Лабораторная работа №5

Создайте scalar-valued функцию, которая будет принимать в качестве входного параметра id модели для продукта (Production.ProductModel.ProductModelID) и возвращать суммарную стоимость продуктов данной модели (Production.Product.ListPrice).

```sql
create function Production.GetSumPriceOfProduct(@ProductModelID int)
returns money
as
begin
    declare @result money
    select @result = SUM(Product.ListPrice)
    from Production.Product
    where Product.ProductModelID = @ProductModelID
    return @result
end;
```

Command(s) completed successfully.

```sql
select *, Production.GetSumPriceOfProduct(ProductModelID) as SumPriceOfProduct from Production.ProductModel;
```

	ProductModelID	Name	rowguid	ModifiedDate	SumPriceOfProduct
1	1	Classic Vest	29321D47-1E4C-4AAC-887C-19634328C25E	2013-04-30 00:00:00.000	190,50
2	2	Cycling Cap	474FB654-3C96-4CB9-82DF-2152EEFFBDB0	2011-05-01 00:00:00.000	8,99
3	3	Full-Finger Gloves	A75483FE-3C47-4AA4-93CF-664B51192987	2012-04-30 00:00:00.000	113,97
4	4	Half-Finger Gloves	14B56F2A-D4AA-40A4-B9A2-984F165ED702	2012-04-30 00:00:00.000	73,47
5	5	HL Mountain Frame	FDD5407B-C2DB-49D1-A86B-C13A2E3582A2	2011-05-01 00:00:00.000	13570,50
6	6	HL Road Frame	4D332ECC-48B3-4E04-B7E7-227F3AC2A7EC	2008-03-31 00:00:00.000	15746,50
7	7	HL Touring Frame	D60ED2A5-C100-4C54-89A1-531404C4A20F	2015-04-15 16:34:28.980	8031,28
8	8	LL Mountain Frame	65BF3F6D-BCF2-4DB6-8515-FC5C57423037	2012-10-19 09:56:38.273	2569,20
9	9	LL Road Frame	DDC67A2F-024A-4446-9B54-3C679BABA708	2011-05-01 00:00:00.000	4046,64

Создайте inline table-valued функцию, которая будет принимать в качестве входного параметра id заказчика (Sales.Customer.CustomerID), а возвращать 2 последних заказа, оформленных заказчиком из Sales.SalesOrderHeader.

```sql
create function Sales.GetTwoLastOrders(@CustomerID int)
returns table
as
return (
    select top(2) *
    from Sales.SalesOrderHeader
    where CustomerID = @CustomerID
    order by OrderDate desc
);
```

```
Command(s) completed successfully.
```

Вызовите функцию для каждого заказчика, применив оператор CROSS APPLY.

```sql
select * from Sales.Customer cross apply Sales.GetTwoLastOrders(CustomerID);
```

	CustomerID	PersonID	AccountNumber	rowguid	Modi...	SalesOrderID	R...	SalesOrde...	AccountNumber	CustomerID
1	11000	13531	AW00011000	477586B3-2977...	2014...	57418	8	SO57418	10-4030-011000	11000
2	11000	13531	AW00011000	477586B3-2977...	2014...	51522	8	SO51522	10-4030-011000	11000
3	11001	5454	AW00011001	C32A8084-907...	2014...	72773	8	SO72773	10-4030-011001	11001
4	11001	5454	AW00011001	C32A8084-907...	2014...	51493	8	SO51493	10-4030-011001	11001
5	11002	11269	AW00011002	45715DD8-2F5...	2014...	53237	8	SO53237	10-4030-011002	11002
6	11002	11269	AW00011002	45715DD8-2F5...	2014...	51238	8	SO51238	10-4030-011002	11002
7	11003	11358	AW00011003	7E240EFC-7EE...	2014...	57783	8	SO57783	10-4030-011003	11003
8	11003	11358	AW00011003	7E240EFC-7EE...	2014...	51315	8	SO51315	10-4030-011003	11003
9	11004	11901	AW00011004	61CCB4D0-232...	2014...	57293	8	SO57293	10-4030-011004	11004

Вызовите функцию для каждого заказчика, применив оператор OUTER APPLY.

```sql
select * from Sales.Customer outer apply Sales.GetTwoLastOrders(CustomerID);
```

	CustomerID	PersonID	StoreID	TerritoryID	AccountNumber	rowguid	ModifiedDate	SalesO
698	698	NULL	640	1	AW00000698	6BC4FF5A-0696-4C2A-88F9-08D1DBA91B74	2014-09-12 11:15:07.263	NULL
699	699	NULL	842	5	AW00000699	38A528AA-0402-4ED9-ABBB-983BCEB37D40	2014-09-12 11:15:07.263	NULL
700	700	NULL	1030	5	AW00000700	540FB57F-F81A-4794-8E9A-C071C4F0BC18	2014-09-12 11:15:07.263	NULL
701	701	NULL	844	6	AW00000701	61AE9625-8BD8-48B7-B171-8A90CBBA494C	2014-09-12 11:15:07.263	NULL
702	11000	13531	NULL	9	AW00011000	477586B3-2977-4E54-B1A8-569AB2C7C4D4	2014-09-12 11:15:07.263	57418
703	11000	13531	NULL	9	AW00011000	477586B3-2977-4E54-B1A8-569AB2C7C4D4	2014-09-12 11:15:07.263	51522
704	11001	5454	NULL	9	AW00011001	C32A8084-9077-4F13-9738-1E2DA7C1DCD9	2014-09-12 11:15:07.263	72773
705	11001	5454	NULL	9	AW00011001	C32A8084-9077-4F13-9738-1E2DA7C1DCD9	2014-09-12 11:15:07.263	51493
706	11002	11269	NULL	9	AW00011002	45715DD8-2F57-4A39-BEB4-6A8F99D59794	2014-09-12 11:15:07.263	53237
707	11002	11269	NULL	9	AW00011002	45715DD8-2F57-4A39-BEB4-6A8F99D59794	2014-09-12 11:15:07.263	51238
708	11003	11358	NULL	9	AW00011003	7E240EFC-7EE6-4814-93A8-269821157E18	2014-09-12 11:15:07.263	57783
709	11003	11358	NULL	9	AW00011003	7E240EFC-7EE6-4814-93A8-269821157E18	2014-09-12 11:15:07.263	51315
710	11004	11901	NULL	9	AW00011004	61CCB4D0-2328-4BBB-AFF9-F7F0B0FDD6	2014-09-12 11:15:07.263	57293

Измените созданную inline table-valued функцию, сделав ее multistatement table-valued (предварительно сохранив для проверки код создания inline table-valued функции).

```sql
create function Sales.GetTwoLastOrdersMulti(@CustomerID int)
returns @result table(
    SalesOrderID int,
    RevisionNumber tinyint,
    OrderDate datetime,
    DueDate datetime,
    ShipDate datetime,
    Status tinyint,
    OnlineOrderFlag dbo.Flag,
    SalesOrderNumber nvarchar(23),
    PurchaseOrderNumber dbo.OrderNumber,
    AccountNumber dbo.AccountNumber,
    CustomerID int,
    SalesPersonID int,
    TerritoryID int,
    BillToAddressID int,
    ShipToAddressID int,
    ShipMethodID int,
    CreditCardID int,
    CreditCardApprovalCode varchar(15),
    CurrencyRateID int,
    SubTotal money,
    TaxAmt money,
    Freight money,
    TotalDue int,
    Comment nvarchar(128),
    rowguid uniqueidentifier rowguidcol,
    ModifiedDate datetime
)
as
begin
    insert into @result
    select top(2) *
    from Sales.SalesOrderHeader
    where CustomerID = @CustomerID
    order by OrderDate desc
    return
end;


select c.CustomerID, SalesOrderID
from Sales.Customer as c
cross apply Sales.GetTwoLastOrdersMulti(CustomerID)
order by CustomerID;
```

	CustomerID	SalesOrderID
1	11000	57418
2	11000	51522
3	11001	72773
4	11001	51493
5	11002	53237
6	11002	51238
7	11003	57783
8	11003	51315
9	11004	57293
10	11004	51595
11	11005	57361
12	11005	51612
13	11006	58007
14	11006	51198
15	11007	54705
16	11007	51581
17	11008	53765
18	11008	51282