

```

1  --cau 1
2  CREATE FUNCTION ufn_NumOfTotalAmountByCustID(@CustomerID INT=0)
3  RETURNS float
4  AS
5  BEGIN
6      DECLARE @TotalAmount float
7
8      SELECT @TotalAmount = sum(TotalAmount)
9      FROM [Order]
10     where CustomerId = @CustomerID
11
12     RETURN @TotalAmount
13 END
14
15 SELECT *,dbo_ufn_NumOfTotalAmountByCustID(Id) as 'Total Amount'
16 FROM Customer
17

```

100 %

Results Messages

	Id	FirstName	LastName	City	Country	Phone	Total Amount
1	1	Maria	Anders	Berlin	Germany	030-0074321	4596.2
2	2	Ana	Trujillo	México D.F.	Mexico	(5) 555-4729	1402.95
3	3	Antonio	Moreno	México D.F.	Mexico	(5) 555-3932	7515.35
4	4	Thomas	Hardy	London	UK	(171) 555-7788	13806.5
5	5	Christina	Berglund	Luleå	Sweden	0921-12 34 65	26968.15
6	6	Hanna	Moos	Mannheim	Germany	0621-08460	3239.8
7	7	Frédérique	Citeaux	Strasbourg	France	88.60.15.31	19088
8	8	Martin	Sommer	Madrid	Spain	(91) 555 22 82	5297.8
9	9	Laurence	Lebihan	Marseille	France	91.24.45.40	23850.95
10	10	Elizabeth	Lincoln	Tsawassen	Canada	(604) 555-4729	22607.7
11	11	Victoria	Ashworth	London	UK	(171) 555-1212	6089.9
12	12	Patricio	Simpson	Buenos Aires	Argentina	(1) 135-5555	1814.8
13	13	Francisco	Chang	México D.F.	Mexico	(5) 555-3392	100.8
14	14	Yang	Wang	Bern	Switzerland	0452-076545	12886.3
15	15	Pedro	Afonso	Sao Paulo	Brazil	(11) 555-7647	3810.75
16	16	Elizabeth	Brown	London	UK	(171) 555-2282	1719.1
17	17	Sven	Ottlieb	Aachen	Germany	0241-039123	3763.21
18	18	Janine	Labrune	Nantes	France	40.67.88.88	1615.9
19	19	Ann	Devon	London	UK	(171) 555-0297	15033.66
20	20	Roland	Mendel	Graz	Austria	7675-3425	113236.68
21	21	Aria	Cruz	Sao Paulo	Brazil	(11) 555-9857	4438.9
22	22	Diego	Roel	Madrid	Spain	(91) 555 94 44	NULL
23	23	Martine	Rancé	Lille	France	20.16.10.16	11666.9
24	24	Maria	Larsson	Bräcke	Sweden	0695-34 67 21	32555.55
25	25	Peter	Franken	München	Germany	089-0877310	28722.71
26	26	Carine	Schmitt	Nantes	France	40.32.21.21	3172.16
27	27	Paolo	Accorti	Torino	Italy	011-4988260	1545.7

```

18 -- cau 3
19 CREATE FUNCTION ufn_OrderListByMonthFilter(@MonthFilter NVARCHAR(MAX))
20 RETURNS TABLE
21 AS
22 RETURN(
23     SELECT *
24     FROM [Order]
25     WHERE CHARINDEX(LTRIM(RTRIM(lower(datetimename(M,OrderDate))))), lower(@MonthFilter))>0
26 )
27
28
29 CREATE FUNCTION ufn_OrderListByMonthFilter2 (@MonthFilter NVARCHAR (MAX))
30 RETURNS @ResultTable TABLE (Id INT, OrderDate NVARCHAR (MAX), OrderNumber NVARCHAR (MAX),
31                               CustomerId int, TotalAmount float)
32 AS
33 BEGIN
34     SET @MonthFilter = LOWER (@MonthFilter);
35     INSERT INTO @ResultTable
36     SELECT Id, OrderDate, OrderNumber, CustomerId, TotalAmount
37     FROM [Order]
38     WHERE CHARINDEX(LTRIM(RTRIM(LOWER(datetimename(M,OrderDate))))), @MonthFilter)>0
39     RETURN
40 END
41
42 set statistics time on
43 select *from ufn_OrderListByMonthFilter('June;July;August;September')
44 select *from ufn_OrderListByMonthFilter2('June;July;August;September')
45 set statistics time off
46
47 -- in-line statement (10 ms) nhanh hon multi-statement (285 ms) khoang 250ms (co sai so)
48

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100 %

Results Messages

(203 row(s) affected)

SQL Server Execution Times:

CPU time = 0 ms, elapsed time = 10 ms.

(203 row(s) affected)

SQL Server Execution Times:

CPU time = 32 ms, elapsed time = 285 ms.

	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
12	12	2012-07-18 00:00:00.000	542389	13	100.80
13	13	2012-07-19 00:00:00.000	542390	56	1746.20

	Id	OrderDate	OrderNumber	CustomerId	TotalAmount
1	1	Jul 4 2012 12:00AM	542378	85	440
2	2	Jul 5 2012 12:00AM	542379	79	1863.4
3	3	Jul 8 2012 12:00AM	542380	34	1813
4	4	Jul 8 2012 12:00AM	542381	84	670.8
5	5	Jul 9 2012 12:00AM	542382	76	3730
6	6	Jul 10 2012 12:00...	542383	34	1444.8
7	7	Jul 11 2012 12:00...	542384	14	625.2
8	8	Jul 12 2012 12:00...	542385	68	2490.5
9	9	Jul 15 2012 12:00...	542386	88	517.8
10	1..	Jul 16 2012 12:00...	542387	35	1119.9
11	1..	Jul 17 2012 12:00...	542388	20	2018.6
12	1..	Jul 18 2012 12:00...	542389	13	100.8
13	1..	Jul 19 2012 12:00...	542390	56	1746.2
14	1..	Jul 19 2012 12:00...	542391	61	448
15	1..	Jul 22 2012 12:00...	542392	65	624.8
16	1..	Jul 23 2012 12:00...	542393	20	2464.8
17	1..	Jul 24 2012 12:00...	542394	24	724.5

```

49  -- cau 2
50  CREATE FUNCTION ufn_ProductListByUnitPrice(@pricebegin float, @priceend float)
51  RETURNS TABLE
52  AS
53  RETURN(
54      SELECT*
55      FROM Product
56      WHERE @pricebegin <= UnitPrice and UnitPrice <= @priceend
57
58  )
59
60  SELECT*FROM ufn_ProductlistByUnitPrice(16,20)
61  order by UnitPrice
62

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Results Messages

	Id	ProductName	SupplierId	UnitPrice	Package	IsDiscontinued
1	50	Valkoinen suklaa	23	16.25	12 - 100 g bars	0
2	66	Louisiana Hot Spiced Okra	2	17.00	24 - 8 oz jars	0
3	16	Pavlova	7	17.45	32 - 500 g boxes	0
4	35	Steeleye Stout	16	18.00	24 - 12 oz bottles	0
5	1	Chai	1	18.00	10 boxes x 20 bags	0
6	39	Chartreuse verte	18	18.00	750 cc per bottle	0
7	76	Lakkalikööri	23	18.00	500 ml	0
8	40	Boston Crab Meat	19	18.40	24 - 4 oz tins	0
9	2	Chang	1	19.00	24 - 12 oz bottles	0
10	36	Inlagd Sill	17	19.00	24 - 250 g jars	0
11	44	Gula Malacca	20	19.45	20 - 2 kg bags	0
12	57	Ravioli Angelo	26	19.50	24 - 250 g pkgs.	0
13	49	Maxilaku	23	20.00	24 - 50 g pkgs.	0

```

102  --cau 4
103  CREATE FUNCTION NumOfPro(@OrderId INT)
104  RETURNS BIT
105  AS
106  BEGIN
107      DECLARE @check BIT;
108      IF ((SELECT COUNT(*) FROM OrderItem WHERE OrderId = @OrderId)<=5)
109          SET @check = 1;
110      ELSE
111          SET @check = 0;
112      RETURN @check;
113  END
114  GO
115
116  ALTER TABLE OrderItem
117  ADD CONSTRAINT CheckNumOfPro1
118  CHECK (dbo.NumOfPro(26) =1) ;
119
120  INSERT INTO OrderItem VALUES(26, 30, 4.5, 15);
121

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Messages

Msg 547, Level 16, State 0, Line 119
The INSERT statement conflicted with the CHECK constraint "CheckNumOfPro1". The conflict occurred in database "Northwind", table "dbo.OrderItem".
The statement has been terminated.