Practical MySQL

Session 2

Essentials of MySQL

Session Overview

- List MySQL data types
- List and explain different commands in MySQL
- Explain the basics of creating a database
- Identify ways to create and drop a database in MySQL
- Identify ways to select a database in MySQL
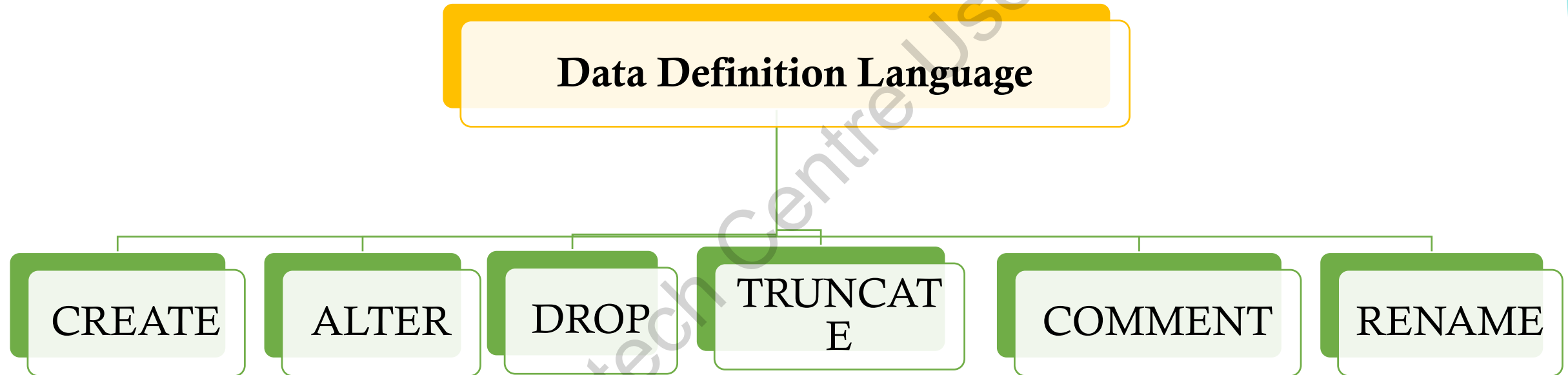- Outline how to create, alter and drop a table

SQL Commands

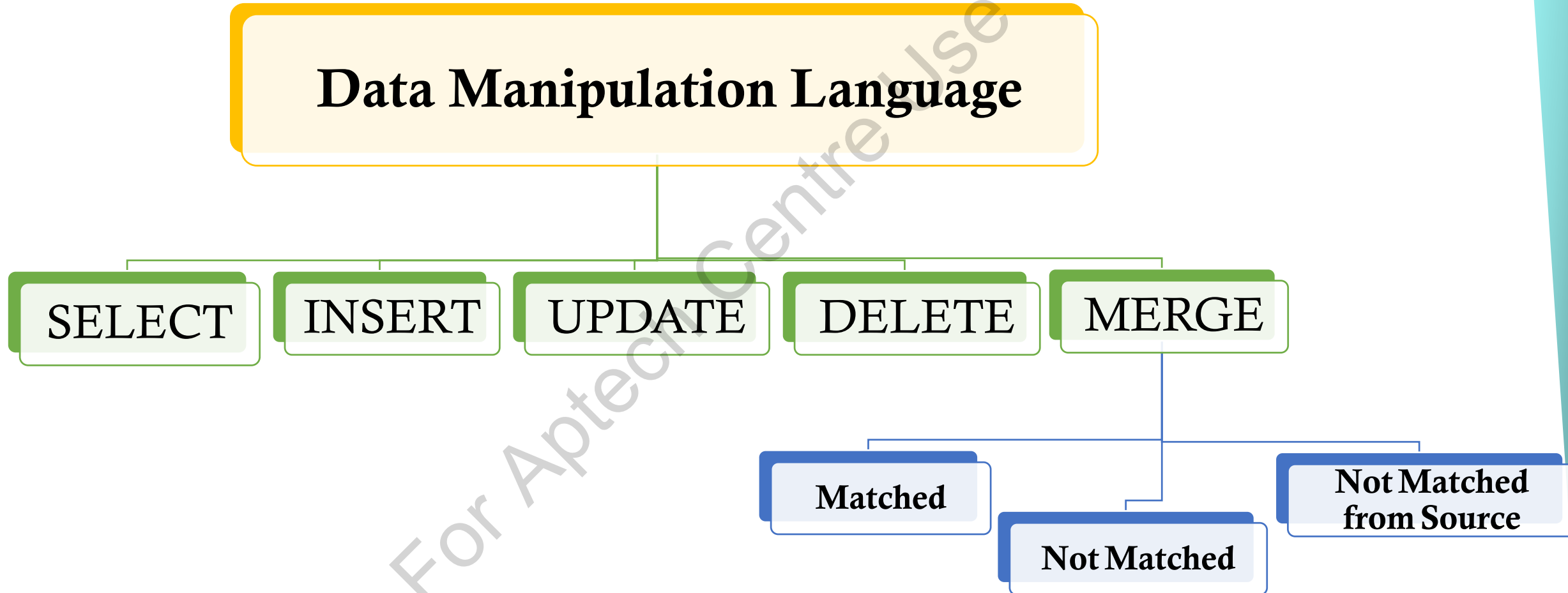SQL commands are instructions used to communicate with the database.

Data Definition Language (DDL)

Data Manipulation Language (DML)

Types of DDL Commands

```
                    ┌─────────────────────────────────┐
                    │   Data Definition Language       │
                    └─────────────────────────────────┘
```

CREATE	ALTER	DROP	TRUNCATE	COMMENT	RENAME

Types of DML Commands

Data Manipulation Language

SELECT   INSERT   UPDATE   DELETE   MERGE

Matched

Not Matched

Not Matched from Source

Types of the Merge Command

Matched	Not Matched	Not Matched by Source
The user must define matched rows that pass the `MERGE` condition. If the values are matched, one must use `UPDATE` query to update the values of one table's column to another table's columns.	If rows of source table do not match with any equivalent rows present in target table, the user must use the `INSERT` query.	It defines the table rows in the given target table which do not have any equivalent rows in the particular source table. Apply the condition to remove or delete rows from the given target table to coordinate the target table with the records from the source one. The `DELETE` query can be used here.

Operations on a Database

A database is a collection of data and information in a standardized format.

Create

By using DDL command

By using mysqladmin

Select

From the Command Prompt

By using Raw SQL

Drop

By using mysqladmin

By using Raw SQL

MySQL Data Types

Some basic characteristics to determine the data type are:

Type of value (fixed or variable) it represents

Storage space of fixed or variable length

Indexed or non-indexed values

Different Types of Data Types in MySQL 1-2

Numeric Data Type: Stores numerals and integers

Floating-Point Data Type: Stores approximate data values

Temporal Data Type: Stores temporal information such as time, date, and so on

Large Object Data Type: Stores large amounts of unstructured or semi-structured data

Different Types of Data Types in MySQL 2-2

String Data Type: Stores data as long text or strings

Binary Data Type: Stores binary large objects that hold a variable amount of data

Spatial Data Type: Stores geometrical and geographical values

JSON Type: Provides automatic validation of JSON documents

Creating Tables 1-2

A table is created by entering the CREATE TABLE command in the MySQL command prompt.

With Primary Key	With Foreign Key

Creating Tables 2-2

Tables can also be created

With Check Constraints | With Select Command

Working with Tables 1-2

Some of the common operations performed on the tables in a database

Altering a Table	Renaming a table

Working with Tables 2-2

Other operations performed on the tables in a database		
Adding Index to a Table	Truncating a Table	Dropping a Table

Summary

- A database is a collection of data and information in a standardized format and can be accessed by multiple users at the same time.
- Mysqladmin is a tool used to perform administrative operations.
- DDL commands are used with database and database objects such as tables, whereas, DML commands are used to manipulate data in database objects.
- Adding primary key/s while creating a table maintains consistency, uniqueness, and avoids data duplication.
- A table can be linked with another table by dropping the primary or foreign key.
- The ALTER COLUMN command is used to change the data type of a column in a table.
- The TRUNCATE TABLE statement is used to remove all records from the existing table in MySQL.