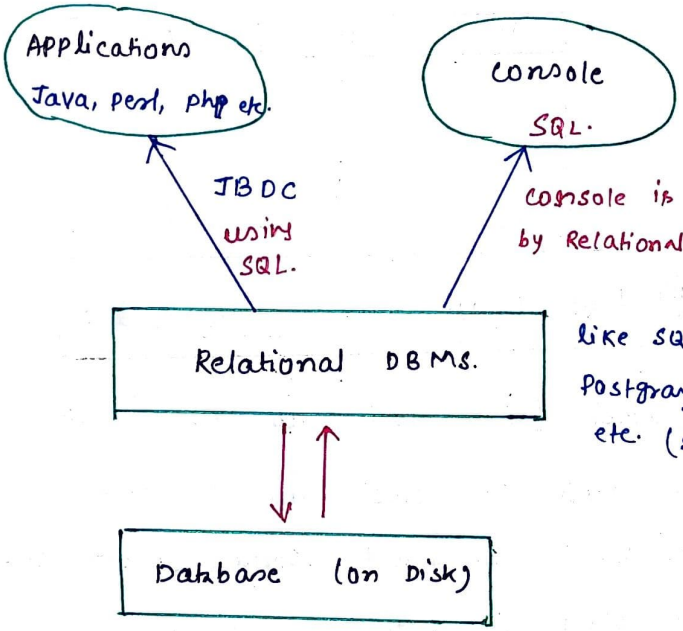
Date: 07/09/2021 | 01. SQL | GFG Placement Course | Abhishek Sharma NOTES.

SQL: Structured Query Language.

* you need to a programming Language that can be used to interact with Relational DBMS. That programming Lang. is SQL.

* we call it Structured Query Lang. bcz. it works on table which are structured data. you have a fixed schema and every rows follows the schema.

SQL ⇒



* you need a programming Lang. That can be used to interact with Relational DBMS.

That Programming Lang. is SQL.

* SQL is the Programming Lang. That can be used for interact with the Relational DBMS.

* As a programer you browse the data using console and you also write Application. and these Applications interact with your Relational DBMS using connections (JBDC Java Database connection)

These applications are written in Java, perl, php etc

* That has the facility to interact with DBMS.
* using SQL. (Structured Query Language).
* console also run SQL Query.

* console allows you to Browse the data, Modify the data, to see the structure of data.

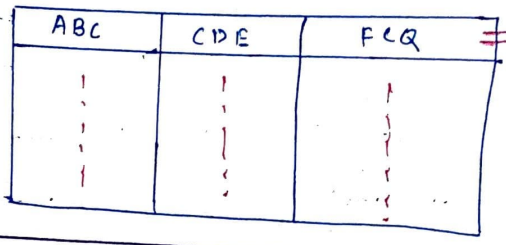
* SQL as a programming Lang. is standerised by ISO. Recent version came in 2019.

* SQL can be divided into Four Sub-languages.

① i) DDL (Data Definition Language) : create, Drop, ALTER

DDL is used to create or modify objects in your DBMS. Object can be a table, it can be a database or it can be other things.

* Example: In terms of table, it used to Modify or create the schema of the table or delete the schema also



② ii) DQL (Data Query Language) : SELECT.

It is used for select all the statements.

Ex. you want to select all the rows.
you want to select some specific rows.
you want to select count of certain types of item.

All these tasks come in DQL. (Data Query Language)

③ iii) DML (Data Manipulation Language) : update, Insert, Delete

If you want to change the data, not change the schema (bcz schema can be changed by DDL). That parts comes in DML.

Example: update the data, insert the data, Delete the data etc.

④ iv) DCL (Data control Language) : GRANT, REVOKE.

It used for Granting or Revoking permission on DBMS objects.

Ex. If you grant permission on a particular view to a particular person and do not want to allow other person to view.

* Example Syntax Of SQL.

Example of creating the Table.

```
CREATE TABLE student (
    student_id  INT,
    f_name      VARCHAR (20),
    l_name      VARCHAR (20),
);
```

(keyword)

Columns of the table

integer type of column.

will make this table.

student_id	f_name	l_name.

* If we want to create student_id as primary key we will write in the create Table section.

```
student_id  INT  PRIMARY KEY,
```

* If we want in f_name we don't want any NULL value.

```
f_name  VARCHAR (20)  NOT NULL,
```

Example of Inserting values in the table.

```
INSERT INTO student VALUES (1, "xyz", "abc");
INSERT INTO student VALUES (2, "pqr", "rst");
```

student_id	f_name	l_name.
1	xyz	abc
2	pqr	rst.

* SQL is case insensitive. we can also write in ~~small~~ Lowercase alphabate (create table or insert into) but it is Highly Recomidable to use uppercase for keywords. (INSERT, DELETE, CREATE) and so on.

* We can also insert values in the table like this.

```
INSERT INTO student (student_id, f_name) VALUES (3, "cde");
```

student_id	f_name	l_name
3	cde	NULL.

Here we specify the column name in which we want to insert the data. We don't specify Here l_name so in the l_name ~~3rd~~ There is written NULL.

// This type to insert values is the Highly Recomdable. It is the better practice.

use this for insert.

* Example of Insert or Delete the ~~table~~ column from the Table.

For adding a column in the existing table:

```
ALTER TABLE
ADD address VARCHAR (500);
```

Our table will look like

Student_id	f_name	l_name	Address
1	xyz	abc	NULL
2	pqr	mst	NULL
3	cde	NULL.	NULL

Our new column has been created.

Since we don't specify what to insert in Address area so that's why there will be NULL.