**SQL:**

SQL is a programming language that you need to execute commands that let you create and manipulate a relational database.

**Types of programming:**

* Procedural (imperative) – C, JAVA

“HOW”, that means-

1. Please open the door
2. Go outside
3. Take the bucket I forgot there
4. Bring it back to me

* Object-oriented
* Declarative (non-procedural) – SQL

“WHAT”

* Functional

**Main Components of SQL’s syntax:**

* Data Definition Language (DDL) – Creation of data
* Data Manipulation Language (DML) - Manipulation of data
* Data Control Language (DCL) - Assignment & Removal of access
* Transaction Control Language (TCL) - Saving & restore changes in DB

**Data Definition Language (DDL):**

A set of statements that allow the user to define or modify data structures and objects, such as tables.

Statements like:

1. CREATE – Create a table
2. ALTER - ADD, REMOVE, RENAME
3. DROP – To delete tables
4. TRUNCATE – Instead of deleting table it’ll just remove the content of the table.

**Keywords (or Reserved Words):**

Objects or databases cannot have names that coincide with SQL keywords.

Ex: CREATE, ALTER, ADD, DROP etc..

**Data Manipulation Language (DML):**

A set of statements allows us to manipulate the data in the tables of a database.

Statements like:

1. SELECT
2. INSERT – goes with INTO.., VALUES..
3. UPDATE
4. DELETE

**Data Control Language (DCL):**

Statements like:

1. GRANT
2. REVOKE

Database administrators: People who have complete rights to a database-they can grant or revoke access to users.

**Transaction Control Language (TCL):**

Not every change you make to a database is saved automatically.

Statements like:

1. COMMIT –

Related to INSERT, DELETE, UPDATE.

Will save the changes you’ve made.

Will let other users have access to modified version of the database.

Like we have to add COMMIT statement at end of update statement.

1. ROLLBACK – It’ll revert to the last committed state and all the changes made in the meantime will be removed.