**Part-1-SQL-Drills**

1. *Describe types of joins*

Inner Join = intersection of sets

Left Join = all of set A + intersection of set B

Right Join = intersection of set A + all of set B

Outer Join = union of sets A and B

Self Join = join set A with itself to query hierarchical data or to compare rows in a table

1. *Which join was used to create the table below?*

Left Join. All of vendor\_table is included; only matching elements of yarn\_table are included

1. *Explain the difference between alter and update*

Alter changes the column / structure of the table

Update changes the rows / data in the table

1. *Alter vs. Update Drill*

ALTER table employees RENAME COLUMN department\_id TO dept\_id

ALTER table employees ADD COLUMN annual\_salary INTEGER

1. *DML vs. DDL*

DDL is short name of Data Definition Language, which deals with database schemas and descriptions, of how the data should reside in the database.

* [CREATE](https://www.w3schools.in/mysql/php-mysql-create/) - to create a database and its objects like (table, index, views, store procedure, function, and triggers)
* ALTER - alters the structure of the existing database
* DROP - delete objects from the database
* TRUNCATE - remove all records from a table, including all spaces allocated for the records are removed
* COMMENT - add comments to the data dictionary
* RENAME - rename an object

DML

DML is short name of Data Manipulation Language which deals with data manipulation and includes most common SQL statements such SELECT, INSERT, UPDATE, DELETE, etc., and it is used to store, modify, retrieve, delete and update data in a database.

* [SELECT](https://www.w3schools.in/mysql/php-mysql-select/) - retrieve data from a database
* [INSERT](https://www.w3schools.in/mysql/php-mysql-insert/) - insert data into a table
* [UPDATE](https://www.w3schools.in/mysql/php-mysql-update/) - updates existing data within a table
* [DELETE](https://www.w3schools.in/mysql/php-mysql-delete/) - Delete all records from a database table
* MERGE - UPSERT operation (insert or update)
* CALL - call a PL/SQL or Java subprogram
* EXPLAIN PLAN - interpretation of the data access path
* LOCK TABLE - concurrency Control

1. *DML Drill*

SELECT \* FROM vendor\_table

1. *Duplicates*

**SELECT** yarn\_name, yarn\_type, **COUNT**(yarn\_name), **COUNT**(yarn\_type)

**FROM** yarn\_table

**GROUP** **BY** yarn\_name, yarn\_type

**HAVING** **COUNT**(yarn\_name) **>** 1 OR **HAVING COUNT**(yarn\_type)>1

1. *Groupby*

SELECT state, AVG(duration)

FROM ufo

GROUP BY state

ORDER BY state

**Part-2-Case-Assignment**

Our Schema:

Graphical user interface, text, application

Description automatically generated

* Employees can work in multiple departments
* Departments can have more than one manager
* Managers can only be assigned to one department.

20 folks have the name “Hercules B”

The salary distribution is flat and counterintuitive

Graphical user interface, application

Description automatically generated

And we find out that we are employee “April Foolsday!”