**Joins:**

Part 1- There are fours joins in SQL, inner join, left join, right join and full outer join.

Part 2: The diagram illustrates the left join since we have all rows from the left table but not all rows from the right table.

**Alter Vs. Update:**

Part 1: ALTER and UPDATE are the two modifying commands of SQL. ALTER is used to modify the structure of the relations (Tables) in the database. UPDATE Command is used to modify the data stored in a relation of the database. The basic difference between ALTER and UPDATE Command is that ALTER command is a Data Definition Language command whereas the UPDATE command is a Data Manipulation Language command.

Part2:

* ALTER TABLE (whatever table name is)

RENAME COLUMN department\_id TO dept\_id;

* ALTER TABLE (table name)

ADD COLUMN annual\_salary VARCHAR NOT NULL;

**DML & DDL**

Part 1: Data Definition Language (DDL) helps you to define the database structure or schema while Data Manipulation language (DML command) allows you to manage the data stored in the database.

DDL command is used to create the database schema while DML command is used to populate and manipulate database

DDL statements affect the whole table whereas DML commands only affect one or more rows.

In DDL, SQL Statement can't be rollbacked while in DML SQL Statement can be a rollbacked.

DDL is a declarative method while DML is an imperative method.

Important DDL commands are: 1) CREATE, 2) ALTER, 3) DROP, 4) TRUNCATE, etc. while important DML commands are: 1) INSERT, 2) UPDATE, 3) DELETE, 4) MERGE, etc.

Part 2:

INSERT INTO vendor\_table(id, vendor\_name, vendor\_country)

VALUES(1, ‘Calrlton’, ‘Turkey’),

(2, ‘Cascade Yarns’, ‘United States’),

(3, ‘Debbi Bliss’, ‘England’),

(4, ‘Tahki’, ‘Greece’);

**Duplicates**

Part one: To locate duplicate in one field we use the below query:

**SELECT**

yarn\_name,

COUNT( yarn\_name )

**FROM**

Yarn\_table

**GROUP** **BY**

yarn\_name

**HAVING**

Count(yarn\_name)> 1

Part two: to locate duplicate in more than one filed:

**SELECT**

yarn\_name,

yarn\_type,

COUNT( \* )

**FROM**

Yarn\_table

**GROUP** **BY**

yarn\_name,

yarn\_type

**HAVING**

Count(\*)> 1

**Groupby**

SELECT state, AVG(duration) AS "duration in second"

FROM usa\_ufo\_df

GROUP BY state;