

# SQL

## Short Notes !



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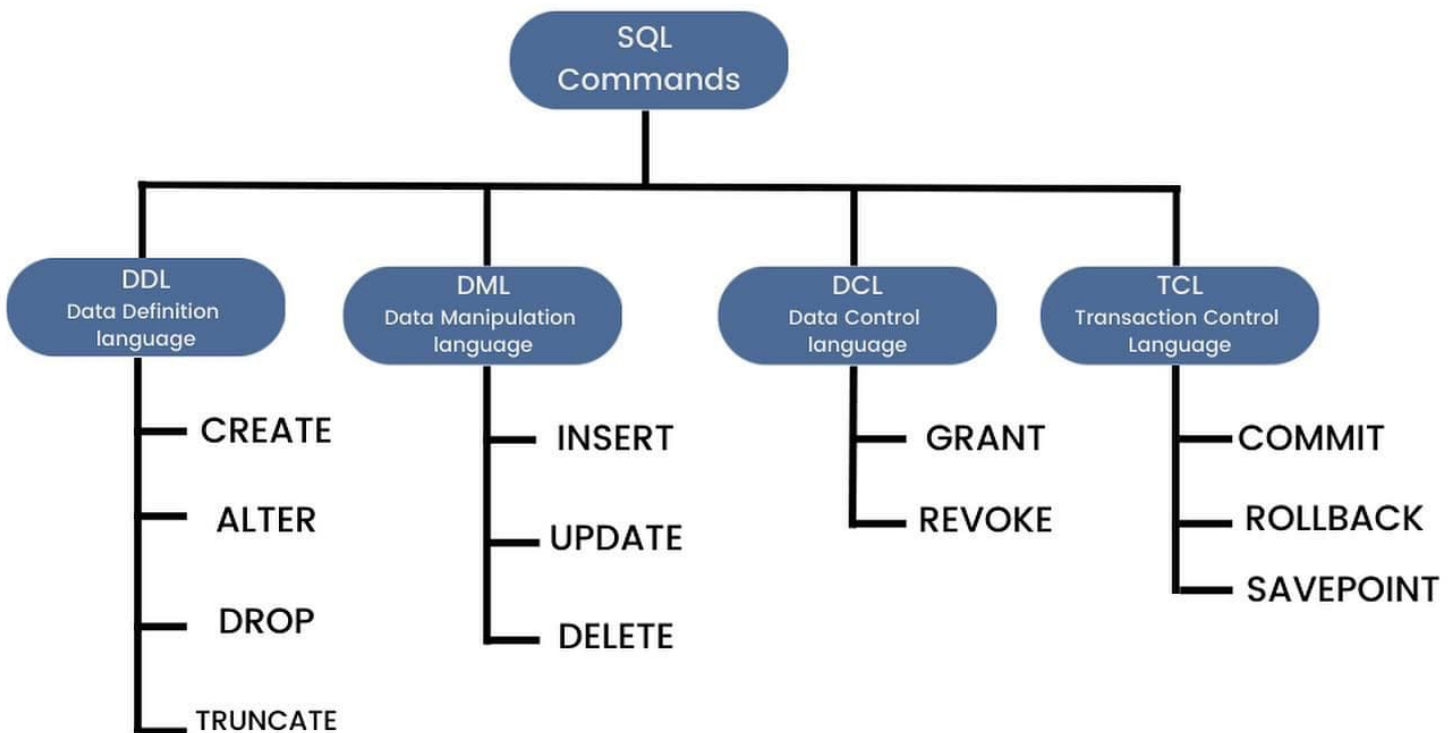


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# What is SQL?

- sql is stand for structured query language.
- This database language is mainly designed for maintaining the data in relational database management systems.
- sql is standard language for accessing and manipulating database.

## Types of SQL Commands:



# DDL COMMANDS:

- DDL (Data Definition Language) used to change the structure of the table Like creating the table, altering the table & Deleting the table.
- All the commands in the DDL are auto Committed that means it permanently saves all the changes in the database.

## 1. CREATE:

this command is used to create a new database or table.

### Syntax:

```
CREATE TABLE table_name (  
    column1 datatype,  
    column2 datatype,  
    column3 datatype,  
    ....  
);
```

### Example:

```
CREATE TABLE Employee  
(  
    EmployeeID int,  
    FirstName varchar(255),  
    LastName varchar(255),  
    AddressLine varchar(255),  
    City varchar(255)  
);
```



## 2. Alter

The ALTER TABLE statement in Structured Query Language allows you to add, modify, and delete columns of an existing table.

### Syntax:

```
ALTER TABLE table_name  
ADD column_name datatype;
```

### Example:

```
ALTER TABLE Employee  
ADD Email varchar(255);
```

## 3. Drop

The DROP TABLE statement is used to drop an existing table in a database. this command deletes both the structure & Records Stored in table.

### Syntax:

```
DROP TABLE table_name;
```

### Example:

```
Drop TABLE Employee
```



## 4. TRUNCATE

A truncate SQL statement is used to remove all rows (complete data) from a table. It is similar to the DELETE statement with no WHERE clause.

**Syntax:**

```
TRUNCATE TABLE table_name;
```

**Example:**

```
TRUNCATE TABLE Employee;
```

# DML COMMANDS:

## 1. INSERT

SQL INSERT statement is a SQL query. It is used to insert a single or a multiple records in a table.

**Syntax:**

```
INSERT INTO table_name  
VALUES (value1, value2, value3....);
```

**Example:**

```
INSERT INTO STUDENTS (ROLL_NO, NAME, AGE, CITY)  
VALUES (1, Yadnyesh , 19, PUNE);
```





## 2. UPDATE

The UPDATE statement is used to modify the existing records in a table.

### Syntax:

```
UPDATE table_name  
SET column1 = value1, column2 = value2, ...  
WHERE condition;
```

### Example:

```
UPDATE Customers  
SET ContactName = 'Yadu', City= 'pune'  
WHERE CustomerID = 101;
```

## 3. DELETE

The DELETE statement is used to delete existing records in a table.

### Syntax:

```
DELETE FROM table_name [WHERE condition];
```

### Example:

```
DELETE FROM Customers WHERE CustomerName='Yadu';
```



# DCL COMMANDS:

## 1. GRANT

It is used to give user access privileges to a database.

Syntax:

```
GRANT SELECT, UPDATE ON MY_TABLE TO SOME_USER,  
ANOTHER_USER;
```

## 2. REVOKE

```
GRANT SELECT, UPDATE ON MY_TABLE TO SOME_USER,  
ANOTHER_USER;
```

Syntax:

```
REVOKE SELECT, UPDATE ON MY_TABLE FROM USER1, USER2;
```



# TCL COMMANDS:

## 1. COMMIT

Commits a Transaction. The COMMIT command saves all the transactions to the database since the last COMMIT or ROLLBACK command.

**Syntax:**

COMMIT;

**Example:**

```
DELETE FROM Student WHERE AGE = 20;  
COMMIT;
```

## 2. ROLLBACK

If any error occurs with any of the SQL grouped statements, all changes need to be aborted. The process of reversing changes is called rollback

**Syntax:**

ROLLBACK;

**Example:**

```
DELETE FROM Student WHERE AGE = 20;  
ROLLBACK;
```





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