Roll no: 65

CLASSMATE
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EXPERIMENT - 1

AIM: Study of various DDL, DML and DCL commands in SQL.

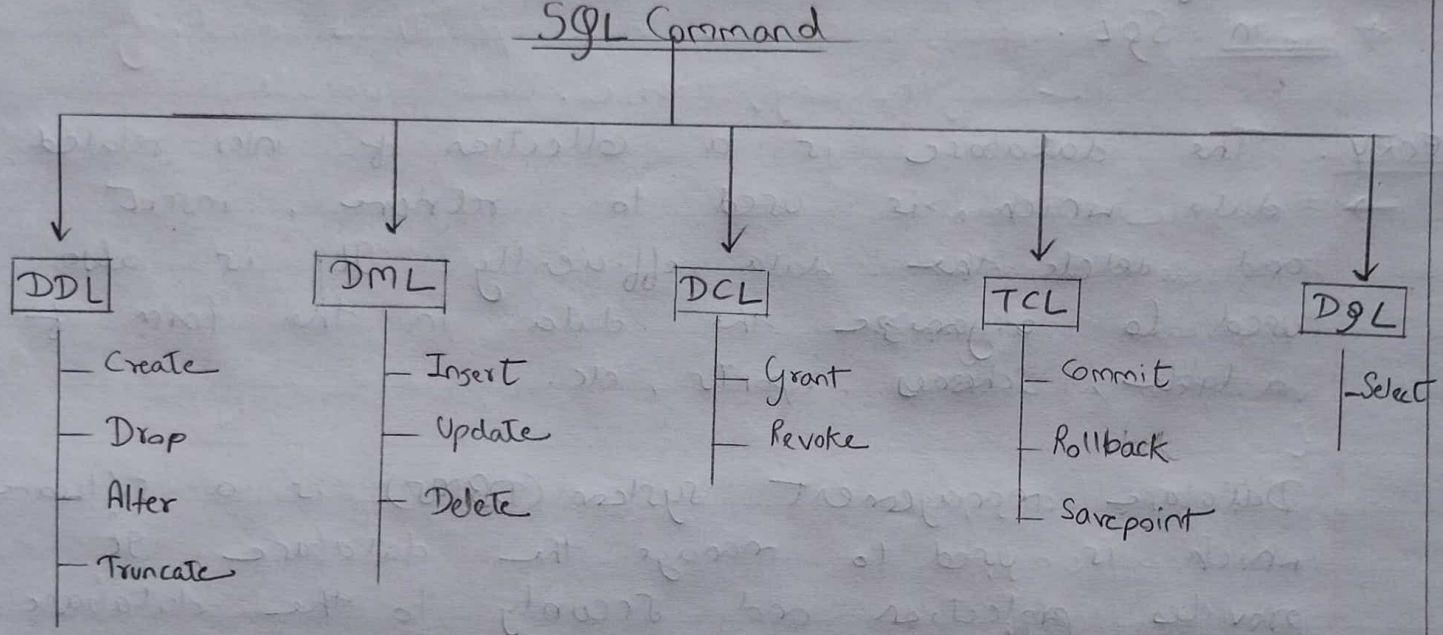
THEORY: The database is a collection of inter-related data which is used to retrieve, insert and delete the data efficiently. It is also used to organize the data in the form of a table, schemes, reports, etc.

Database management system (DBMS) is a software which is used to manage the database. It provides protection and security to the database. In the case of multiple users, it also maintains data consistency.

A query in DBMS is used to retrieve or modify data stored in the database. It is like a question or a request for any operation on a particular data object.

(SQL) ~~commands~~ Structured Query language is used for storing and managing data in Relational database management system (RDBMS). It is a standard language for Relational database system. It enables a user to create, read, update and delete relational databases and tables.

DIAGRAM :


SQL Command
DDL
Create
Drop
Alter
Truncate
DML
Insert
Update
Delete
DCL
Grant
Revoke
TCL
Commit
Rollback
Savepoint
DQL
Select

Sql commands are instructions. It is used communicate with the database. It is also used to perform specific tasks, functions, and queries of data.

Sql can perform various tasks like create, drop or modify table, add data to tables, set permission for user, etc

There are five types of Sql commands : DDL, DML, DCL, TCL and DQL

1) Data Definition language (DDL) :
DDL changes the structure of the table like creating, deleting, altering a table, etc.
All the command of DDL are auto-committed that means it permanently save all the changes in the database.

Commands that ~~conta~~ come under DDL :

a) CREATE : It is used to create a new table in the database

Syntax: CREATE TABLE table_name (COLUMN_NAME DATATYPES[...]);

Example: CREATE TABLE EMPLOYEE (Name VARCHAR(20), Email VARCHAR 2(100), DOB DATE);

b) DROP: It is used to delete both the structure and record stored in the table.

Syntax: DROP TABLE table_name;

Example: DROP TABLE EMPLOYEE;

c) ALTER: It is used to alter the structure of the database. This change could be either to modify the characteristics of an existing attribute probably to add a new attribute.

To add a new column in the table

Syntax: ALTER TABLE tablename ADD column_name column_definition;

To modify existing column in the table

Syntax: ALTER TABLE table_name MODIFY (column_definations ...);

Example: ALTER TABLE STU_DETAILS ADD (ADDRESS VARCHAR (20));

ALTER TABLE STU_DETAILS MODIFY (NAME VARCHAR (20));

d) TRUNCATE: It is used to delete all the rows from the table and free the space containing the table.

Syntax: TRUNCATE TABLE table_name;

2) Data Manipulation Language (DML) :

DML Commands are used to modify the database. It is responsible for all form of changes in the database. The command of DML is not auto-committed that means it can't permanently save all the changes in the database. They can be rollback.

Commands that come under DML :

a) **INSERT** : It is used to insert data into row of a table.

Syntax : INSERT INTO table-name
(col1, col2, col3 ... colN)
VALUES (value1, value2, value3 ... valueN);

b) **UPDATE** : It is used to update or modify the value of a column in the table.

Syntax : UPDATE table-name SET [column_name1= value1, .. column-name N = value_N]
[WHERE CONDITION]

c) **DELETE** : It is used to remove one or more row from a table.

Syntax : DELETE FROM table-name [WHERE CONDITION];

3) Data control language (DCL) :

DCL commands are used to grant and take back authority from any database user.

Commands that come under DCL:

a) GRANT : It is used to give user access privileges to a database.

Syntax: GRANT SELECT, UPDATE on MY_TABLE TO SOME_USER, ANOTHER_USER;

b) REVOKE: It is used to take back permissions from the user.

Syntax: REVOKE SELECT, UPDATE ON MY_TABLE FROM USER1, USER2;

CONCLUSION: Commands of DDL, DML and DCL in SQL has been studied.