

Lab 5: System Functions Exercise

Purpose:

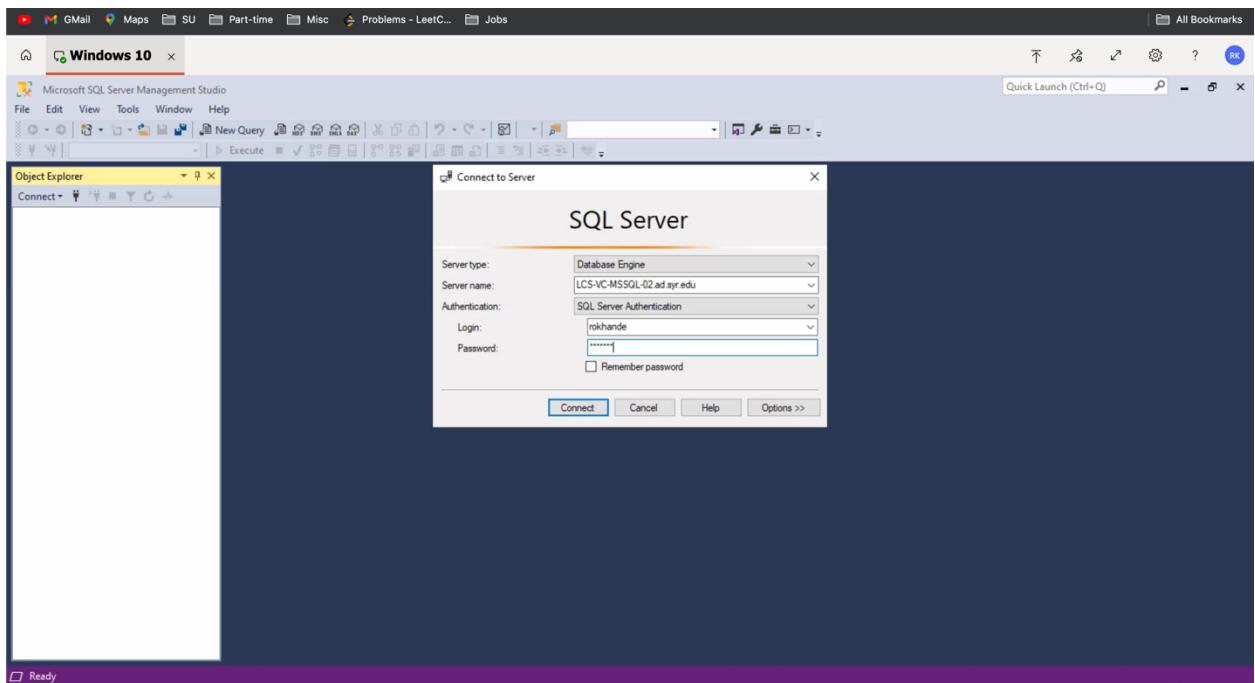
Do SQL selections against **Northwind** database.

Deliverables:

Multiple screenshots, showing your NETID, query code, last lines of datasets & time stamp, as described through the lab.

Scripts that you used to carry out the actions.

Submit electronic version to Blackboard.



1. List all employee names in the following format: LAST NAME, first name. (Uppercased last name, followed by comma and space, followed by lowercased first name).

```
SELECT CONCAT(UPPER(LastName), ', ', LOWER(FirstName)) AS FormattedName FROM Employees;
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows a connection to 'LCS-VC-MSSQL-02.ad.syr.edu' with the database set to 'Northwind'. The 'Results' tab in the center displays the output of a query:

```
use Northwind
SELECT CONCAT(UPPER(LastName), ' ', LOWER.FirstName) AS FormattedName FROM Employees;
```

The results table shows 10 rows of data:

FormattedName
DAVolio, nancy
FULLER, andrew
LEVERLING, janet
PEACOCK, margaret
BUCHANAN, steven
SUYAMA, michael
KING, robert
CALLAHAN, laura
DODSWORTH, anne
PALIDER, cat

At the bottom, a message indicates 'Query executed successfully.'

2. List all company names as well as the length of their name, from the Customers table. 2
Columns – Company Name, Text length.

SELECT CompanyName, LEN(CompanyName) AS TextLength from Customers

The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows a connection to 'LCS-VC-MSSQL-02.ad.syr.edu' with the database set to 'Northwind'. The 'Results' tab in the center displays the output of a query:

```
use Northwind
SELECT CONCAT(UPPER(LastName), ' ', LOWER.FirstName) AS FormattedName FROM Employees;
SELECT CompanyName, LEN(CompanyName) AS TextLength from Customers;
```

The results table shows 11 rows of data:

CompanyName	(No column name)
Alfreds Futterkiste	19
Ana Trujillo Emparedados y helados	34
Antonio Moreno Taqueria	23
Around the Horn	15
Berglunds snabbköp	18
Blauer See Delikatessen	23
Blondedel pâté et fil's	24
Bólido Comidas preparadas	25
Bon app!	8
Bottom-Dollar Markets	21
B's Beverages	13

At the bottom, a message indicates 'Query executed successfully.'

3. List all shipped dates as well as expected delivery dates from the Orders table WHERE SHIP DATE IS NOT NULL. (Expected delivery date is 5 days from the ship date).

```
SELECT ShippedDate,
DATEADD(day, 5, ShippedDate) AS ExpectedDeliveryDate
FROM Orders
WHERE ShippedDate IS NOT NULL;
```

The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar reads "Windows 10" and "SQLQuery1.sql - LCS-VC-MSSQL-02.ad.syr.edu.Northwind (rokhande (114)* - Microsoft SQL Server Management Studio". The main window has tabs for "Object Explorer" and "SQLQuery1.sql - [LC...nd (rokhande (114)*]". The code in the query editor is:

```
SELECT CONCAT(UPPER(LastName), ' ', LOWER.FirstName) AS FormattedName FROM Employees;
SELECT CompanyName, LEN(CompanyName) AS TextLength FROM Customers;
SELECT ShippedDate,
DATEADD(day, 5, ShippedDate) AS ExpectedDeliveryDate
FROM Orders
WHERE ShippedDate IS NOT NULL;
```

The results pane shows a table with two columns: "ShippedDate" and "ExpectedDeliveryDate". The data consists of 11 rows, each representing an order from July 1996. The "ShippedDate" column shows dates from 1996-07-10 to 1996-07-23. The "ExpectedDeliveryDate" column shows dates from 1996-07-15 to 1996-07-28. A message at the bottom of the results pane says "Query executed successfully."

4. List all orders from the Orders table that were shipped in 1998.

```
SELECT *
FROM Orders
WHERE YEAR(ShippedDate) = 1998;
```

```

use Northwind

SELECT CONCAT(UPPER(LastName), ' ', LOWER.FirstName) AS FormattedName FROM Employees;

SELECT CompanyName, LEN(CompanyName) AS TextLength FROM Customers

SELECT ShippedDate,
       DATEADD(day, 5, ShippedDate) AS ExpectedDeliveryDate
FROM Orders
WHERE ShippedDate IS NOT NULL;

SELECT *
FROM Orders
WHERE YEAR(ShippedDate) = 1998;

```

OrderID	CustomerID	EmployeeID	OrderDate	RequiredDate	ShippedDate	ShipVia	Freight	ShipName	ShipAddress	ShipCity	Shi	
1	10771	ERNSH	9	1997-12-10 00:00:00.000	1998-01-07 00:00:00.000	1998-01-02 00:00:00.000	2	11.19	Ernst Handel	Kirchgasse 6	Graz	NL
2	10777	GOURL	7	1997-12-15 00:00:00.000	1997-12-29 00:00:00.000	1998-01-21 00:00:00.000	2	3.01	Gourmet Lanchonetes	Av. Brasil, 442	Campinas	SP
3	10779	MORGK	3	1997-12-16 00:00:00.000	1998-01-13 00:00:00.000	1998-01-14 00:00:00.000	2	58.13	Morgenstern Gesundheit	Heestr. 22	Lepzig	NL
4	10788	QUICK	1	1997-12-22 00:00:00.000	1998-01-19 00:00:00.000	1998-01-19 00:00:00.000	2	42.70	QUICK-Stop	Tauchentstrasse 10	Cunewalde	NL
5	10791	FRANK	6	1997-12-23 00:00:00.000	1998-01-20 00:00:00.000	1998-01-01 00:00:00.000	2	16.85	Frankenversand	Berliner Platz 43	Munchen	NL
6	10793	AROUT	3	1997-12-24 00:00:00.000	1998-01-21 00:00:00.000	1998-01-08 00:00:00.000	3	4.52	Around the Horn	Brook Farm Stratford St. Mary	Colchester	Es
7	10794	QUEDA	6	1997-12-24 00:00:00.000	1998-01-21 00:00:00.000	1998-01-02 00:00:00.000	1	21.49	Que Delicia	Rua da Panificadora, 12	Rio de Janeiro	RJ
8	10795	ERNSH	8	1997-12-24 00:00:00.000	1998-01-21 00:00:00.000	1998-01-20 00:00:00.000	2	126.66	Ernst Handel	Kirchgasse 6	Graz	NL
9	10796	HILAA	3	1997-12-25 00:00:00.000	1998-01-22 00:00:00.000	1998-01-14 00:00:00.000	1	26.52	HILARION-Abastos	Camino 22 con Ave. Carlos Soublette #8-35	San Cristobal	Té
10	10797	DRACD	7	1997-12-25 00:00:00.000	1998-01-22 00:00:00.000	1998-01-05 00:00:00.000	2	33.35	Drachenblut Delikatessen	Walserweg 21	Aachen	NL

Query executed successfully.

5. List all orders placed on January 1st 1997, from the Orders table.

SELECT * FROM Orders

WHERE YEAR(OrderDate) = 1997

AND MONTH(OrderDate) = 1 AND DAY(OrderDate) = 1;

```

SELECT ShippedDate,
       DATEADD(day, 5, ShippedDate) AS ExpectedDeliveryDate
  FROM Orders
 WHERE ShippedDate IS NOT NULL;

SELECT *
  FROM Orders
 WHERE YEAR(ShippedDate) = 1998;

SELECT *
  FROM Orders
 WHERE YEAR(OrderDate) = 1997
   AND MONTH(OrderDate) = 1 AND DAY(OrderDate) = 1;

```

OrderID	CustomerID	EmployeeID	OrderDate	RequiredDate	ShippedDate	ShipVia	Freight	ShipName	ShipAddress	ShipCity	ShipRegion	ShipPostalCode
1	EASTC	1	1997-01-01 00:00:00.000	1997-01-29 00:00:00.000	1997-01-16 00:00:00.000	3	83.93	Eastern Connection	35 King George	London	NULL	WX3 6FW
2	RATTIC	1	1997-01-01 00:00:00.000	1997-01-29 00:00:00.000	1997-01-10 00:00:00.000	1	12.51	Rattlesnake Canyon Grocery	2817 Milton Dr.	Albuquerque	NM	87110

Query executed successfully.

6. Find the oldest / youngest employee's date of birth from Employee table.

```

SELECT MIN(BirthDate) AS OldestEmployeeBirthDate, MAX(BirthDate) AS YoungestEmployeeBirthDate
FROM Employees;

```

The screenshot shows the Microsoft SQL Server Management Studio (SSMS) interface. The title bar reads "Windows 10" and "SQLQuery1.sql - LCS-VC-MSSQL-02.ad.syr.edu.Northwind (rokhande (114)* - Microsoft SQL Server Management Studio". The main window has two panes: Object Explorer on the left and a query results pane on the right. The Object Explorer shows the database structure, including the Northwind database. The query results pane displays the output of a SQL query:

```
SELECT ShippedDate,
       DATEADD(day, 5, ShippedDate) AS ExpectedDeliveryDate
  FROM Orders
 WHERE ShippedDate IS NOT NULL;

SELECT *
  FROM Orders
 WHERE YEAR(ShippedDate) = 1998;

SELECT MIN(BirthDate) AS OldestEmployeeBirthDate, MAX(BirthDate) AS YoungestEmployeeBirthDate
  FROM Employees;
```

The results table shows one row of data:

Oldest Employee Birth Date	Youngest Employee Birth Date
1937-09-19 00:00:00.000	2009-07-15 00:00:00.000

At the bottom of the results pane, a message says "Query executed successfully." and the status bar indicates "Ln 16 Col 1 Ch 1 INS".

7. Calculate the average freight (rounded up to cent) for each Ship City from Orders table.

```
SELECT ShipCity,
```

```
CEILING(AVG(Freight) * 100) / 100 AS AverageFreight
```

```
FROM Orders GROUP BY ShipCity;
```

```

SELECT ShippedDate,
       DATEADD(day, 5, ShippedDate) AS ExpectedDeliveryDate
  FROM Orders
 WHERE ShippedDate IS NOT NULL;

SELECT *
  FROM Orders
 WHERE YEAR(ShippedDate) = 1998;

SELECT MIN(BirthDate) AS OldestEmployeeBirthDate, MAX(BirthDate) AS YoungestEmployeeBirthDate
  FROM Employees;

SELECT ShipCity,
       CEILING(AVG(Freight) * 100) / 100 AS AverageFreight
  FROM Orders GROUP BY ShipCity;

```

ShipCity	AverageFreight
Aachen	51.01
Albuquerque	118.57
Anchorage	98.36
Aarhus	85.13
Barcelona	7.60
Banquisimeto	52.46
Bergamo	46.98
Berlin	37.60
Bern	45.91
Boise	215.61
Bräcke	88.32

Query executed successfully.

8. Count how many unique orders from [Order Details] table.

```
SELECT COUNT(DISTINCT OrderID) AS UniqueOrders FROM [Order Details];
```

```
SELECT COUNT(DISTINCT OrderID) AS UniqueOrders FROM [Order Details];
```

9. Get dates of First and Last orders placed (Orders table)

SELECT MIN(OrderDate) AS FirstOrderDate, MAX(OrderDate) AS LastOrderDate FROM Orders;

