**Why SQL?**

SQL is widely popular because it offers the following advantages:

* Allows users to communicate i.e, access and manipulate the database
* Allows users to retrieve data from a database
* Allows users to create, update, modify and delete the database

SQL is a language for defining the structure of a database.

**SQL Terms**

**Data**

Data is defined as facts or figures, or information that’s stored in or used by a computer

**Database**

A database is an organized collection of data/information so that it can be easily accessed, managed, and updated.

**SQL Data Types**

1. Numeric – bit, tinyint, smallint, int, biginit, decimal, numeric, float, real
2. Character/String – Char, Varchar, Text
3. Date/Time – Date, Time, Datetime, Timestamp, Year
4. Miscellaneous – JSON, XML

**SQL Constraints**

|  |  |
| --- | --- |
| **Constraints** | **Description** |
| **Not Null** | **Ensure that a column does not have a NULL value** |
| **Default** | **Provide a default value for a column when none is specified** |
| **Unique** | **Ensure that all the values in a column are different** |
| **Primary** | **Identifies each row/record in a database table uniquely** |
| **Check** | **Ensures that all values in a column satisfy certain conditions** |
| **Index** | **Creates and retrieves data from the database very quickly** |

**SQL Command Groups**

* **DDL** (Data Definition Language): the creation of objects
* **DML** (Data Manipulation Language): manipulation of data
* **DCL** (Data Control Language): assignment and removal of permissions
* **TCL** (Transaction Control Language): saving and restoring changes to a database

**DDL – Data Definition Language**

|  |  |
| --- | --- |
| **Command** | **Description** |
| **Create** | **Creates objects in the database/databases objects** |
| **Alter** | **Alters the structures of the database/ database objects** |
| **Drop** | **Deletes objects from the database** |
| **Truncate** | **Removes all records from a table permanently** |
| **Rename** | **Renames an object.** |

**­­­­DDL – Data Definition Language – Create Command**

|  |  |  |  |
| --- | --- | --- | --- |
| **Emp\_id** | **First\_name** | **Last\_name** | **salary** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**CREATE TABLE employee (**

**Emp\_id INT (10) NOT NULL,**

**First\_name varchar(20),**

**Last\_name varchar(20) Not null,**

**Salary int(10) Not Null,**

**Primary Key (emp\_id));**

**For see the table**

**Select \* from employees;**

**Here \* will give us whole value**