

**Базы данных**  
**Лабораторная работа 5**  
**выполнил Орол Вадим, 751002,**  
**Вариант 6**

Создайте scalar-valued функцию, которая будет принимать в качестве входного параметра id заказа (Sales.SalesOrderHeader.SalesOrderID) и возвращать итоговую сумму для заказа (сумма по полям SubTotal, TaxAmt, Freight).

```
CREATE FUNCTION Sales.GetTotalOrderPrice(@SalesOrderID INT)
RETURNS MONEY
AS
BEGIN
    RETURN (
        SELECT (SUM(soh.SubTotal) + SUM(soh.TaxAmt) + SUM(soh.Freight))
        FROM Sales.SalesOrderHeader soh
        WHERE soh.SalesOrderID = @SalesOrderID);
END;
GO
```

Создайте inline table-valued функцию, которая будет принимать в качестве входного параметра id заказа на производство (Production.WorkOrder.WorkOrderID), а возвращать детали заказа из Production.WorkOrderRouting.

```
CREATE FUNCTION Production.GetOrderDetails(@WorkOrderID INT)
RETURNS TABLE AS RETURN (
    SELECT
        WorkOrderID,
        ProductID,
        OperationSequence,
        LocationID,
        ScheduledStartDate,
        ScheduledEndDate,
        ActualStartDate,
        ActualEndDate,
        ActualResourceHrs,
        PlannedCost,
        ActualCost,
        ModifiedDate
    FROM Production.WorkOrderRouting
    WHERE Production.WorkOrderRouting.WorkOrderID = @WorkOrderID
);
GO
```

Вызовите функцию для каждого заказа, применив оператор CROSS APPLY. Вызовите функцию для каждого заказа, применив оператор OUTER APPLY.

```
SELECT * FROM Production.WorkOrder CROSS APPLY Production.GetOrderDetails(WorkOrderID);
SELECT * FROM Production.WorkOrder OUTER APPLY Production.GetOrderDetails(WorkOrderID);
```

| Results Messages |             |           |          |            |             |                         |                         |                         |               |                         |             |           |                  |
|------------------|-------------|-----------|----------|------------|-------------|-------------------------|-------------------------|-------------------------|---------------|-------------------------|-------------|-----------|------------------|
|                  | WorkOrderID | ProductID | OrderQty | StockedQty | ScrappedQty | StartDate               | EndDate                 | DueDate                 | ScrapReasonID | ModifiedDate            | WorkOrderID | ProductID | OperationSequenc |
| 1                | 13          | 747       | 4        | 4          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 13          | 747       | 1                |
| 2                | 13          | 747       | 4        | 4          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 13          | 747       | 2                |
| 3                | 13          | 747       | 4        | 4          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 13          | 747       | 3                |
| 4                | 13          | 747       | 4        | 4          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 13          | 747       | 4                |
| 5                | 13          | 747       | 4        | 4          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 13          | 747       | 6                |
| 6                | 13          | 747       | 4        | 4          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 13          | 747       | 7                |
| 7                | 14          | 748       | 2        | 2          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 14          | 748       | 1                |
| 8                | 14          | 748       | 2        | 2          | 0           | 2011-06-03 00:00:00.000 | 2011-06-19 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-19 00:00:00.000 | 14          | 748       | 2                |
| <                |             |           |          |            |             |                         |                         |                         |               |                         |             |           |                  |
| >                |             |           |          |            |             |                         |                         |                         |               |                         |             |           |                  |
|                  | WorkOrderID | ProductID | OrderQty | StockedQty | ScrappedQty | StartDate               | EndDate                 | DueDate                 | ScrapReasonID | ModifiedDate            | WorkOrderID | ProductID | OperationSequenc |
| 1                | 1           | 722       | 8        | 8          | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |
| 2                | 2           | 725       | 15       | 15         | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |
| 3                | 3           | 726       | 9        | 9          | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |
| 4                | 4           | 729       | 16       | 16         | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |
| 5                | 5           | 730       | 14       | 14         | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |
| 6                | 6           | 732       | 16       | 16         | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |
| 7                | 7           | 733       | 4        | 4          | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |
| 8                | 8           | 738       | 19       | 19         | 0           | 2011-06-03 00:00:00.000 | 2011-06-13 00:00:00.000 | 2011-06-14 00:00:00.000 | NULL          | 2011-06-13 00:00:00.000 | NULL        | NULL      | NULL             |

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

```
CREATE FUNCTION Production.GetOrderDetails(@WorkOrderID int)
RETURNS @Details TABLE(
    WorkOrderID INT NOT NULL,
    ProductID INT NOT NULL,
    OperationSequence SMALLINT NOT NULL,
    LocationID SMALLINT NOT NULL,
    ScheduledStartDate DATETIME NOT NULL,
    ScheduledEndDate DATETIME NOT NULL,
    ActualStartDate DATETIME NULL,
    ActualEndDate DATETIME NULL,
    ActualResourceHrs DECIMAL(9, 4) NULL,
    PlannedCost MONEY NOT NULL,
    ActualCost MONEY NULL,
    ModifiedDate DATETIME NOT NULL
) AS
BEGIN
    INSERT INTO @Details
    SELECT
        WorkOrderID,
        ProductID,
        OperationSequence,
        LocationID,
        ScheduledStartDate,
        ScheduledEndDate,
        ActualStartDate,
        ActualEndDate,
        ActualResourceHrs,
        PlannedCost,
        ActualCost,
        ModifiedDate
    FROM Production.WorkOrderRouting
    WHERE Production.WorkOrderRouting.WorkOrderID = @WorkOrderID
    RETURN
END;
```