# SELECT & WHERE CLAUSE

Creating a classroom dataset for practice

```
CREATE TABLE classroom
(
    rollno int8 PRIMARY KEY,
    name varchar (50) NOT NULL,
    house char (12) NOT NULL,
    grade char (1)
);
INSERT INTO classroom
(rollno, name, house, grade)
VALUES
```

(1, 'Sam', 'Akash', 'B'),
(2, 'Ram', 'Agni', 'A'),
(3, 'Shyam', 'Jal', 'B'),
(4, 'Sundar', 'Agni', 'A'),
(5, 'Ram', 'Vayu', 'B');

## SELECT Statement

The SELECT statement is used to select data from a database.

Syntax:

```
SELECT column_name FROM table_name;
```

To select all the fields available in the table

Syntax:

```
SELECT * FROM table_name;
```

To select distinct/unique fields available in the table

Syntax:

```
SELECT DISTINCT column_name FROM table_name
```

## WHERE Clause

The WHERE clause is used to filter records. It is used to extract only those records that fulfill a specified condition.

Syntax

```
SELECT column_name FROM table_name
WHERE conditions;
```

Example

```
SELECT name FROM classroom
WHERE grade = 'A';
```

## Operators In SQL

The SQL reserved words and characters are called operators, which are used with a WHERE clause in a SQL query.

Most used operators:

① Arithmetic operators: Arithmetic operations on numeric values. Example: Addition (+), Substraction(-), Multiplication (*), Division (/), Modulus (%).

② Comparison operators: compare two different data of SQL table. Example: Equal (=), Not Equal (!=), Greater Than (>), Greater Than Equals to (>=)

③ Logical operators: perform the Boolean operations Example: ALL, IN, BETWEEN, LIKE, AND, OR, NOT, ANY.

④ Bitwise operators: perform the bit operations on the integer values. Example: Bitwise AND (&), Bitwise OR (|)

## LIMIT Clause

The LIMIT clause is used to set an upper limit on the number of tuples retrieved by SQL.

Example: below code will return 5 rows of data.

```
SELECT column_name FROM table_name
LIMIT 5;
```

## ORDER BY Clause

The ORDER BY is used to sort the result-set in ascending (ASC) or descending (DESC) order.

Example: below code will sort the output data by column name in ascending order.

```
SELECT column_name FROM table_name
ORDER BY column_name ASC;
```

## Import to CSV file

step1 - Go to your database then table and select 'table Data Import Wizad' and click.

step2 - select your file path and click next, next then finish.

## String function

Functions In SQL → Functions in SQL are the database objects that contains a set of SQL statement to perform a specific task. A function accepts input parameters, perform actions, and then return the result.

### Types of Functions:

(1) System Defined Function: these are built-in functions. Example: rand(), round(), upper(), lower(), count(), sum(), avg(), max(), etc.

(2) User-Defined Function: Once you define a function, you can call it in the same way as the built-in functions

### Most Used string Functions:

String functions are used to perform an operation on input string and return an output string.

UPPER() converts the value of a field to uppercase

LOWER() converts the value of a field to lowercase

LENGTH() returns the length of the value in a text field

SUBSTRING() extracts a substring from a string.

NOW() returns the current system date and time.

FORMAT() used to set the format of a field.

CONCAT() – adds two or more strings together.

REPLACE() – Replaces all occurrences of a substring within a new string, with a new substring

TRIM() – removes leading and trailing spaces (or other specified characters) from a string.