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**Course:** Foundations Of Database & SQL Programming

**Assignment 7**



**SQL UDF (User-defined functions)** would be used to extend the system to perform operations that are not available through the built in system defined functions.

To create a UDF, use the ‘create function’ statement. To delete a persistent user-defined function, use the ‘Drop Function’ statement. Temporary UDFs expire as soon as the query finished. The ‘Drop Function’ statement is only supported for temporary UDFs in multi-statement queries and procedures.



A screenshot of a computer code

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Copy from (*User-defined Functions*, n.d.)

**Scalar Functions** are based on user input, these too returns single value.

UCASE () It converts the value of a field to uppercase.

SELECT UCASE (column\_name) FROM table\_name;

LCASE () It converts the value of a field to lowercase.

SELECT LCASE (column\_name) FROM table\_name;

MID () extracts texts from the text field

SELECT MID (column\_name, start, length) AS some\_name FROM table\_name;

SELECT MID (NAME,1,4) FROM students;

LEN () Returns the length of the value in a text field.

SELECT LENGTH (column\_name) FROM table\_name;

ROUND () To round a numeric field to the number of decimals specified.

SELECT ROUND (column\_name, decimals) FROM table\_name;

SELECT ROUND (MARKS, 0) FROM table\_name;

NOW () Returns the current system date and time.

SELECT NOW() FROM table\_name;

SELECT NAME, NOW() AS DateTime FROM Students;

FORMAT () Functions is used to format how a field is to be displayed.

SELECT FORMAT (column\_name, format) FROM table\_name;

**Inline** it is a used defined function that returns a table as its result. It means that this function can return a result set that can be used in a query just like a table.

An Inline Function is defined using the CREATE FUNCTION statement wit the RETURNS TABLE clause. The function can have one or more input parameters, and it must use a RETURN statement to return a table variable that defines the structure of the result set.

CREATE FUNCTION []

RETURN TABLE

AS

RETURN (

SELECT column1, column2…

FROM table\_name

WHERE condition )

ALTER FUNCTION []

RETURN TABLE

AS

RETURN (

SELECT column1, column2,…

FROM table\_name

WHERE condition )

**Multi-Statement Function** returns a table that can be defined by the user as output that can contain only one statement or more statement. It can be modified or aggregate the output table in the function body.

This function can be different from the *inline table* by declaring the return table structure, starts and ends with BEGIN/END, the function body can involve one or more than one statement, and must use to RETURN operator.

A screen shot of a computer code

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Copied from (GfG, 2023)

*Reference*

*User-defined functions*. (n.d.). Google Cloud. <https://cloud.google.com/bigquery/docs/user-defined-functions#:~:text=bookmark_border,SQL%20expression%20or%20JavaScript%20code>.

GfG. (2023, March 3). *Inline Table valued function in SQL Server*. GeeksforGeeks. <https://www.geeksforgeeks.org/inline-table-valued-function-in-sql-server/>