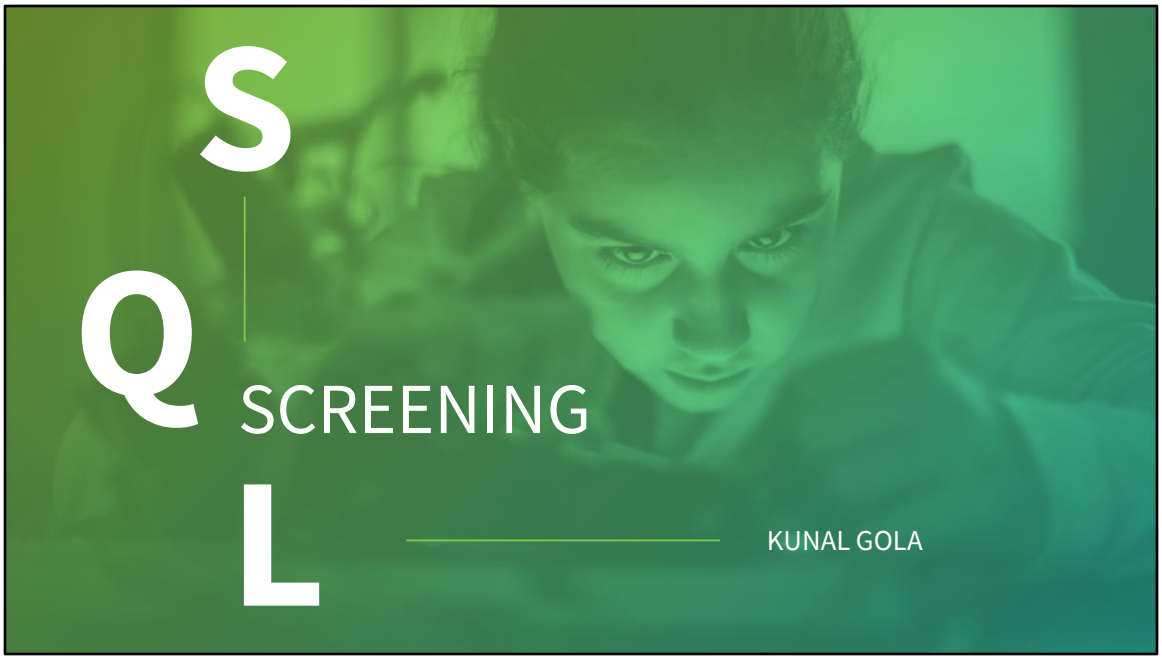
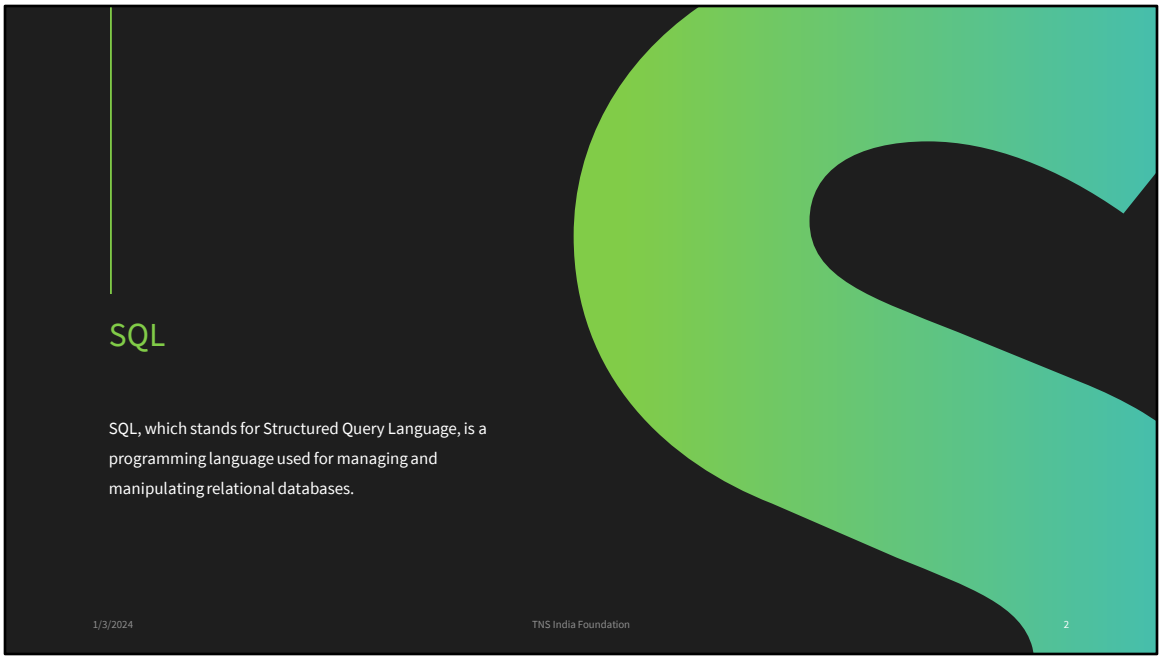
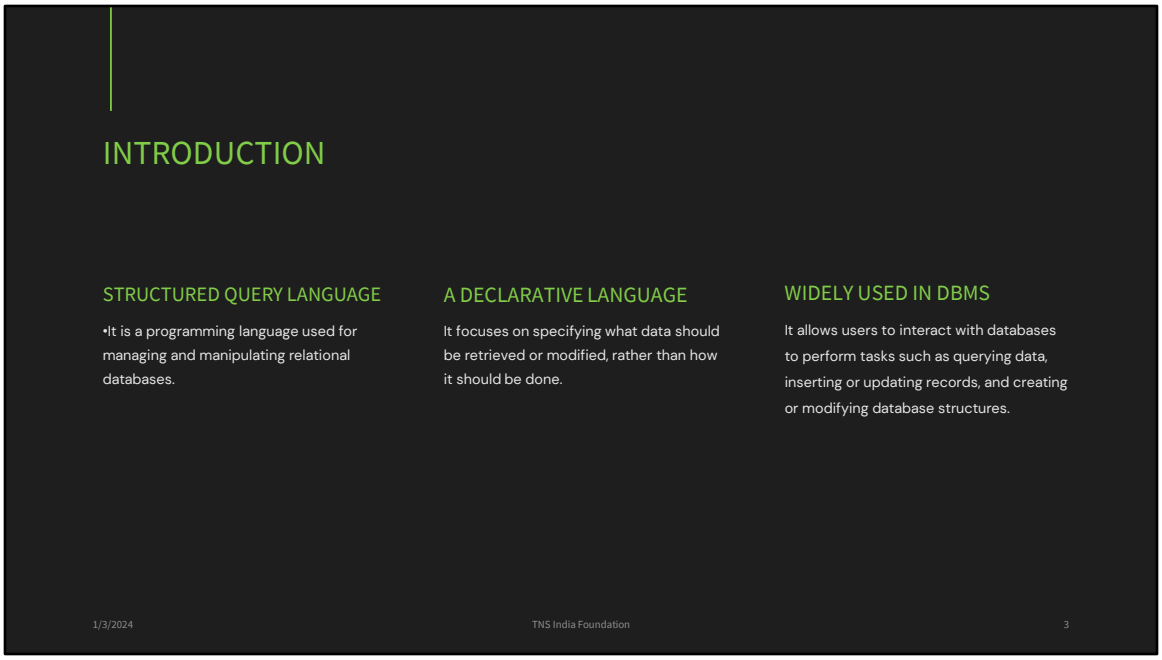


Introduction of Kunal Gola:



It allows users to create, edit, and retrieve data from databases, making it a powerful tool in various fields such as web development and data analysis.



SQL is a special-purpose programming language designed for managing data in a relational database management system (RDBMS).

It focuses on specifying what data should be retrieved or modified, rather than how it should be done.

Widely used in DBMS as a data definition and manipulation language
It allows users to insert, update, delete, and retrieve data from databases. and
It enables the creation, modification, and deletion of database objects such as tables, views, and indexes.

INSTALLATION ON WINDOWS

DOWNLOAD MYSQL INSTALLER

Go to the MySQL official website: MySQL Downloads.

RUN MYSQL INSTALLER

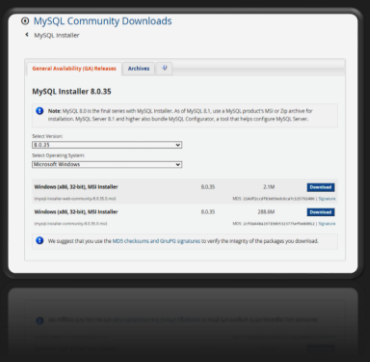
Once the installer is downloaded, run the executable file (.exe) to start the MySQL Installer.

MYSQL INSTALLER SETUP

Select "Developer Default" for a typical installation that includes MySQL Server, MySQL Workbench, and other tools.

COMPLETE THE INSTALLATION

Follow the on-screen instructions to complete the installation.



1/3/2024 TNS India Foundation 4

Here are the steps to install MySQL on Windows:

1. **Download MySQL Installer:**
   - Go to the MySQL official website: [MySQL Downloads](https://dev.mysql.com/downloads/).
   - Under the "MySQL Installer for Windows" section, download the MySQL Installer for Windows.

2. **Run MySQL Installer:**
   - Once the installer is downloaded, run the executable file (`.exe`) to start the MySQL Installer.

3. **MySQL Installer Setup:**
   - The MySQL Installer provides a graphical interface for installing MySQL products. Choose the setup type based on your requirements. You can select "Developer Default" for a typical installation that includes MySQL Server, MySQL Workbench, and other tools.

4. **Complete the Installation:**

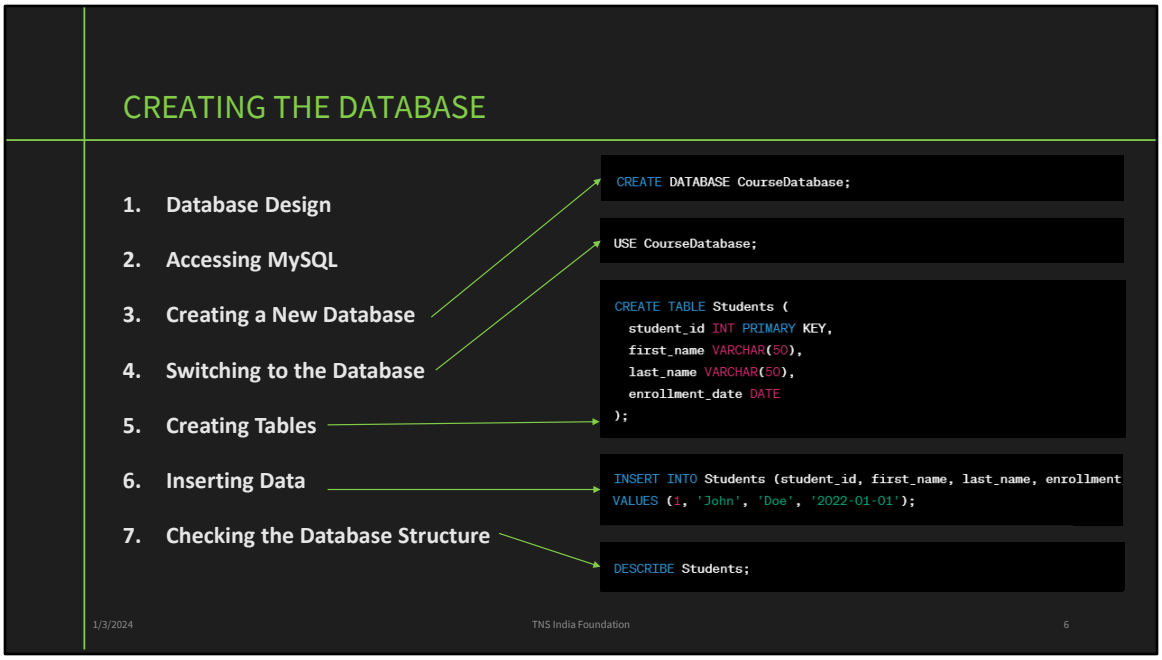
- Follow the on-screen instructions to complete the installation. You will be prompted to configure MySQL Server, set a root password, and choose other configuration options.

After completing these steps, MySQL should be installed on your Windows system. You can then use MySQL Workbench or other MySQL clients to connect to the server and manage your databases.

SQL INSTALLATION IN DETAIL

Step	Instructions
Step 1	Download the MySQL Community Server from the official MySQL website (https://dev.mysql.com/downloads/mysql/).
Step 2	Open the downloaded DMG file and double-click on the MySQL installer package to start the installation process.
Step 3	Follow the on-screen instructions to complete the installation. You may be prompted to enter your system password.
Step 4	Once the installation is complete, open the Terminal application.
Step 5	Enter the following command in the Terminal to start the MySQL server: sudo /usr/local/mysql/support-files/mysql.server start
Step 6	You may be prompted to enter your system password again. Enter it and press Enter.
Step 7	To verify that the MySQL server is running, enter the following command in the Terminal: /usr/local/mysql/support-files/mysql.server status
Step 8	You should see a message indicating that the MySQL server is running. You can now start using MySQL on your MAC.

These are the detailed steps of SQL installation of Server, workbench and shell.
We can follow them for completing the installation.
After installation we can move on to the database creation.



Steps to Create a Database:

1.Database Design:

1. Before creating a database, it's crucial to design it. Consider the entities, relationships, and attributes relevant to the subject matter of the course.
2. For example, if the course is related to a university, entities might include students, courses, and professors.

2.Accessing MySQL:

1. On your MySQL server, either locally or remotely, access the MySQL command-line interface or a graphical interface like MySQL Workbench.

3.Creating a New Database:

1. Use the CREATE DATABASE statement to create a new database. For instance: CREATE DATABASE CourseDatabase;

4.Switching to the Database:

1. After creating the database, switch to it using the USE statement: USE CourseDatabase;

5.Creating Tables:

1. Design tables based on the entities identified earlier. Specify the columns, data types, and any constraints.
2. Example for creating a Students table:sqlCopy code

3. CREATE TABLE Students (student_id INT PRIMARY KEY, first_name VARCHAR(50), last_name VARCHAR(50), enrollment_date DATE);

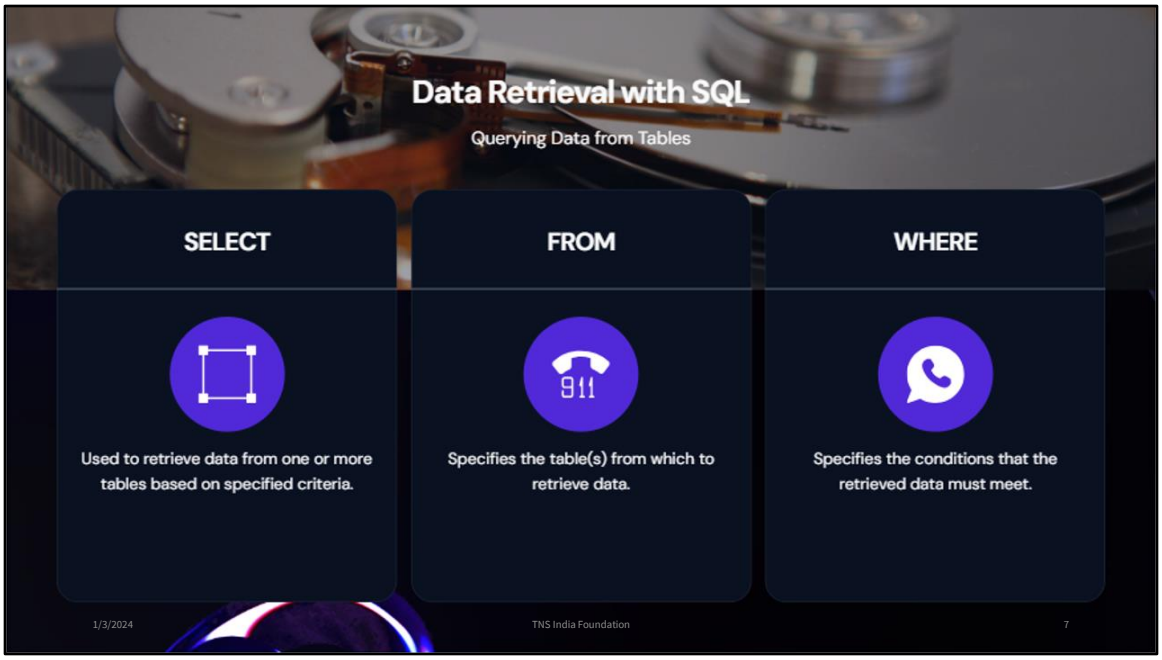
1.Inserting Data:

1. Populate the tables with sample data to work with during the course.
2. Example for inserting a student record: INSERT INTO Students (student_id, first_name, last_name, enrollment_date) VALUES (1, 'John', 'Doe', '2022-01-01');

2.Checking the Database Structure:

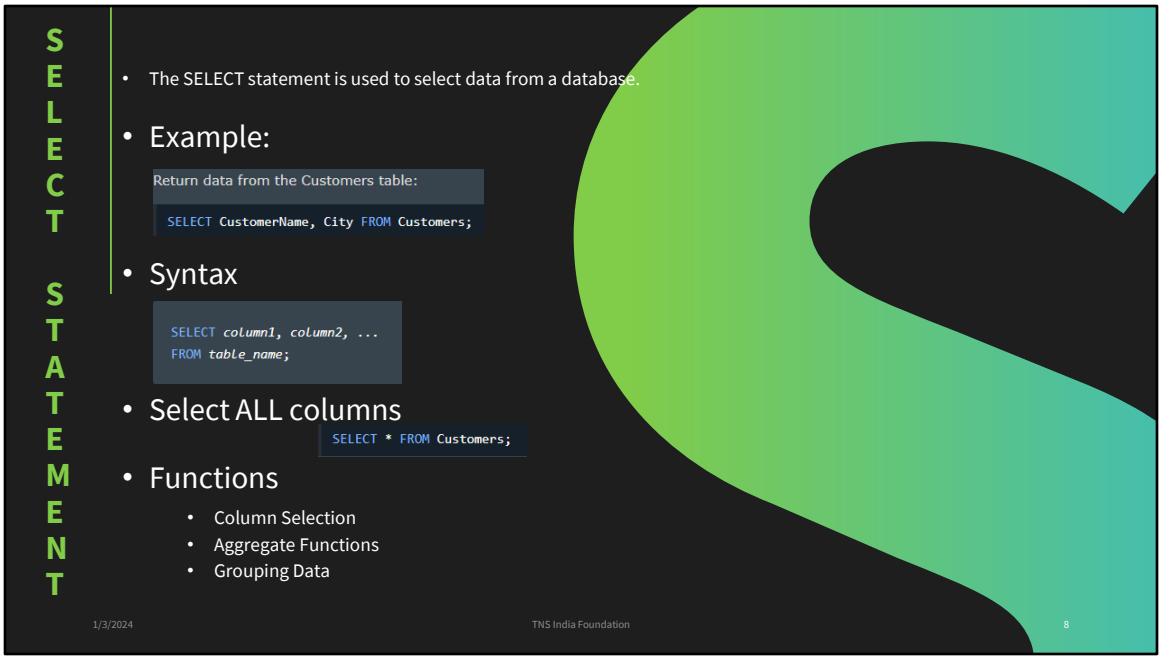
1. Use commands like DESCRIBE or SHOW COLUMNS to inspect the structure of tables.
2. Example: DESCRIBE Students;

A database most often contains one or more tables. Each table is identified by a name , and contain records (rows) with data.
SQL keywords are NOT case sensitive
Some database systems require a semicolon at the end of each SQL statement.



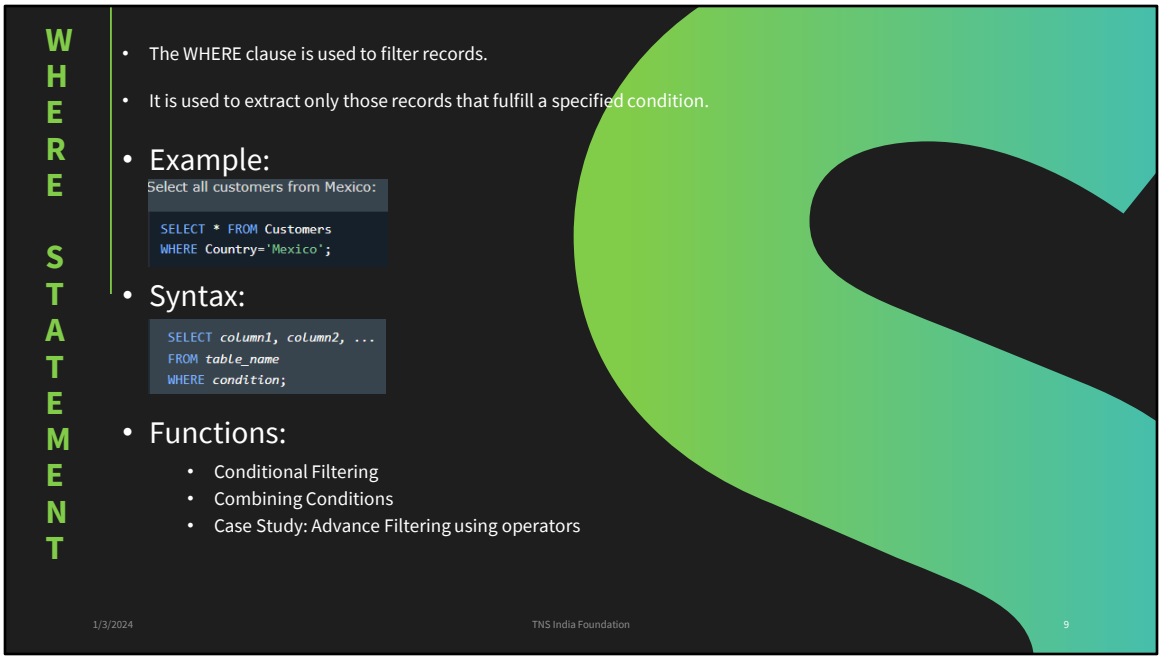
•Mastering SELECT, FROM, and WHERE is foundational for effective data retrieval in SQL.

•These commands provide the flexibility to extract the specific information needed from large datasets.



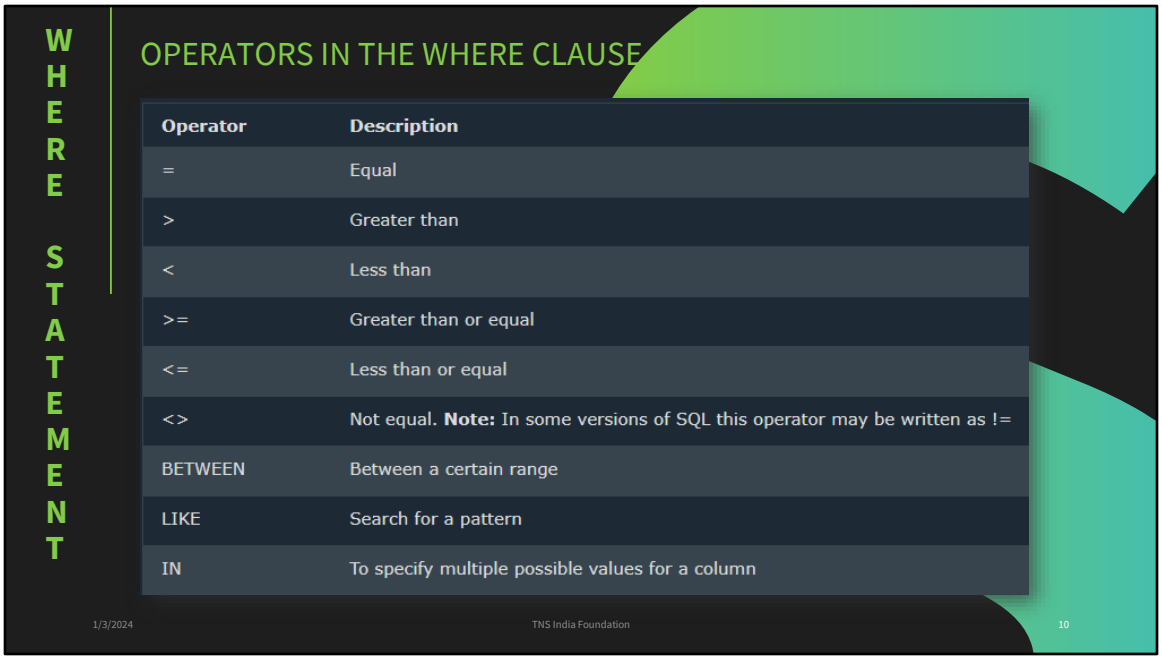
It allows users to create, edit, and retrieve data from databases, making it a powerful tool in various fields such as web development and data analysis.

Functions:
Exploring the SELECT clause for specifying columns to be retrieved.
Understanding functions like COUNT, SUM, AVG, and MAX for data summarization.
Implementing GROUP BY clause for data grouping and aggregation.



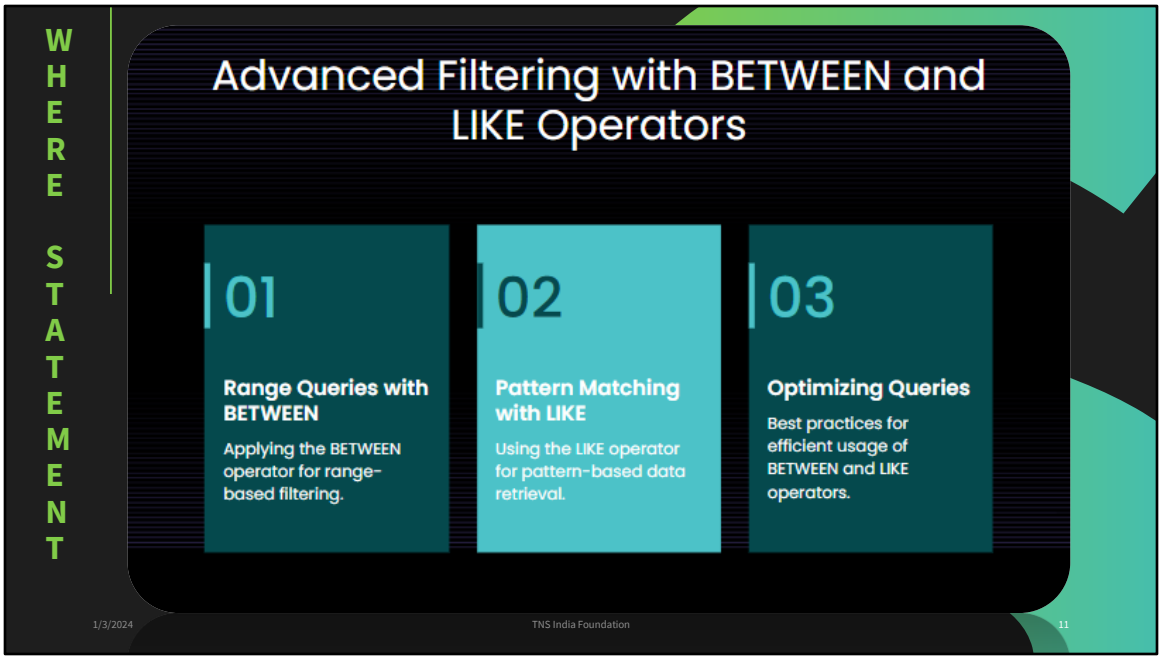
The WHERE clause is an essential component of SQL queries as it allows you to filter data based on specific conditions. By using the WHERE clause, you can specify criteria that must be met for the data to be retrieved. This helps you narrow down the results and retrieve only the data that meets your specified conditions.

The syntax for using the WHERE clause in a SELECT statement is as follows:



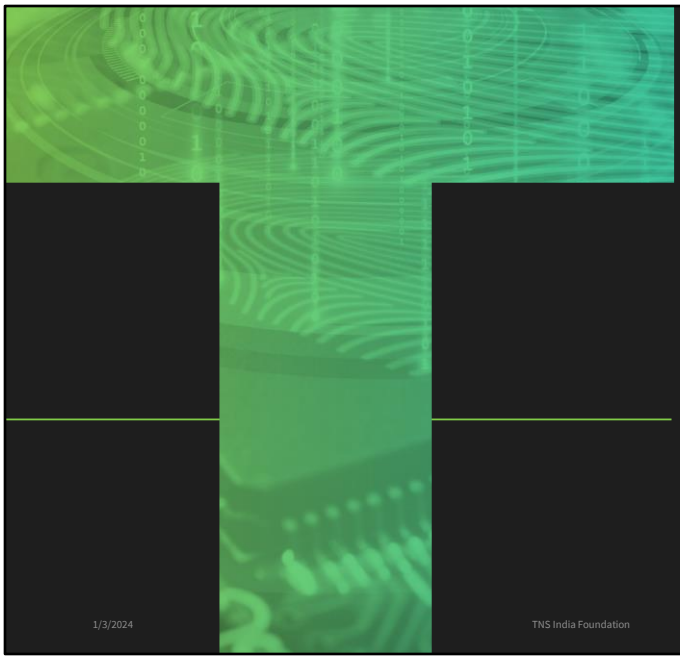
The WHERE clause is an essential component of SQL queries as it allows you to filter data based on specific conditions. By using the WHERE clause, you can specify criteria that must be met for the data to be retrieved. This helps you narrow down the results and retrieve only the data that meets your specified conditions.

The syntax for using the WHERE clause in a SELECT statement is as follows:



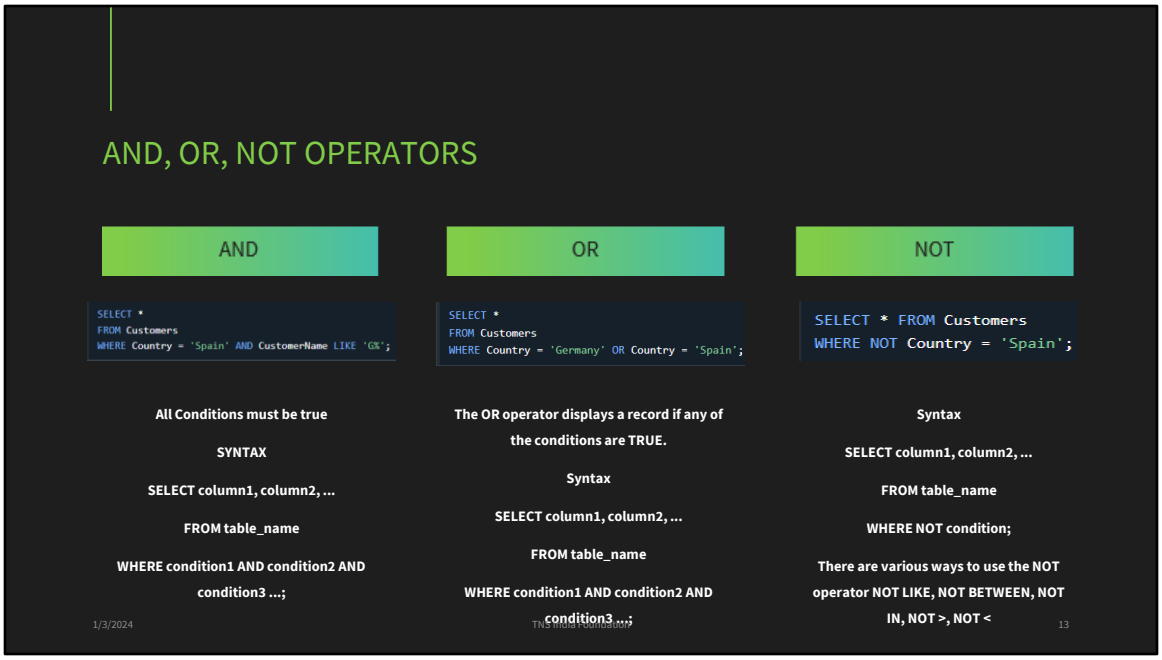
The WHERE clause is an essential component of SQL queries as it allows you to filter data based on specific conditions. By using the WHERE clause, you can specify criteria that must be met for the data to be retrieved. This helps you narrow down the results and retrieve only the data that meets your specified conditions.

The syntax for using the WHERE clause in a SELECT statement is as follows:



THE **AND**, **OR** AND **NOT** OPERATORS

The WHERE clause can contain one or many AND, NOT and OR operators.



The AND operator is used to filter records based on more than one condition, like if you want to return all customers from Spain that starts with the letter 'G':

The OR operator is used to filter records based on more than one condition, like if you want to return all customers from Germany but also those from Spain:

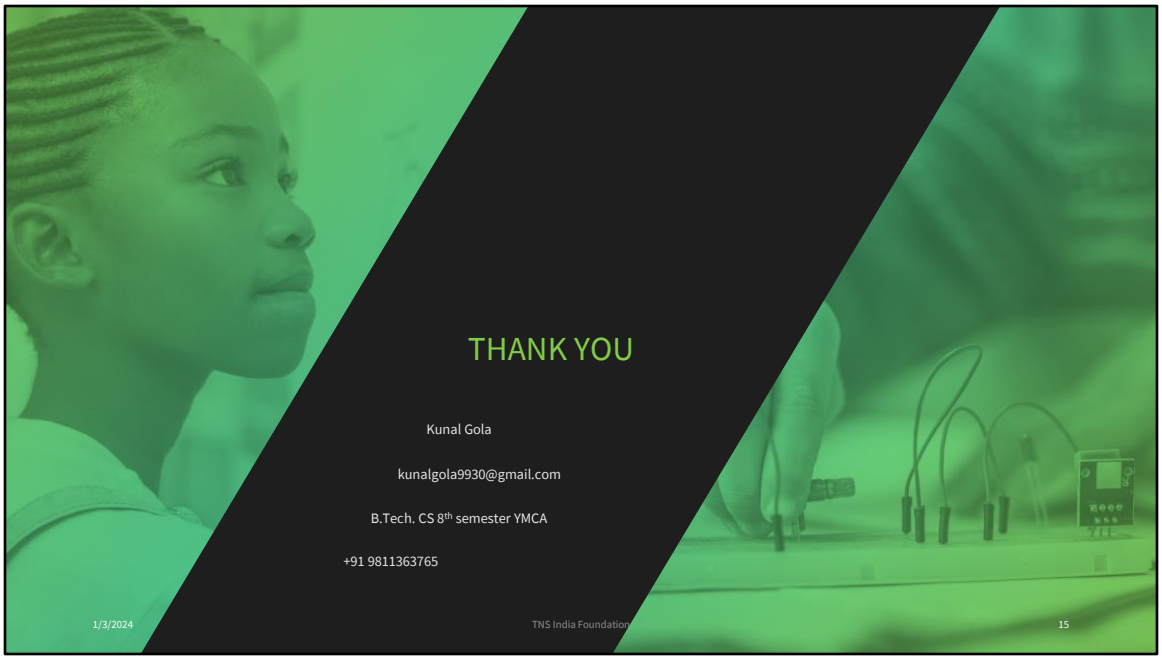
The NOT operator is used in combination with other operators to give the opposite result, also called the negative result.

CONCLUSION

In conclusion, SQL (Structured Query Language) is a powerful tool for managing and querying relational databases. Throughout this presentation, we've covered key aspects of SQL, including its installation, basic commands, and essential operators.

Conclusion:

•SQL empowers us to interact with and derive meaningful information from databases. Whether you are a beginner or an experienced developer, embracing SQL opens up possibilities for effective data management and analysis.



Thank You for Your Attention!

•We appreciate your time and engagement throughout this presentation. If you have any questions or discussions, feel free to ask.