CONCAT() function

To join two or more strings into one, you use the CONCAT() function with the following syntax:

```
CONCAT ( input_string1, input_string2 [, input_stringN ] );
```

The CONCAT() takes two up to 255 input strings and joins them into one.

It requires at least two input strings. If you pass one input string, the CONCAT() function will raise an error.

The CONCAT() function also converts NULL into an empty string with the type VARCHAR(1).

```
SELECT CONCAT('amit', 'singh', 'chowdhery') AS result ;

SELECT CONCAT(19, 10, 5.60) AS ConcatenatedNumber ;

SELECT CONCAT(‘amit’, 10, 5.60) AS ConcatenatedNumber ;
```

If any of the input string is NULL then it returns NULL

```
SELECT CONCAT('amit', 'singh', 'chowdhery', NULL) AS
ConcatenatedString ;
```

UPPER() FUNCTION

SELECT UPPER("MySQL is FUN!") AS UpperText;

SUBSTRING() FUNCTION

It extracts a string with a specified length, starting from a given location in an input string. The purpose of substring is to return a specific portion of the string.

Parameters :

This method accepts three-parameter as mentioned above and described below.

- **string –**

  Input String from which to extract.

- **start –**
  The starting position. If it is a positive number, this function extracts from the beginning of the string. If it is a negative number, this function extracts from the end of the string.
- **length –**
  It is optional. It identifies the number of characters to extract. If it is not given The whole string is returned from the starting position.

```
SELECT SUBSTRING("ScalerDSML", 3) AS Sub_String;
SELECT SUBSTRING("ScalerDSML", 3, 8) AS Sub_String;
SELECT SUBSTRING("ScalerDSML", -3 ) AS Sub_String;
```

Capitalize first letter of string

```
SELECT
  CONCAT(CONCAT(UPPER(SUBSTRING(customer_first_name, 1, 1)),
               LOWER(SUBSTRING(customer_first_name, 2))),
       '',
       customer_last_name)
FROM
  customer;
```

OR AND AND Operator

The `WHERE` clause can be combined with `AND`, `OR`, and `NOT` operators.

The `AND` and `OR` operators are used to filter records based on more than one condition:

- The `AND` operator displays a record if all the conditions separated by `AND` are TRUE.
- The `OR` operator displays a record if any of the conditions separated by `OR` is TRUE.

The `NOT` operator displays a record if the condition(s) is NOT TRUE.

Where Clause

WHERE keyword is used for fetching **filtered data** in a result set.

- It is used to fetch data according to a particular criteria.
- WHERE keyword can also be used to filter data by matching patterns.

List of operators that can be used with where clause:

operator	description
>	Greater Than
>=	Greater than or Equal to
<	Less Than
<=	Less than or Equal to
=	Equal to
<>	Not Equal to
BETWEEN	In an inclusive Range
LIKE	Search for a pattern
IN	To specify multiple possible values for a column

Between Clause

The `BETWEEN` operator selects values within a given range. The values can be numbers, text, or dates.

The `BETWEEN` operator is inclusive: begin and end values are included.

NOT BETWEEN CLAUSE

To display the products outside the range of the previous example, use `NOT BETWEEN`:

LIKE operator

Sr.No.	Statement & Description
1	select * from customer where customer_first_name like 'bo%' Finds any values that start with Bo.
2	select * from customer where customer_first_name like '%bo%' Finds any values that have **bo** in any position.

3	select * from customer where customer_first_name like '_ob' Finds any values that have **ob** in the second and third positions.
5	select * from customer where customer_last_name like '%an' Finds any values that end with **an**.

IN CLAUSE

The `IN` operator allows you to specify multiple values in a `WHERE` clause.

The `IN` operator is a shorthand for multiple `OR` conditions.

NULL vs EMPTY

Lets look at the difference between Null and Empty as given below:

1. Null can be a **unknown** value or an **absence** of a value, where as an Empty or Blank string is a value, but is just empty.
2. Null can be used for string , Integer ,date , or any fields in a database where as Empty is used for string fields.
3. As NULL is a unknown value, so a field having NULL is not allocated any memory, where as empty fields have empty value with allocated space in memory.