

LAB # 8:

SQL SCALAR FUNCTIONS

Objective (aim) of the experiment

To practice and implement SQL Scalar Functions

Scoring Rubrics for Lab 8:

S#	Task	Weightage	Obtained	Signature and Date
1	Correctly using the 'UCase()' function	10 %		
2	Correctly using the ' LCase ()' function	10 %		
3	Correctly using the ' Lower()' function	10 %		
4	Correctly using the ' Mid()' function	15 %		
5	Correctly using the ' SubString()' function	15 %		
6	Correctly using the 'Len' function	10 %		
7	Correctly using the 'Round' function	10 %		
8	Correctly using the 'Format' function	20 %		
Total marks obtained in this lab		100%	%	

Equipment

used

<u>Sl. No.</u>	<u>Facilities Required</u>	<u>Quantity</u>
1	System	1
2	Operating System	Windows 7
3	DBMS	Sql Server Management Studio 2012

TASKS

The UCASE() Function

The UCASE() function converts the value of a field to uppercase. SQL UCASE() Syntax

```
SELECT UCASE(column_name) FROM table_name;
```

Syntax for SQL
Server

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```
SELECT UPPER(column_name) FROM table_name;
```

Demo Database

In this tutorial we will use the well-known Northwind sample database. Below is a selection from the "Customers" table:

Custo merID	CustomerName	ContactNa me	Address	City	PostalCode	Country
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	12209	Germany
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F.	05021	Mexico
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F.	05023	Mexico
4	Around the Horn	Thomas Hardy	120 Hanover Sq.	London	WA1 1DP	UK
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå	S-958 22	Sweden

SQL UCASE() Example

The following SQL statement selects the "CustomerName" and "City" columns from the "Customers" table, and converts the "CustomerName" column to uppercase:

Example

```
SELECT UCASE(CustomerName) AS  
Customer, City FROM Customers;
```

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The LCASE() Function

The LCASE() function converts the value of a field to

lowercase. SQL LCASE() Syntax

```
SELECT LCASE(column_name) FROM table_name;
```

Syntax for SQL

Server

```
SELECT LOWER(column_name) FROM table_name;
```

Demo Database

In this tutorial we will use the well-known Northwind sample

database. Below is a selection from the "Customers" table:

Custo merID	CustomerName	ContactNa me	Address	City	PostalCod e	Country
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	12209	Germany
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitució n 2222	México D.F.	05021	Mexico
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F.	05023	Mexico
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SQL LCASE()

Example

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The following SQL statement selects the "CustomerName" and "City" columns from the "Customers" table, and converts the "CustomerName" column to lowercase:

Example

```
SELECT LCASE(CustomerName) AS
```

```
Customer, City FROM Customers;
```

The MID() Function

The MID() function is used to extract characters from a text

field. SQL MID() Syntax

```
SELECT MID(column_name,start[,length]) AS some_name FROM table_name;
```

Parameter	Description
column_name	Required. The field to extract characters from
start	Required. Specifies the starting position (starts at 1)
length	Optional. The number of characters to return. If omitted, the MID() function returns the rest of the text

Note: The equivalent function for SQL Server is

SUBSTRING():

```
SELECT SUBSTRING(column_name,start,length) AS some_name FROM table_name;
```

Demo Database

In this tutorial we will use the well-known Northwind sample database. Below is a selection from the "Customers" table:

Custo merID	CustomerName	ContactName	Address	City	PostalCode	Country
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	12209	Germany
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F.	05021	Mexico
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F.	05023	Mexico
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SQL MID() Example

The following SQL statement selects the first four characters from the "City" column from the "Customers" table:

Example

```
SELECT MID(City,1,4) AS
```

```
ShortCity FROM Customers;
```

The LEN() Function

The LEN() function returns the length of the value in a text field. SQL LEN() Syntax

```
SELECT LEN(column_name) FROM table_name;
```

Demo
Database

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In this tutorial we will use the well-known Northwind sample database. Below is a selection from the "Customers" table:

Custo merID	CustomerName	ContactNa me	Address	City	PostalCod e	Country
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	12209	Germany
2	Ana Trujillo Emparedado s y helados	Ana Trujillo	Avda. de la Constitució n 2222	México D.F.	05021	Mexico
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SQL LEN() Example

The following SQL statement selects the "CustomerName" and the length of the values in the "Address" column from the "Customers" table:

Example

```
SELECT CustomerName,LEN(Address) as  
LengthOfAddress FROM Customers;
```

The ROUND() Function

The ROUND() function is used to round a numeric field to the number of decimals specified.

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Note: Some database systems do rounding differently than would typically be considered. Most people assume that the ROUND() function would round to the nearest whole number. However, many DBMS's do "Bankers Rounding". This means that the number being rounded is rounded to the nearest EVEN whole number. I.E. if the number being rounded was 11.3, the logical rounding to most people would be to 11. However, since 11 is odd, "Bankers Rounding" would round this number to 12 instead.

SQL ROUND() Syntax

```
SELECT ROUND(column_name,decimals) FROM table_name;
```

Parameter	Description
column_name	Required. The field to round.
Decimals	Required. Specifies the number of decimals to be returned.

Demo Database

In this tutorial we will use the well-known Northwind sample database. Below is a selection from the "Products" table:

ProductID	ProductName	SupplierID	CategoryID	Unit	Price
1	Chais	1	1	10 boxes x 20 bags	18
2	Chang	1	1	24 - 12 oz bottles	19
3	Aniseed Syrup	1	2	12 - 550 ml bottles	10
4	Chef Anton's Cajun Seasoning	2	2	48 - 6 oz jars	21.35
5	Chef Anton's Gumbo Mix	2	2	36 boxes	25

SQL FORMAT() Example

The following SQL statement selects the product name, and price for today (formatted like YYYY-MM-DD) from the "Products" table:

Example

```
SELECT ProductName, Price, FORMAT(Now(),'YYYY-MM-DD')
```

```
AS PerDate FROM Products;
```

EXPECTED DELIVERABLE

A spool file showing all executions of the above queries.