

LAB# 02

Objective:

INTRODUCTION TO SQL AND IMPLEMENTATION OF DDL COMMAND

INTRODUCTION:

SQL (STRUCTURAL QUERY LANGUAGE):

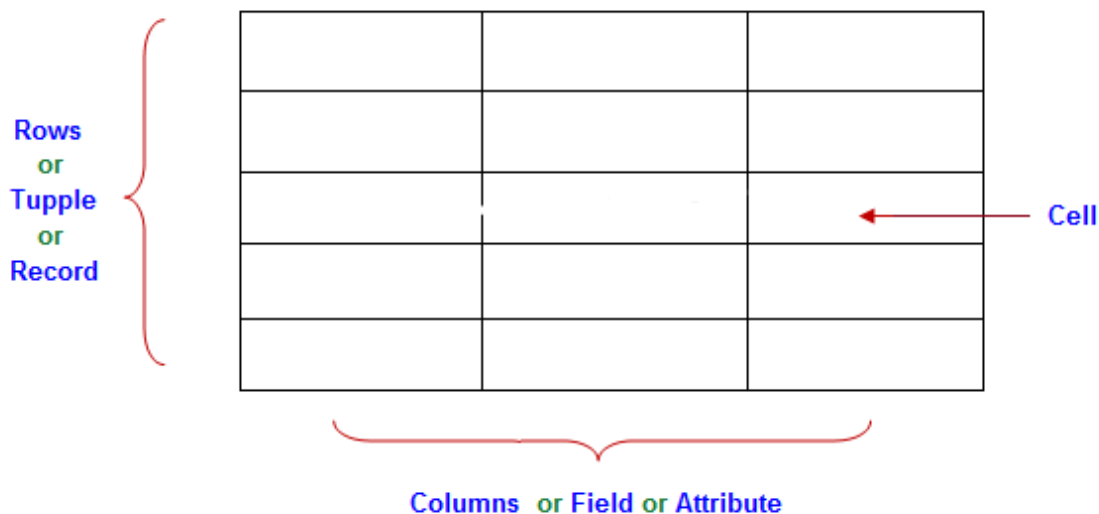
Structure Query Language(SQL) is a database query language used for storing and managing data in Relational DBMS. SQL was the first commercial language introduced for E.F Codd's **Relational** model of database. Today almost all RDBMS(MySql, Oracle, Infomix, Sybase, MS Access) use **SQL** as the standard database query language. SQL is used to perform all types of data operations in RDBMS.

SQL Process:

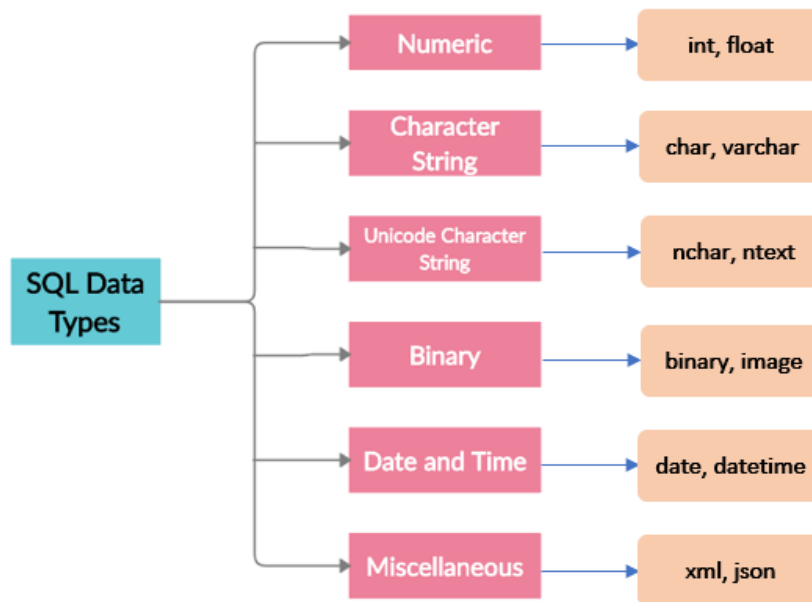
When you are executing an SQL command for any RDBMS, the system determines the best way to carry out your request and SQL engine figures out how to interpret the task.

Tables

In relational database systems (RDBS) data are represented using tables (relations). A query issued against the RDBS also results in a table. A table has the following structure:



SQL DATA TYPES:



DDL (Data Definition Language)

DML (Data Manipulation Language)

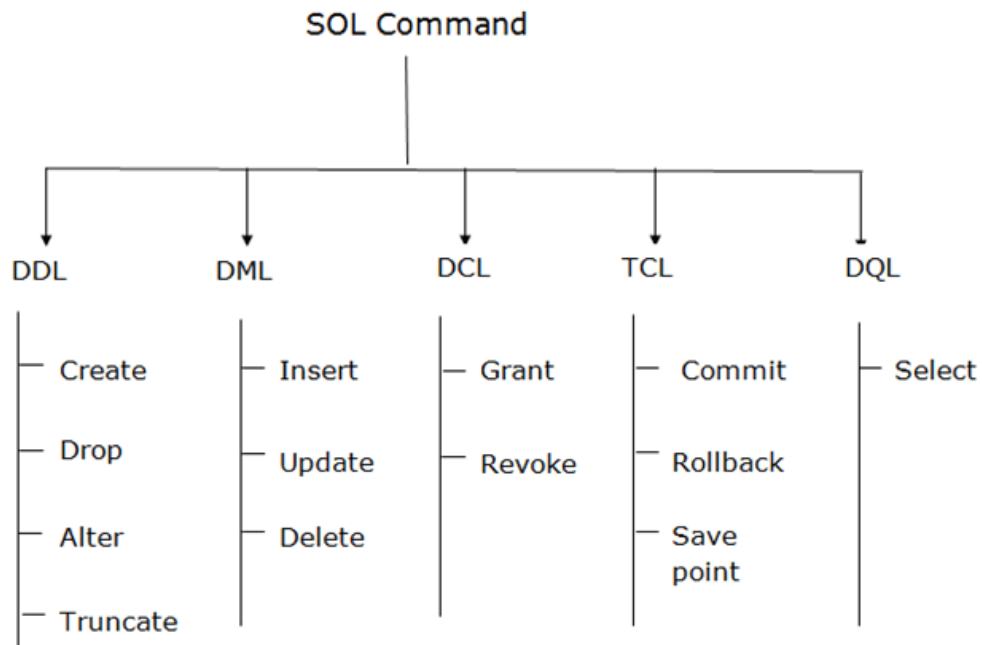
DCL (Data Control Language)

TCL (Transaction Control Languages)

DQL (Data Query Language)

SQL COMMAND:

SQL defines following ways to manipulate data stored in an RDBMS.



DDL (DATA DEFINITION LANGUAGE)

CREATE
ALTER
DROP
TRUNCATE

SQL COMMANDS

1. COMMAND NAME: **CREATE**

COMMAND DESCRIPTION: **CREATE** command is used to create objects in the database.

2. COMMAND NAME: **DROP**

COMMAND DESCRIPTION: **DROP** command is used to delete the object from the database.

3. COMMAND NAME: **ALTER**

COMMAND DESCRIPTION: **ALTER** command is used to alter the structure of database

4. COMMAND NAME: **TRUNCATE**

COMMAND DESCRIPTION: **TRUNCATE** command used to delete all the rows from the table and free the space containing the table.

SQL CREATE TABLE Syntax

```
CREATE TABLE table_name
(
column_name1 data_type(size),
column_name2 data_type(size),
....
);
```

```
CREATE TABLE employee
(
EmplyeeID int,
FirstName varchar(255),

LastName varchar(255),
salary int,
deptName varchar(255)
)
```

SQL ALTER TABLE - ADD Column

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

ALTER TABLE - DROP COLUMN

```
ALTER TABLE table_name
DROP COLUMN column_name;
```

ALTER TABLE - ALTER COLUMN

```
ALTER TABLE table_name
ALTER COLUMN column_name datatype;
```

SQL DROP TABLE

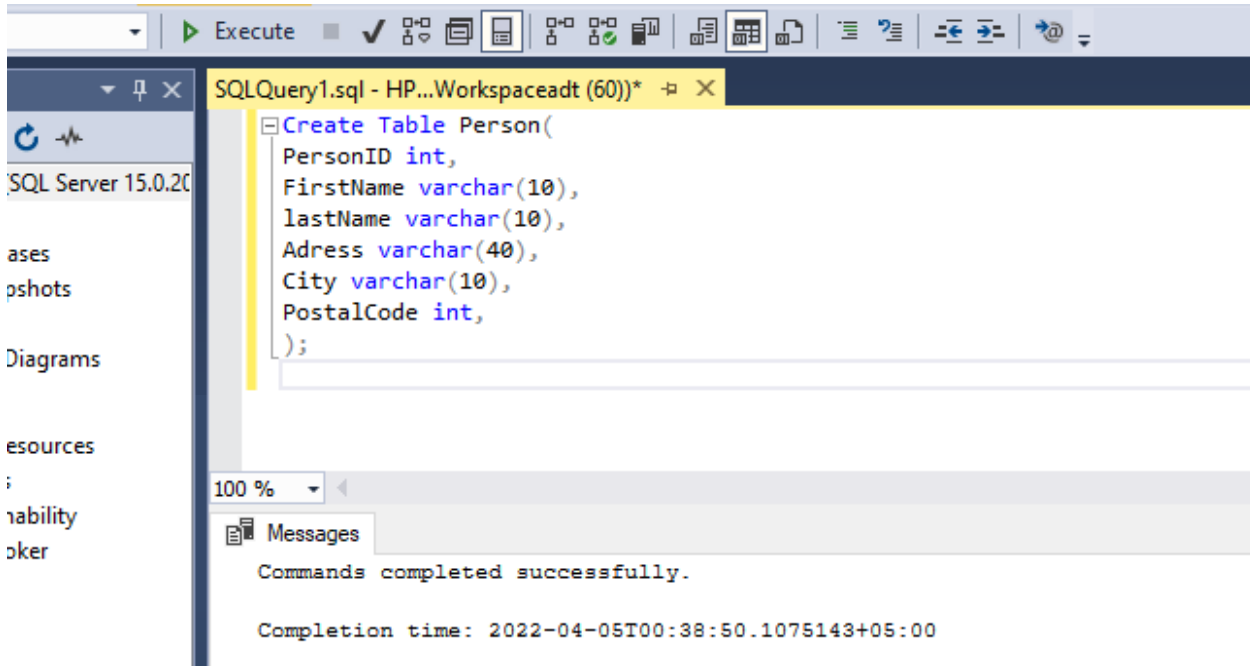
```
DROP TABLE table_name;
```

SQL TRUNCATE TABLE

```
TRUNCATE TABLE table_name;
```

LAB TASKS :

QUERY: 01: Write a query to create a table Person with PersonID , LastName, FirstName, Address & City, postal code and age .



The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the server hierarchy for 'SQL Server 15.0.2000.1'. The central pane shows a SQL query window titled 'SQLQuery1.sql - HP...Workspaceadt (60))' containing the following SQL code:

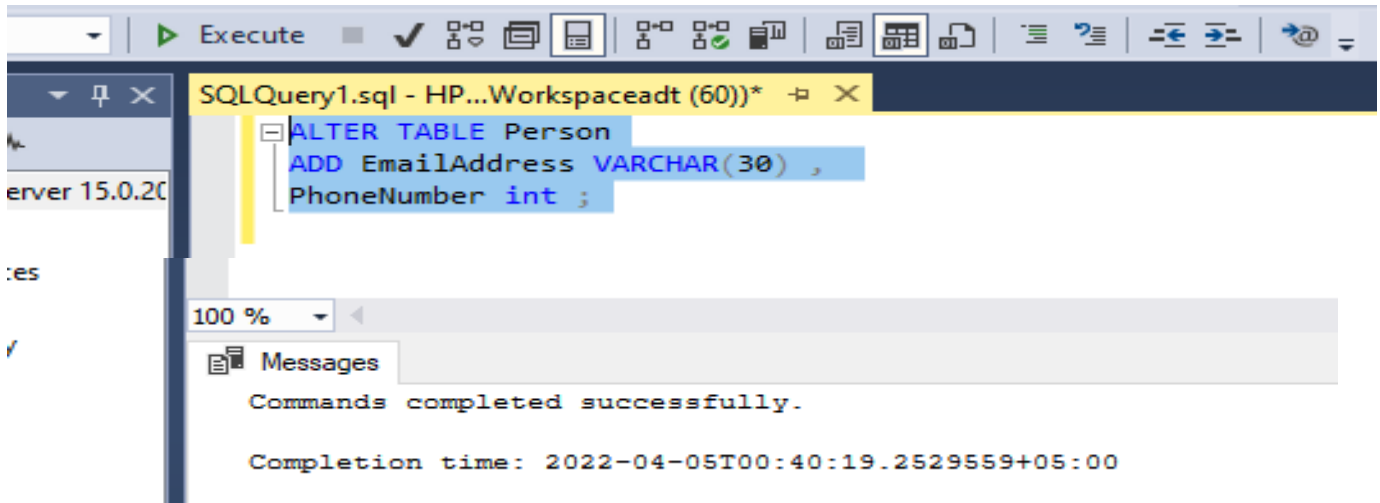
```
CREATE TABLE Person(
    PersonID int,
    FirstName varchar(10),
    LastName varchar(10),
    Address varchar(40),
    City varchar(10),
    PostalCode int,
    Age int
);
```

The bottom pane shows the 'Messages' tab with the following output:

```
Commands completed successfully.

Completion time: 2022-04-05T00:38:50.1075143+05:00
```

QUERY: 02: Write a query to add a DOB, email address and phone number column in to Persons table.



The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the server hierarchy for 'SQL Server 15.0.2000.1'. The central pane shows a SQL query window titled 'SQLQuery1.sql - HP...Workspaceadt (60))' containing the following SQL code:

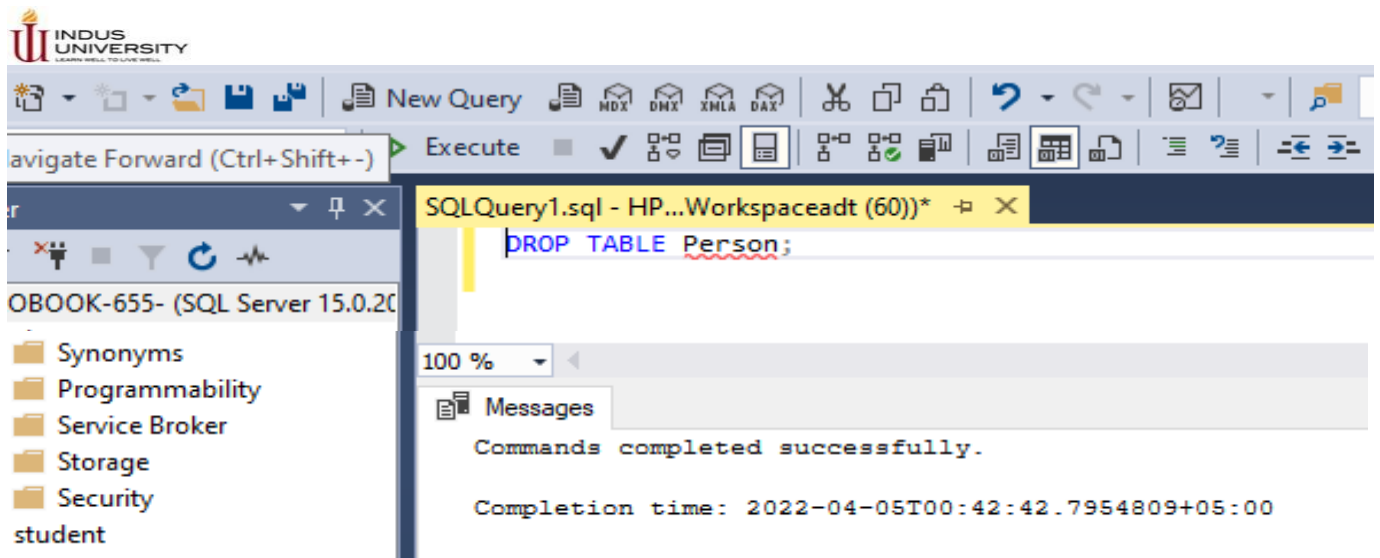
```
ALTER TABLE Person
ADD EmailAddress VARCHAR(30) ,
    PhoneNumber int ;
```

The bottom pane shows the 'Messages' tab with the following output:

```
Commands completed successfully.

Completion time: 2022-04-05T00:40:19.2529559+05:00
```

QUERY: 03: Write a query to drop an existing table Persons.



QUERY: 04: write a query to change data type of a column phone number in persons table.

