### SQL Commands

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

### SQL can perform various tasks like create a table, add data to tables, drop the table, modify the table, set permission for users.

### Types of SQL Commands

### There are five types of SQL commands: DDL, DML, DCL, TCL, and DQL.

### DBMS SQL command

### 1. Data Definition Language (DDL)

### DDL changes the structure of the table like creating a table, deleting a table, altering a table, etc.

### All the command of DDL are auto-committed that means it permanently save all the changes in the database.

### Here are some commands that come under DDL:

### CREATE

### ALTER

### DROP

### TRUNCATE

### 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 VARCHAR2(20), Email VARCHAR2(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 or probably to add a new attribute.

### Syntax:

### To add a new column in the table

### ALTER TABLE table\_name ADD column\_name COLUMN-definition;

### To modify existing column in the table:

### ALTER TABLE table\_name MODIFY(column\_definitions....);

### EXAMPLE

### ALTER TABLE STU\_DETAILS ADD(ADDRESS VARCHAR2(20));

### ALTER TABLE STU\_DETAILS MODIFY (NAME VARCHAR2(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;

### Example:

### TRUNCATE TABLE EMPLOYEE;

### 2. Data Manipulation Language

### 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.

### Here are some commands that come under DML:

### INSERT

### UPDATE

### DELETE

### a. INSERT: The INSERT statement is a SQL query. It is used to insert data into the row of a table.

### Syntax:

### INSERT INTO TABLE\_NAME

### (col1, col2, col3,.... col N)

### VALUES (value1, value2, value3, .... valueN);

### Or

### INSERT INTO TABLE\_NAME

### VALUES (value1, value2, value3, .... valueN);

### For example:

### INSERT INTO javatpoint (Author, Subject) VALUES ("Sonoo", "DBMS");

### b. UPDATE: This command is used to update or modify the value of a column in the table.

### Syntax:

### UPDATE table\_name SET [column\_name1= value1,...column\_nameN = valueN] [WHERE CONDITION]

### For example:

### UPDATE students

### SET User\_Name = 'Sonoo'

### WHERE Student\_Id = '3'

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

### Syntax:

### DELETE FROM table\_name [WHERE condition];

### For example:

### DELETE FROM javatpoint

### WHERE Author="Sonoo";

### 3. Data Control Language

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

### Here are some commands that come under DCL:

### Grant

### Revoke

### a. Grant: It is used to give user access privileges to a database.

### Example

### GRANT SELECT, UPDATE ON MY\_TABLE TO SOME\_USER, ANOTHER\_USER;

### b. Revoke: It is used to take back permissions from the user.

### Example

### REVOKE SELECT, UPDATE ON MY\_TABLE FROM USER1, USER2;

### 4. Transaction Control Language

### TCL commands can only use with DML commands like INSERT, DELETE and UPDATE only.

### These operations are automatically committed in the database that's why they cannot be used while creating tables or dropping them.

### Here are some commands that come under TCL:

### COMMIT

### ROLLBACK

### SAVEPOINT

### a. Commit: Commit command is used to save all the transactions to the database.

### Syntax:

### COMMIT;

### Example:

### DELETE FROM CUSTOMERS

### WHERE AGE = 25;

### COMMIT;

### b. Rollback: Rollback command is used to undo transactions that have not already been saved to the database.

### Syntax:

### ROLLBACK;

### Example:

### DELETE FROM CUSTOMERS

### WHERE AGE = 25;

### ROLLBACK;

### c. SAVEPOINT: It is used to roll the transaction back to a certain point without rolling back the entire transaction.

### Syntax:

### SAVEPOINT SAVEPOINT\_NAME;

### 5. Data Query Language

### DQL is used to fetch the data from the database.

### It uses only one command:

### SELECT

### a. SELECT: This is the same as the projection operation of relational algebra. It is used to select the attribute based on the condition described by WHERE clause.

### Syntax:

### SELECT expressions

### FROM TABLES

### WHERE conditions;

### For example:

### SELECT emp\_name

### FROM employee

### WHERE age > 20;