Government College of Engineering, Jalgaon **(An Autonomous Institute of Government of Maharashtra)**			
Name :	**Class :**	**Semester :** V	**PRN :**
T. Y. B.Tech Computer		**Academic Year :** 2022-23	**Subject :** CO307U
Course Teacher : Mr. Vinit Kakde		**Batch :**	
Date of Performance : / / 2024		**Date of Completion :** / / 2024	

Practical no. 2

Aim : Design and develop SQL DDL statements which demonstrate the use of SQL objects such as table, view, index, synonym.

Theory:

Introduction to SQL :

1. SQL stands for Structured Query Language.
2. SQL lets you access and manipulate database.
3. SQL is and ANSI standards.

Commands of SQL are grouped into four languages

1. **DDL** – DDL is a abbreviation of Data Defination Language. It is used to create and modify the structure of database objects in database.
2. **DML** – DML is abbreviation of Data Manipulation Language. It is used to retrieve, store, modify, delete, insert and data in database.
3. **DCL** – DCL is an abbreviation of Data Control Language. It is used to create rules, permissions, and referential integrity as well it is used to control access to database by securing it.
4. **TCL** – TCL is an abbreviation of Transactional Control Language. It is used to manage different transactions occurring within a database.

Data Defination Language (DDL)

The DDL part of SQL permits database table to be created or deleted. It also define indexes(keys), specify links between tables and impose constraints between tables. The most important DDL statements in SQL are

1. CREATE TABLE (create a new table)
2. ALTER TABLE (modify the table)
3. DROP TABLE (delete a table)
4. TRUNCATE (delete all the rows in a table)
5. CREATE INDEX (create an index i.e. search key)
6. DROP INDEX (delete an index)

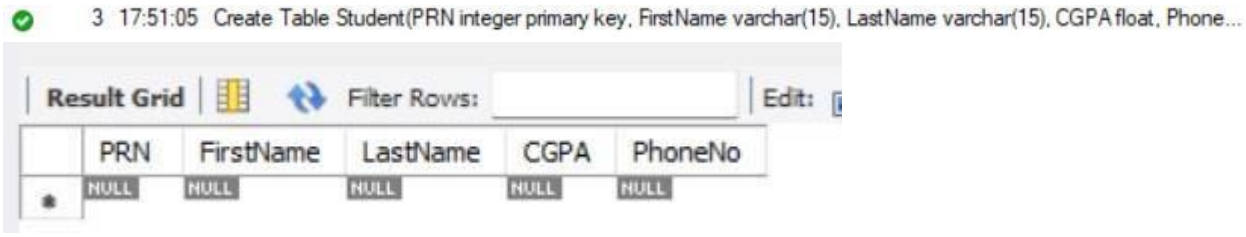
Queries and Outputs:

1. **Create Database :**

   Create database Student;

2. **Create Table**

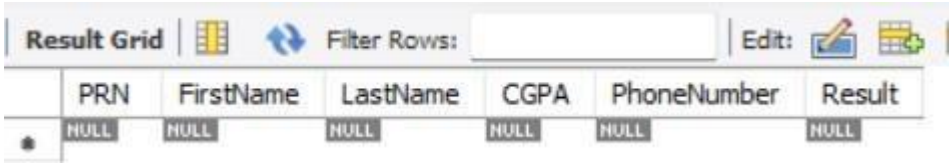
   Create Table Student(PRN integer primary key, FirstName varchar(15), LastName varchar(15), CGPA float, PhoneNo varchar(10));



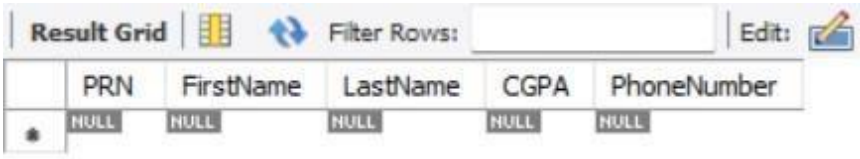
3. **Alter Table**

   a. ALTER Table Student RENAME COLUMN PhoneNo to PhoneNumber;

   b. ALTER Table Student ADD COLUMN Result boolean;

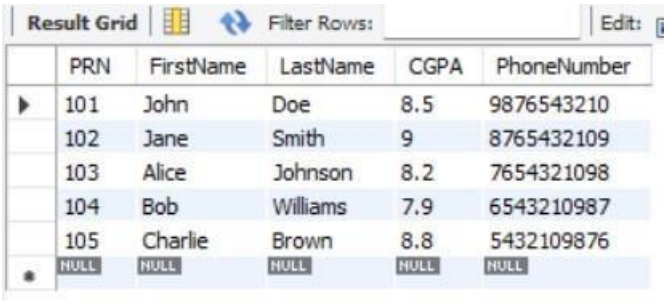


   c. ALTER Table Student DROP COLUMN Result;



4. Inserting 5 records:

```
INSERT INTO student (PRN, FirstName, LastName, CGPA, PhoneNumber)
VALUES
(101, 'John', 'Doe', 8.5, '9876543210'),
(102, 'Jane', 'Smith', 9.0, '8765432109'),
(103, 'Alice', 'Johnson', 8.2, '7654321098'),
(104, 'Bob', 'Williams', 7.9, '6543210987'),
(105, 'Charlie', 'Brown', 8.8, '5432109876');
```



Result Grid | Filter Rows: | Edit:

PRN	FirstName	LastName	CGPA	PhoneNumber
101	John	Doe	8.5	9876543210
102	Jane	Smith	9	8765432109
103	Alice	Johnson	8.2	7654321098
104	Bob	Williams	7.9	6543210987
105	Charlie	Brown	8.8	5432109876
NULL	NULL	NULL	NULL	NULL

5. Updatind data in PRN Column :

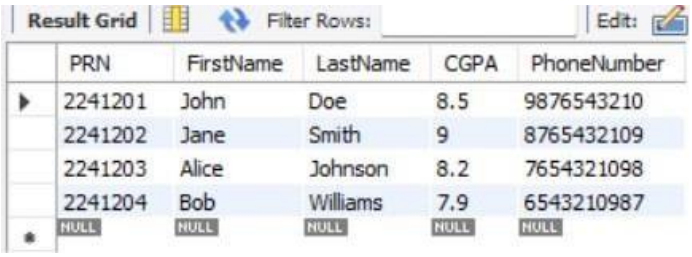
```
UPDATE student
SET PRN = 201
WHERE FirstName = 'John' AND LastName = 'Doe';
UPDATE student
SET PRN = 202
WHERE FirstName = 'Jane' AND LastName = 'Smith';
UPDATE student
SET PRN = 203
WHERE FirstName = 'Alice' AND LastName = 'Johnson';
UPDATE student
SET PRN = 204
WHERE FirstName = 'Bob' AND LastName = 'Williams';
UPDATE student
SET PRN = 205
WHERE FirstName = 'Charlie' AND LastName = 'Brown';
```

Result Grid | Filter Rows: | Edit:

PRN	FirstName	LastName	CGPA	PhoneNumber
2241201	John	Doe	8.5	9876543210
2241202	Jane	Smith	9	8765432109
2241203	Alice	Johnson	8.2	7654321098
2241204	Bob	Williams	7.9	6543210987
2241205	Charlie	Brown	8.8	5432109876
NULL	NULL	NULL	NULL	NULL

6. Deleting the student data where PRN = 2241205 :

```
DELETE FROM student
WHERE PRN = 2241205;
```



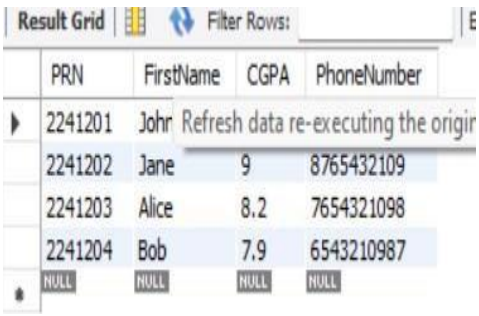
Result Grid | Filter Rows: | Edit:

PRN	FirstName	LastName	CGPA	PhoneNumber
2241201	John	Doe	8.5	9876543210
2241202	Jane	Smith	9	8765432109
2241203	Alice	Johnson	8.2	7654321098
2241204	Bob	Williams	7.9	6543210987
NULL	NULL	NULL	NULL	NULL

7. Listing record (PRN & CGPA) : **8. Deleting Column :** select PRN, CGPA from student; alter table student drop column lastname;

Result Grid

PRN	CGPA
2241201	8.5
2241202	9
2241203	8.2
2241204	7.9
NULL	NULL



Result Grid | Filter Rows:

PRN	FirstName	CGPA	PhoneNumber
2241201	Johr	Refresh data re-executing the origir	
2241202	Jane	9	8765432109
2241203	Alice	8.2	7654321098
2241204	Bob	7.9	6543210987
NULL	NULL	NULL	NULL

Conclusion:

In this practical, we used MySQL Workbench to perform essential SQL operations such as inserting student records, updating PRN values, deleting specific rows, and dropping a column. These tasks are fundamental for managing and maintaining a student database effectively.

Name & Sign of Course Teacher

Mr. Vinit Kakde