**SQL (STRUCRURED QUERY LANGUAGE)**

SQL (Structured Query Language) is a powerful and standard query language for relational database systems.

We use SQL to perform CRUD (Create, Read, Update, Delete) operations on databases along with other various operations.

## SQL lets you access and manipulate database**s**

## **What Can SQL do?**

* SQL can execute queries against a database
* SQL can retrieve data from a database
* SQL can insert records in a database
* SQL can update records in a database
* SQL can delete records from a database
* SQL can create new databases
* SQL can create new tables in a database
* SQL can create stored procedures in a database
* SQL can create views in a database
* SQL can set permissions on tables, procedures, and views

**SQL Commands**

* **SELECT** - extracts data from a database
* **UPDATE** - updates data in a database
* **DELETE**- deletes data from a database
* **INSERT INTO** - inserts new data into a database
* **CREATE DATABASE** - creates a new database
* **ALTER DATABASE** - modifies a database
* **CREATE TABLE** - creates a new table
* **ALTER TABLE** - modifies a table
* **DROP TABLE** - deletes a table
* **CREATE INDEX** - creates an index (search key)
* **DROP INDEX** - deletes an index

**Applications of SQL**

As mentioned before, SQL is one of the most widely used query language over the databases.

* Allows users to access data in the relational database management systems.
* Allows users to describe the data.
* Allows users to define the data in a database and manipulate that data.
* Allows to embed within other languages using SQL modules, libraries & pre-compilers.
* Allows users to create and drop databases and tables.
* Allows users to create view, stored procedure, functions in a database.
* Allows users to set permissions on tables, procedures and views.

**Syntax in SQL**

SQL SELECT Statement

SELECT column1, column2....columnN

FROM table\_name;

SQL DISTINCT Clause

SELECT DISTINCT column1, column2....columnN

FROM table\_name;

SQL WHERE Clause

SELECT column1, column2....columnN

FROM table\_name

WHERE CONDITION;

SQL AND/OR Clause

SELECT column1, column2....columnN

FROM table\_name

WHERE CONDITION-1 {AND|OR} CONDITION-2;

SQL IN Clause

SELECT column1, column2....columnN

FROM table\_name

WHERE column\_name IN (val-1, val-2,...val-N);

SQL BETWEEN Clause

SELECT column1, column2....columnN

FROM table\_name

WHERE column\_name BETWEEN val-1 AND val-2;

SQL LIKE Clause

SELECT column1, column2....columnN

FROM table\_name

WHERE column\_name LIKE { PATTERN };

QL CREATE INDEX Statement

CREATE UNIQUE INDEX index\_name

ON table\_name ( column1, column2,...columnN);

SQL DROP INDEX Statement

ALTER TABLE table\_name

DROP INDEX index\_name;

SQL DESC Statement

DESC table\_name;

SQL TRUNCATE TABLE Statement

TRUNCATE TABLE table\_name;

SQL ALTER TABLE Statement

ALTER TABLE table\_name {ADD|DROP|MODIFY} column\_name {data\_ype};

SQL ALTER TABLE Statement (Rename)

ALTER TABLE table\_name RENAME TO new\_table\_name;

SQL INSERT INTO Statement

INSERT INTO table\_name( column1, column2....columnN)

VALUES ( value1, value2....valueN);