708	2770.2632	NULL	NULL	NULL
11001	5454	NULL	2005-07-19 00:00:00.000	2005-07-30 00:00:00.000	5	10-4030-011001	11001	9	1	8910	223	3374.99	263.9992	84.3748	3723.364	NULL	NULL	NULL
11001	5454	NULL	2007-07-20 00:00:00.000	2007-08-01 00:00:00.000	5	10-4030-011001	11001	9	1	8910	8609	2419.93	193.5944	60.4983	2674.0227	NULL	NULL	NULL
11002	11269	NULL	2005-07-10 00:00:00.000	2005-07-22 00:00:00.000	5	10-4030-011002	11002	9	1	1416	119	3399.99	271.9952	84.9996	3756.989	NULL	NULL	NULL
11002	11269	NULL	2007-08-27 00:00:00.000	2007-09-08 00:00:00.000	5	10-4030-011002	11002	9	1	1416	9027	2419.06	193.5248	60.4765	2673.0613	NULL	NULL	NULL
11003	11358	NULL	2005-07-01 00:00:00.000	2005-07-13 00:00:00.000	5	10-4030-011003	11003	9	1	11150	2	3399.99	271.9952	84.9996	3756.989	NULL	NULL	NULL
11003	11358	NULL	2007-11-11 00:00:00.000	2007-11-23 00:00:00.000	5	10-4030-011003	11003	9	1	11150	9863	2420.34	193.6272	60.5085	2674.4757	NULL	NULL	NULL

multistatement table-valued

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure, with the function `Sales.GetTopOrdersByCustomerMultistatement` highlighted. The central pane shows the SQL query editor with the following code:

```
ORDER BY [TotalDue] DESC
GO

SELECT * FROM [Sales].[Customer] CROSS APPLY [Sales].[GetTopOrdersByCustomer]([CustomerID], 2);
SELECT * FROM [Sales].[Customer] OUTER APPLY [Sales].[GetTopOrdersByCustomer]([CustomerID], 2);

CREATE FUNCTION [Sales].[GetTopOrdersByCustomerMultistatement](@CustomerID INT, @RowCount INT)
GO
SELECT * FROM [Sales].[Customer] CROSS APPLY [Sales].[GetTopOrdersByCustomerMultistatement]([CustomerID], 2);
```

The right pane shows the results of the query, displaying a table with 14 columns: CustomerID, PersonID, StoreID, TerritoryID, SalesOrderID, RevisionNumber, Status, OnlineOrderFlag, AccountNumber, CustomerID, TerritoryID, BillToAddressID, CreditCardID, CurrencyRateID, SubTotal, TaxAmt, Freight, and TotalDue. The results are sorted by TotalDue in descending order.

CustomerID	PersonID	StoreID	TerritoryID	SalesOrderID	RevisionNumber	Status	OnlineOrderFlag	AccountNumber	CustomerID	TerritoryID	BillToAddressID	CreditCardID	CurrencyRateID	SubTotal	TaxAmt	Freight	TotalDue	
1	11000	13511	NULL	9	43793	3	5	1	10-4030-011000	11000	9	22601	11981	275	3399.99	271.9992	84.9998	3766.989
2	11000	13511	NULL	9	57419	3	5	1	10-4030-011000	11000	9	22601	11981	9786	2967.03	280.5634	62.4766	3720.2603
3	11001	5454	NULL	9	43767	3	5	1	10-4030-011001	11001	9	14489	8810	223	3374.99	269.9992	84.3748	3729.364
4	11001	5454	NULL	9	51493	3	5	1	10-4030-011001	11001	9	14489	8810	8609	2419.93	193.5944	60.4983	2674.0227
5	11002	11269	NULL	9	43736	3	5	1	10-4030-011002	11002	9	20336	1416	119	3399.99	271.9992	84.9998	3766.989
6	11002	11269	NULL	9	53237	3	5	1	10-4030-011002	11002	9	20336	1416	9027	2419.06	193.5248	60.4765	2673.0613
7	11003	11358	NULL	9	43701	3	5	1	10-4030-011003	11003	9	20425	11150	2	3399.99	271.9992	84.9998	3766.989
8	11003	11358	NULL	9	57783	3	5	1	10-4030-011003	11003	9	20425	11150	9863	2420.34	193.6272	60.5085	2674.4757
9	11004	11901	NULL	9	43810	3	5	1	10-4030-011004	11004	9	20971	12777	327	3399.99	271.9992	84.9998	3766.989
10	11004	11901	NULL	9	57253	3	5	1	10-4030-011004	11004	9	20971	12777	9764	2419.06	193.5248	60.4765	2673.0613
11	11005	6990	NULL	9	43794	3	5	1	10-4030-011005	11005	9	16025	1989	15	3374.99	269.9992	84.3748	3729.364
12	11005	6990	NULL	9	57361	3	5	1	10-4030-011005	11005	9	16025	1989	9775	2384.07	190.7256	59.6018	2634.3974
13	11006	6229	NULL	9	43819	3	5	1	10-4030-011006	11006	9	15264	5054	340	3399.99	271.9992	84.9998	3766.989
14	11006	6229	NULL	9	58007	3	5	1	10-4030-011006	11006	9	15264	5054	9907	2384.07	190.7256	59.6018	2634.3974
15	11007	3878	NULL	9	43743	3	5	1	10-4030-011007	11007	9	12909	1546	145	3399.99	271.9992	84.9998	3766.989
16	11007	3878	NULL	9	54705	3	5	1	10-4030-011007	11007	9	12909	1546	9291	2419.06	193.5248	60.4765	2673.0613
17	11008	14673	NULL	9	43826	3	5	1	10-4030-011008	11008	9	23743	13554	353	3374.99	269.9992	84.3748	3729.364
18	11008	14673	NULL	9	53765	3	5	1	10-4030-011008	11008	9	23743	13554	9104	2419.06	193.5248	60.4765	2673.0613
19	11009	20724	NULL	9	43817	3	5	1	10-4030-011009	11009	9	24196	8011	174	3374.99	269.9992	84.3748	3729.364

The status bar at the bottom indicates that the query was executed successfully and returned 26,589 rows.