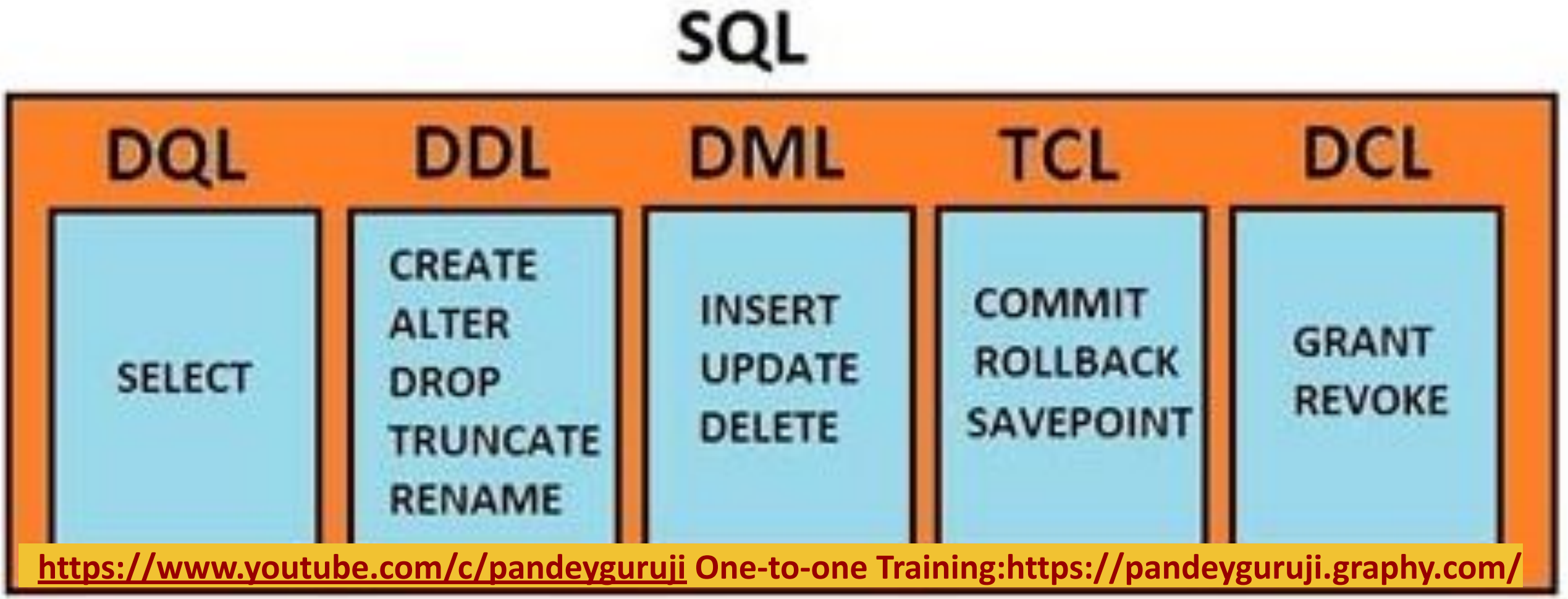
SQL Languages



Data Definition Language (DDL)

The commands of SQL that are used to create database objects, alter the structure of the database objects and delete database objects from database are collectively called as DDL. Examples include Create, Alter , Drop, Truncate, Rename and Comment Command.

Note: This impact the object Structure

Data Manipulation Language (DML)

The commands of SQL that are used to insert data into the database, modify the data of the database and to delete data from the database are collectively called as DML. Examples include Insert, Update and Delete.

Note: This impact the Data structure.

Data Query Language (DQL)

The commands of SQL that are used to retrieve data from the database are collectively called as DQL. So all Select statements comes under DQL.

* **Select:** To retrieve data from the database table.

- Select
- Where clause
- Order by Clause
- Distinct Keyword
- Isnull() function
- Column aliases
- Between … And
- In
- Like
- Is Null

Data Control Language (DCL)

The commands of SQL that are used to control the access to data stored in the database are collectively called as DCL and examples include Grant and Revoke.

Grant: All users access privileges to database.

Revoke: Withdraw users access privileges given by using the Grant command.

Transaction Control Language (TCL)

The commands of SQL that are used to control the transactions made against the database are collectively called as TCL and examples include Commit & Rollback.

Commit

Commit is used for the permanent changes. When we use Commit in any query then the change made by that query will be permanent and visible. We can't Rollback after the Commit.

Rollback

Rollback is used to undo the changes made by any command but only before a commit is done. We can't Rollback data which has been committed in the database with the help of the commit keyword.

The difference between TRUNCATE , DELETE and DROP is one of the most common interview question.

TRUNCATE

- TRUNCATE is a DDL command
- TRUNCATE is executed using a table lock and whole table is locked for remove all records.
- We cannot use Where clause with TRUNCATE.
- TRUNCATE removes all rows from a table.
- Minimal logging in transaction log, so it is performance wise faster.
- TRUNCATE TABLE removes the data by deallocating the data pages used to store the table data and records only the page deallocations in the transaction log.
- Identify column is reset to its seed value if table contains any identity column.
- To use Truncate on a table you need at least ALTER permission on the table.
- Truncate uses the less transaction space than Delete statement.
- Truncate cannot be used with indexed views.

DELETE:

- DELETE is a DML command.
- DELETE is executed using a row lock, each row in the table is locked for deletion.
- We can use where clause with DELETE to filter & delete specific records.
- The DELETE command is used to remove rows from a table based on WHERE condition.
- It maintain the log, so it slower than TRUNCATE.
- The DELETE statement removes rows one at a time and records an entry in the transaction log for each deleted row.
- Identity of column keep DELETE retain the identity.
- To use Delete you need DELETE permission on the table.
- Delete uses the more transaction space than Truncate statement.
- Delete can be used with indexed views.

DROP:

- The DROP command removes a table from the database.
- All the tables' rows, indexes and privileges will also be removed.
- No DML triggers will be fired.
- The operation cannot be rolled back.
- DROP and TRUNCATE are DDL commands, whereas DELETE is a DML command.
- DELETE operations can be rolled back (undone), while DROP and TRUNCATE operations cannot be rolled back.

Questions ?