

## Отчет по лабораторной работе №5

Батышев А. Д.

гр. 751002 Вариант 3

1. Создайте scalar-valued функцию, которая будет принимать в качестве входного параметра id заказа (Purchasing.PurchaseOrderHeader.PurchaseOrderID) и возвращать сумму по заказу из детализированного списка заказов (Purchasing.PurchaseOrderDetail.LineTotal).

```
CREATE FUNCTION Purchasing.GetOrdersSum
(
    @id INT
)
RETURNS MONEY
AS
BEGIN
    RETURN
    (
        SELECT
            SUM(Purchasing.PurchaseOrderDetail.LineTotal)
        FROM Purchasing.PurchaseOrderDetail
        WHERE PurchaseOrderDetail.PurchaseOrderID = @id
    );
END;

PRINT Purchasing.GetOrdersSum(1);
GO
```



2. Создайте inline table-valued функцию, которая будет принимать в качестве входных параметров id заказчика (Sales.Customer.CustomerID) и количество строк, которые необходимо вывести. Функция должна возвращать определенное количество самых прибыльных заказов (по TotalDue) из Sales.SalesOrderHeader для каждого заказчика.

```
CREATE FUNCTION Sales.GetTopOrdersInfo
(
    @id INT,
    @count INT
)
RETURNS TABLE
AS
RETURN
(
    SELECT TOP(@count) *
    FROM Sales.SalesOrderHeader
    WHERE CustomerID = @id AND SubTotal IS NOT NULL
    ORDER BY TotalDue DESC
)
```

);

3. Вызовите функцию для каждого заказчика, применив оператор CROSS APPLY. Вызовите функцию для каждого заказчика, применив оператор OUTER APPLY.

```
SELECT * FROM Sales.Customer CROSS APPLY Sales.GetTopOrdersInfo(CustomerID, 1);
```

	CustomerID	Person...	Store...	T...	AccountNum...	rowguid	ModifiedDate	SalesOrde...	RevisionNum...	OrderDate	DueDate	ShipDate	Stat...	OnlineOrderF...	SalesOrderNum...	PurchaseOrderN...
1	1000	13531	NULL	9	AW00011000	477586B3-2977...	2008-10-13 11:15:07.263	43793	3	2005-07-22 00...	2005-08-...	2005-07-29 ...	5	1	SO43793	NULL
2	11001	5454	NULL	9	AW00011001	C32A8084-9077...	2008-10-13 11:15:07.263	43767	3	2005-07-18 00...	2005-07-...	2005-07-25 ...	5	1	SO43767	NULL
3	11002	11269	NULL	9	AW00011002	45715DD8-2F57...	2008-10-13 11:15:07.263	43736	3	2005-07-10 00...	2005-07-...	2005-07-17 ...	5	1	SO43736	NULL
4	11003	11358	NULL	9	AW00011003	7E240EFC-7EE6...	2008-10-13 11:15:07.263	43701	3	2005-07-01 00...	2005-07-...	2005-07-08 ...	5	1	SO43701	NULL
5	11004	11901	NULL	9	AW00011004	61CC84D0-2328...	2008-10-13 11:15:07.263	43810	3	2005-07-26 00...	2005-08-...	2005-08-02 ...	5	1	SO43810	NULL
6	11005	6990	NULL	9	AW00011005	C3057568-1851...	2008-10-13 11:15:07.263	43704	3	2005-07-02 00...	2005-07-...	2005-07-09 ...	5	1	SO43704	NULL
7	11006	6229	NULL	9	AW00011006	5FDD038A-9B9...	2008-10-13 11:15:07.263	43819	3	2005-07-27 00...	2005-08-...	2005-08-03 ...	5	1	SO43819	NULL
8	11007	3878	NULL	9	AW00011007	AF6B5314-8FEE...	2008-10-13 11:15:07.263	43743	3	2005-07-12 00...	2005-07-...	2005-07-19 ...	5	1	SO43743	NULL
9	11008	14673	NULL	9	AW00011008	D7E429F4-6E67...	2008-10-13 11:15:07.263	43826	3	2005-07-28 00...	2005-08-...	2005-08-04 ...	5	1	SO43826	NULL
10	11009	20229	NULL	9	AW00011009	AA4FC27F-B78C...	2008-10-13 11:15:07.263	43837	3	2005-07-30 00...	2005-08-...	2005-08-06 ...	5	1	SO43837	NULL
11	11010	6377	NULL	9	AW00011010	13EB4393-A5CC...	2008-10-13 11:15:07.263	43765	3	2005-07-17 00...	2005-07-...	2005-07-24 ...	5	1	SO43765	NULL
12	11011	18258	NULL	9	AW00011011	7E72D957-CA34...	2008-10-13 11:15:07.263	43705	3	2005-07-02 00...	2005-07-...	2005-07-09 ...	5	1	SO43705	NULL
13	11012	11663	NULL	1	AW00011012	2FC32AD9-A7E0...	2008-10-13 11:15:07.263	54508	3	2007-09-17 00...	2007-09-...	2007-09-24 ...	5	1	SO54508	NULL
14	11013	13873	NULL	1	AW00011013	02D51F2D-A991...	2008-10-13 11:15:07.263	74908	3	2008-07-24 00...	2008-08-...	2008-07-31 ...	5	1	SO74908	NULL
15	11014	2868	NULL	1	AW00011014	4Z72BEDC-8F4F...	2008-10-13 11:15:07.263	57222	3	2007-11-01 00...	2007-11-...	2007-11-08 ...	5	1	SO57222	NULL
16	11015	17083	NULL	4	AW00011015	E781BD74-EB87...	2008-10-13 11:15:07.263	51530	3	2007-07-29 00...	2007-08-...	2007-07-29 ...	5	1	SO51530	NULL

```
SELECT * FROM Sales.Customer OUTER APPLY Sales.GetTopOrdersInfo(CustomerID, 1);
```

	CustomerID	Person...	Store...	Territor...	AccountNum...	rowguid	ModifiedDate	SalesOrde...	RevisionNum...	OrderD...	DueD...	ShipD...	Status	OnlineOrderF...	SalesOrderNum...	PurchaseOrderNum...	Account ^
1	1	NULL	934	1	AW00000001	3F5AE95E-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
2	2	NULL	1028	1	AW00000002	E552F657-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
3	3	NULL	642	4	AW00000003	130774B1-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
4	4	NULL	932	4	AW00000004	FF862851-1...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
5	5	NULL	1026	4	AW00000005	83905BDC-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
6	6	NULL	644	4	AW00000006	1A92DF88-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
7	7	NULL	930	1	AW00000007	03E9273E-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
8	8	NULL	1024	5	AW00000008	801368B1-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
9	9	NULL	620	5	AW00000009	B900B87F-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
10	10	NULL	928	6	AW00000010	CDB6698D-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
11	11	NULL	1022	6	AW00000011	750F3495-5...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
12	12	NULL	622	6	AW00000012	947BCAF1-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
13	13	NULL	434	7	AW00000013	B0FA5854-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
14	14	NULL	1020	8	AW00000014	2F98BEDC-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
15	15	NULL	624	9	AW00000015	0340737B-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
16	16	NULL	432	10	AW00000016	C9381588-...	2008-10-13 11:15:07.263	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

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

```
CREATE FUNCTION Sales.GetTopOrdersInfo
(
    @id INT,
    @count INT
)
RETURNS @topOrders TABLE
(
    SalesOrderID INT NOT NULL,
    RevisionNumber TINYINT NOT NULL,
    OrderDate DATETIME NOT NULL,
    DueDate DATETIME NOT NULL,
    ShipDate DATETIME NULL,
    Status TINYINT NOT NULL,
    OnlineOrderFlag dbo.Flag NOT NULL,
    SalesOrderNumber NVARCHAR(23),
    PurchaseOrderNumber dbo.OrderNumber NULL,
    AccountNumber dbo.AccountNumber NULL,
    CustomerID INT NOT NULL,
    SalesPersonID INT NULL,
    TerritoryID INT NULL,
    BillToAddressID INT NOT NULL,
    ShipToAddressID INT NOT NULL,
```

```

        ShipMethodID INT NOT NULL,
        CreditCardID INT NULL,
        CreditCardApprovalCode VARCHAR(15) NULL,
        CurrencyRateID INT NULL,
        SubTotal MONEY NOT NULL ,
        TaxAmt MONEY NOT NULL,
        Freight MONEY NOT NULL,
        TotalDue INT NOT NULL,
        Comment NVARCHAR(128) NULL,
        rowguid UNIQUEIDENTIFIER ROWGUIDCOL NOT NULL,
        ModifiedDate DATETIME NOT NULL
    )
AS
BEGIN
    INSERT INTO @topOrders
    SELECT TOP(@count) *
    FROM Sales.SalesOrderHeader
    WHERE CustomerID = @id
    ORDER BY TotalDue DESC
RETURN
END;

```