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CREATE FUNCTION ufn_TotalAmountByCustID(@CustomerID INT = 0)
RETURNS int
AS
BEGIN
    DECLARE @SumAmount INT

    SELECT @SumAmount = SUM(TotalAmount)
    FROM [Order]
    WHERE CustomerID = @CustomerID

    RETURN @SumAmount
END

SELECT *, dbo.ufn_TotalAmountByCustID(Id) AS 'Sum Of Total Amount'
FROM Customer

```

	Id	FirstName	LastName	City	Country	Phone	Sum Of Total Amount
1	1	Maria	Anders	Berlin	Germany	030-0074321	4596
2	2	Ana	Trujillo	México D.F.	Mexico	(5) 555-4729	1402
3	3	Antonio	Moreno	México D.F.	Mexico	(5) 555-3932	7515
4	4	Thomas	Hardy	London	UK	(171) 555-7788	13806
5	5	Christina	Berglund	Luleå	Sweden	0921-12 34 65	26968
6	6	Hanna	Moos	Mannheim	Germany	0621-08460	3239
7	7	Frédérique	Citeaux	Strasbourg	France	88.60.15.31	19088
8	8	Martín	Sommer	Madrid	Spain	(91) 555 22 82	5297
9	9	Laurence	Lebihan	Marseille	France	91.24.45.40	23850
10	10	Elizabeth	Lincoln	Tsawassen	Canada	(604) 555-4729	22607
11	11	Victoria	Ashworth	London	UK	(171) 555-1212	6089

```

CREATE FUNCTION ufn_ProductListByPrice(@Low INT, @High INT)
RETURNS TABLE
AS
RETURN (
    SELECT *
    FROM Product
    WHERE UnitPrice > @Low AND UnitPrice < @High
)

SELECT * FROM dbo.ufn_ProductListByPrice(20, 50)

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	Id	ProductName	SupplierId	UnitPrice	Package	IsDiscontinued
1	4	Chef Anton's Cajun Seasoning	2	22.00	48 - 6 oz jars	0
2	5	Chef Anton's Gumbo Mix	2	21.35	36 boxes	1
3	6	Grandma's Boysenberry Spread	3	25.00	12 - 8 oz jars	0
4	7	Uncle Bob's Organic Dried Pears	3	30.00	12 - 1 lb pkgs.	0
5	8	Northwoods Cranberry Sauce	3	40.00	12 - 12 oz jars	0
6	10	Ikura	4	31.00	12 - 200 ml jars	0
7	11	Queso Cabrales	5	21.00	1 kg pkg.	0
8	12	Queso Manchego La Pastora	5	38.00	10 - 500 g pkgs.	0
9	14	Tofu	6	23.25	40 - 100 g pkgs.	0
10	17	Alice Mutton	7	39.00	20 - 1 kg tins	1
11	22	Gustaf's Knäckebröd	9	21.00	24 - 500 g pkgs.	0

```

RETURNS @ResultTable TABLE (Id INT, OrderDate DateTime, OrderNumber NVARCHAR(MAX),
                             CustomerId INT, TotalAmount DECIMAL(12, 2))
AS
BEGIN
    SET @MonthFilter = LOWER(@MonthFilter)

    INSERT INTO @ResultTable
    SELECT Id, OrderDate, OrderNumber, CustomerId, TotalAmount
    FROM [Order]
    WHERE CHARINDEX(LTRIM(RTRIM(LOWER(DATENAME(month, OrderDate)))), @MonthFilter) > 0

    RETURN
END

SELECT * FROM ufn_OrderListByMonthFilter('July')

```

100 %

Results

Messages

	Id	OrderDate	OrderNumber	CustomerId	TotalAmount
1	1	2012-07-04 00:00:00.000	542378	85	440.00
2	2	2012-07-05 00:00:00.000	542379	79	1863.40
3	3	2012-07-08 00:00:00.000	542380	34	1813.00
4	4	2012-07-08 00:00:00.000	542381	84	670.80
5	5	2012-07-09 00:00:00.000	542382	76	3730.00
6	6	2012-07-10 00:00:00.000	542383	34	1444.80
7	7	2012-07-11 00:00:00.000	542384	14	625.20
8	8	2012-07-12 00:00:00.000	542385	68	2490.50
9	9	2012-07-15 00:00:00.000	542386	88	517.80
10	10	2012-07-16 00:00:00.000	542387	35	1119.90
11	11	2012-07-17 00:00:00.000	542388	20	2018.60

```

CREATE FUNCTION ufn_OrderListByMonthFilter2(@MonthFilter NVARCHAR(MAX))
RETURNS TABLE
AS
RETURN (
    SELECT *
    FROM [Order]
    WHERE CHARINDEX(LTRIM(RTRIM(LOWER(DATENAME(month, OrderDate)))), LOWER(@MonthFilter)) > 0
)

SET STATISTICS TIME ON
SELECT * FROM ufn_OrderListByMonthFilter('March, April, July, December')
SELECT * FROM ufn_OrderListByMonthFilter2('March, April, July, December')
SET STATISTICS TIME OFF

```

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Results    Messages

(342 row(s) affected)

SQL Server Execution Times:  
CPU time = 15 ms, elapsed time = 261 ms.

(342 row(s) affected)

SQL Server Execution Times:  
CPU time = 16 ms, elapsed time = 136 ms.

Cùng một chức năng nhưng cách viết hàm theo inline-statement (136 ms) cho kết quả chạy nhanh hơn là multi-statement (261 ms)

```

CREATE FUNCTION ufn_CheckItemAmount(@OrderId INT)
RETURNS BIT
AS
BEGIN
    DECLARE @Amount BIT
    IF (EXISTS(SELECT COUNT(Id)
                FROM OrderItem
                WHERE OrderId = @OrderId
                GROUP BY OrderId
                HAVING COUNT(Id) < 5))
        SET @Amount = 1
    ELSE
        SET @Amount = 0

    RETURN @Amount
END
GO

ALTER TABLE OrderItem WITH NOCHECK
ADD CONSTRAINT CheckItemAmount
CHECK (dbo.ufn_CheckItemAmount(OrderId) = 1)

INSERT INTO OrderItem VALUES(26, 14, 20, 10)

```

Msg 547, Level 16, State 0, Line 83  
The INSERT statement conflicted with the CHECK constraint "CheckItemAmount". The conflict occurred in c  
The statement has been terminated.