DROP AND TRUNCATE IN SQL

> **DROP and TRUNCATE in SQL** remove data from the table. The main difference between DROP and TRUNCATE commands in SQL is that DROP removes the table or database completely, while TRUNCATE only removes the data, preserving the table structure.

What is DROP Command?

> DROP command in SQL is used to delete a whole **database** or a table.
>
> DROP statement deletes objects like an existing database, table, index, or view.

Syntax

```
DROP [object] [object_name];
```

DROP Command Examples

> Let's look at some examples of the DROP statement in SQL.

DROP Table

```
DROP TABLE [table_name];
```

table_name: Name of the table to be deleted.

DROP database

```
DROP DATABASE [database_name];
```

database_name: Name of the database to be deleted.

What is TRUNCATE Command?

> **TRUNCATE statement** is a **Data Definition Language (DDL) operation** that is used to mark the extent of a table for deallocation (empty for reuse). The result of this operation quickly removes all data from a table, typically bypassing several integrity-enforcing mechanisms.
>
> It was officially introduced in the SQL:2008 standard. The TRUNCATE TABLE statement is logically (though not physically) equivalent to the **DELETE** Statement without a WHERE clause.

Syntax

```
TRUNCATE TABLE [table_name];
```

table_name: Name of the table to be deleted.

Differences Between DROP and TRUNCATE

The key differences between DROP and TRUNCATE statements are explained in the following table:

DROP	TRUNCATE
In the drop table data and its definition is deleted with their full structure.	It preserves the structure of the table for further use exist but deletes all the data.
Drop is used to eliminate existing complications and fewer complications in the whole database from the table.	Truncate is used to eliminate the tuples from the table.
Integrity constraints get removed in the DROP command.	Integrity constraint doesn't get removed in the Truncate command.
Since the structure does not exist, the View of the table does not exist in the Drop command.	Since the structure exists, the View of the table exists in the Truncate command.
Drop query frees the table space complications from memory.	This query does not free the table space from memory.
It is slow as there are so many complications compared to the TRUNCATE command.	It is fast as compared to the DROP command as there are fewer complications.

Read More: Differences between DROP and TRUNCATE Commands

SQL DROP AND TRUNCATE Statement Examples

Let's look at some examples of the DROP and TRUNCATE statements in SQL and understand their working.

Let's consider the given database Student_data:

ROLL_NO	NAME	ADDRESS	PHONE	AGE
1	Ram	Delhi	9415536635	24
2	Ramesh	Gurgaon	9414576635	21
3	Sujit	Delhi	9815532635	20
4	Suresh	Noida	9115536695	21
5	Kajal	Gurgaon	8915536735	28
6	Garima	Rohtak	7015535635	23

To create this table, write the following queries:

```
  CREATE TABLE Student_details (
     ROLL_NO INT,
     NAME VARCHAR(25),
     ADDRESS VARCHAR(25),
     PHONE INT ,
     AGE INT ,
  )
  --Inserting the data in Student Table
  INSERT
INTO Student_details(ROLL_NO,NAME,ADDRESS,PHONE,AGE)
  VALUES
  (1,'Ram','Delhi',9415536635,24),
  (2,'Ramesh','Gurgaon',9414576635,21),
  (3,'Sujit','Delhi',9815532635,20),
  (4,'Suresh','Noida',9115536695,21),
  (5,'Kajal','Gurgaon',8915536735,28),
  (6,'Garima','Rohtak',7015535635,23);
```

We will perform the examples on this particular table.

DROP Database Example

In this example, we will drop the student_data database.

Query

```
  DROP DATABASE student_data;
```

After running the above query whole database will be deleted.

DROP Table Example

In this example, we will drop the student_details table.

Query

```
  DROP TABLE student_details;
```

After running the above query whole table from the database will be deleted.

TRUNCATE Table Example

In this example, we will truncate the Student_details table from the student_data database.

Query

```
  TRUNCATE TABLE Student_details;
```

After running the above query Student_details table will be truncated, i.e, the data will be deleted but the structure will remain in the memory for further operations.

Important Points About SQL DROP & TRUNCATE Statements

SQL DROP Statement

- Completely removes a table or database from the database, including the data and structure.
- Is a permanent operation and cannot be rolled back.
- Removes integrity constraints and indexes associated with the table.
- Is slower compared to the TRUNCATE statement.

SQL TRUNCATE Statement

- Removes all the rows or data from a table, but preserves the table structure and columns.
- Is a faster operation compared to the DROP statement.
- Resets the identity column (if any) back to its seed value.
- Does not remove integrity constraints associated with the table.