08-Oct

→ DDL → Data Definition Language.

DML → Data Manipulation Language.

*1 What is DDL ? Qurries ?

→ DDL stands for (Data Defination language), which is subset of SQL used to define, modify and manage the structure of database object such as tables, indexes, views, and sche, it focuses on setting up the structure of the database rather than manipulating the data it self.

Common DDL commands-

1) Create - used to create new db.
2) Alter - used to modify anexisting db. object such as adding or removing columns from a table.

ex- Alter table empl
ADD salary decimal(10,2);

3) Drop - use to delete a db object like a table or an index.

ex- drop table empl;

4) Truncate - used to remove all records from a table without ~~delling~~ deliting the table it self.

ex- truncate table empl;

5) Rename - used to rename a db object, such as a table or column.

alter table empl
rename to staf;

* Importance of ddl?

→ Consistency: ddl commands help maintain consistency and integrity of db schema.

→ Performance: Proper use of ddl commands can optimize database performance.

Q2 What is dml? Queries?

→ DML (Data Manipulation Language) refers to a subset of SQL commands that are used to manipulate and manage data in relational db.

DML allows users to retrive, insert, update, and delete data from db tables. These operation do not affect the db structure but rather the data stored in with in the database.

* DML commands-

1) Select: used to retrieve data from one or more tables in db.

ex - select empname, empage from empl where empid = 9 ;

2) Insert: used to insert new data into a table.

ex- insert into empl(empid, empname, empage, empdept) values (10, 'raj', '23', 'C.S');

3) Update → used to modify existing data in a table.
ex- Update empl set empage=24 inlhere empid=10;

4) Delete : used to delete data from a table.
ex→ Delete from empl inlhere empid=10;

* Data Retrieval → Select cmd
* Data Entry → Insert cmd
* Data modification → Update cmd
* Data removal → Delete cmd.

03 DCL
→ Data Control language are used to control access to data within the database.
- manage permissions and ensure data security.

1) Grant - Provides specific privileges to users or roles.
ex - Grant select, Insert on empl to 'raj';

2) Revoke - Removes specific privileges from users or roles.
ex - Revoke insert on empl from 'raj';

Q4 DQL

→ Data Query Language primarily data from the database.

cmd↓

Select - The primary comd for querying data.

ex- select empname, empdept, from empl Inlhere empage > 20 ;

Q5 TCL

→ Transaction control languge commands manage transactions with in db.

cmd↓

1) Commit : Saves all changes made during the current transaction

ex- commit ;

2) Rollback : undoes all changes made during the current trasaction.

ex- Rollback ;

3) Savepoint : set a point with in transaction to which you can later roll back.

ex- Savepoint before-update ;

P6. What is Alter keyword in sql? Why to use? all querries?

The alter keyword is SQL is a powerful data definition language comd. used to modify the structure of existing db objects, primarily tables.

Alter keyword is SQL

The alter statement is used to modify an existing database object, such as a table, index or view.

1) Add, modify or drop columns in table.
2) Add or drop constraints.
3) Rename tables or columns.
4) change datatypes of existing columns.
5) Manage indexes and other table attributes.

Use the Alter keyword

1) Maintaining Data integrity.
- you might need to add constraints like (NOT NULL, unique, foreign key) to ensure data integrity as the application logic changes.

2) Optimizing Performance

Altering indexes or modifying column data types can optimize query perform

* Alter Queries ↓ **

1) Adding Columns.

* add a single column

```
alter table empl
add email varchar(100) unique;
```

* add a multiple column

```
alter table empl ~~Add~~ add(
Ph-nuber varchar(15),
hire_date DATE );
```

2) Modifying Columns.

* Change column data type.

```
alter table empl
modify column empage smallint;
```

* Add or remove

```
alter table empl
modify column email varchar(100) not null
```

3) Rename Column.

* alter table ~~name~~ empl
change column empl empll
varchar(50);

4) Dropping column

alter table empl
drop column ph-number;

5) Managing Constraints

* Add a primary key Constraint

alter table empl add constraint
pk-empl primary key (empid, email);

*add a foreign key constraint:
alter table empl add constraint
fk-emp-dept foreign key (empdept)
references departments (deptname);

* Drop a constraint
alter table empl
drop check chk-age;