**What is SQL?**

Structured Query Language (SQL) is a database language that is used for extracting, organizing, managing, and manipulating data stored in relational databases.

**Examples:**

For better understanding of SQL programming language let’s take an example.

Let’s create a table of employee having employee data:

CREATE TABLE Employee

(ID INTEGER PRIMARY KEY,

Name VARCHAR (60),

Salary INT);

Now, populate the table Employee with data:

INSERT INTO Employee VALUES (1, ‘Ayesha’, 10000);

INSERT INTO Employee VALUES (2, ‘Azan’, 18000);

Now, retrieve the stored data from the database:

Select \* FROM Employee;

**How does SQL work?**

When an SQL query is written and run, it is processed by the ‘query language processor’. The SQL server then compiles the processed query in three stages:

1. Parsing:  Cross-checks the syntax of the query.

2. Binding:  Verifying query semantics before executing it.

3. Optimization: Implement an efficient query execution plan

**What is DDL?**

DDL stands for Data Definition Language(DDL) is a type of SQL command used to define the [components of databases](https://www.scaler.com/topics/components-of-dbms/) in DBMS. DDL commands are used for schema definition and to create or modify the database objects like tables, and [views](https://www.scaler.com/topics/views-in-dbms/).

Let’s understand some of the common DDL commands with the help of example.

**CREATE**: It is used for table creation.

CREATE TABLE Student

(RegNo INTEGER PRIMARY KEY,

Name VARCHAR (60));

**ALTER**: It used to change the structure of an existing database table like adding a new column, and removing any previous column

ALTER TABLE Students MODIFY Name VARCHAR;

**TRUNCATE**:  It is used to delete all records from the table while keeping its structure intact.

TRUNCATE TABLE Student;

**DROP**:  It is used to delete an existing table completely from the database.

DROP TABLE Student

**What is DML?**

DML is abbreviated as Data Manipulation Language. It deals with manipulation of data records stored within the database tables not change database objects and its structure. The commonly known DML commands are INSERT, UPDATE and DELETE.  It is explicitly used to make changes to the database, through CRUD operations like create, read, update, and delete data.

**Examples of DML Commands:**

**INSERT:** command to add value to the database

INSERT INTO Employee VALUES (2, ‘Azan’, 18000);

**UPDATE**: to change existing data with recent value within the database

UPDATE Employee

SET Name = ‘Arman’

WHERE ID = 1;

**DELETE**: command to delete the records from the database.

DELETE FROM Employee WHERE ID =1;

**What is DQL?**

DQLs stands for Data Query Languages, are used for making queries in information systems and databases for performing certain functionalities.

**Example:**

SELECT: retrieve data from the database

Select \* from Employee