FUNCTIONS
(Aggregate Functions and Scalar Functions)

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Outline

SQL Functions

Inbuilt fuctions for doing operations on data in SQL. These fuctions can be categorised into two main categories:

- Aggregate Function
- Scalar Function

Aggregate Function

- **A function where the values of multiple rows are grouped together as input on certain criteria to form a single value of more significant meaning.**

- **Takes multiple values as input and a single value is returned as output.**

Aggregate Function

Seven aggregate functions.

- AVG()
- COUNT()
- FIRST()
- LAST()
- MAX()
- MIN()
- SUM()

Aggregate Function

Employee Id	Name	Salary
1	A	2000
2	B	3000
3	C	5000

Select MAX(salary) from Employee

Aggregate Function

- **Select MIN(salary) from Employee**
- gives minimum salary i.e. 2000
- **Select AVG(Salary), SUM(Salary) from Employee**
- will return 3333.33 and 10000 as output.
- **Select COUNT(*) from Employee**
- will return the number of tuples in Employee which is 3

Aggregate Function

- **Select FIRST(Name) from Employee**
- Returns the first name in the column NAME i.e. A
- **Select LAST(Salary) from Employee**
- will return the last entry in the column Salary i.e. 5000.

Scalar Functions

- **UCASE()**
- **LCASE()**
- **MID()**
- **LEN()**
- **ROUND()**
- **NOW()**

Scalar Functions

- **UCASE()** : It converts the value of a field to uppercase.
- Syntax : **SELECT UCASE(column_name) FROM table_name;**
- **LCASE():**
- Syntax : **SELECT LCASE(column_name) FROM table_name;**
- **MID() :** The MID() function extracts texts from the text field.
- Syntax : **SELECT MID(column_name, start, length) AS some_name FROM table_name;**
- Where length is optional and start signifies start position.

Scalar Functions

- **ROUND():** The ROUND() function is used to round a numeric fields to the number of decimals specified.
- Syntax : **SELECT ROUND(column_name,decimals) FROM table_name;**
- decimals- number of decimals to be fetched

Scalar Functions

- **NOW():** The NOW() function returns the current system date and time.
- Syntax : **SELECT NOW() FROM table_name;**