Course	**:**	**BIC 21404 Database**
Session	**:**	**II 2024/2025**
Lab task	**:**	**1**
Name	**:**	
Matric No	**:**	

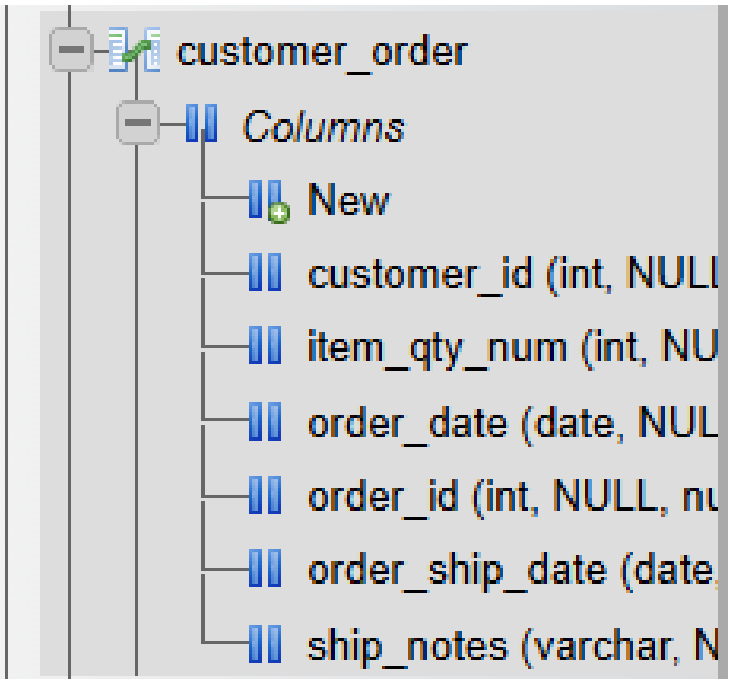
1. Summary of Lab 1 Task:

Write a summary (approximately 300 words) of lessons learned, difficulties arising, or new knowledge gained during Lab Exercise 1.

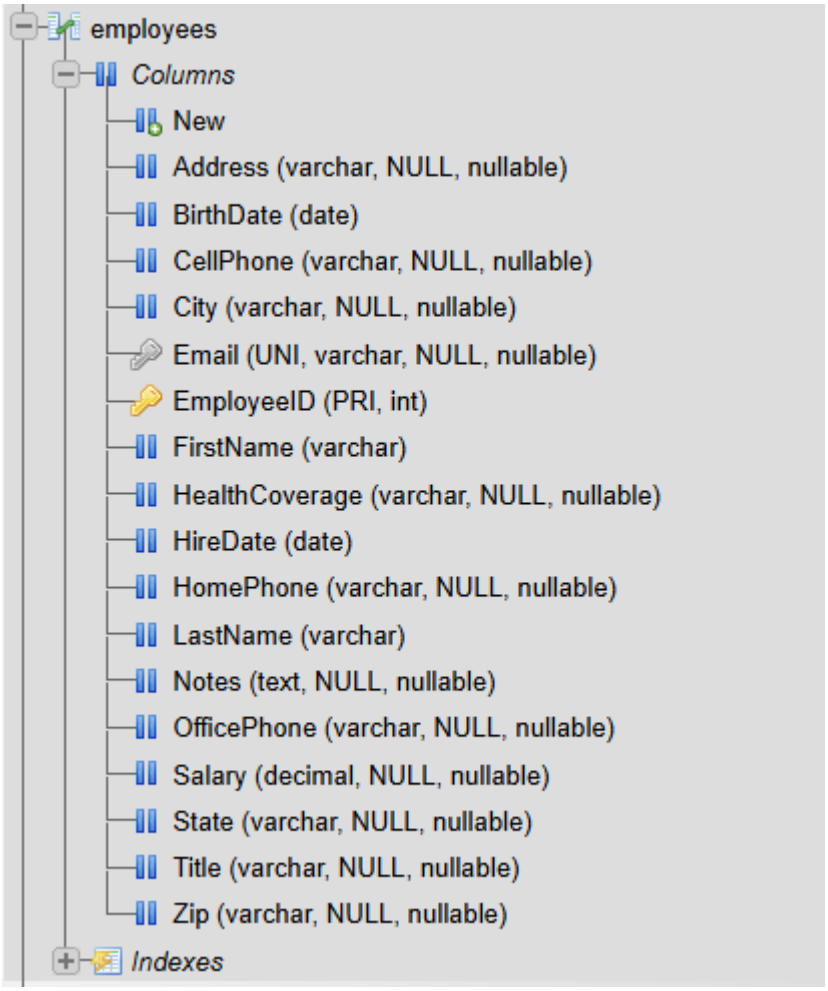
During **Lab Exercise 1**, we explored the installation and usage of **XAMPP**, as well as managing databases using **phpMyAdmin** and **MySQL**. XAMPP is an open-source software package that includes **Apache, MySQL, PHP, and Perl**, allowing developers to create and test web applications locally before deployment. Installing XAMPP was straightforward, and we accessed **phpMyAdmin** via http://localhost/phpmyadmin/. Through phpMyAdmin, we learned how to create a new database using the graphical interface and how to execute SQL commands manually, such as CREATE DATABASE IF NOT EXISTS BIC21404;. This hands-on approach helped us understand the structure and control of databases using **Structured Query Language (SQL)**. Additionally, we created tables within the database by defining attributes such as FirstName VARCHAR(50), HireDate DATE, and Salary DECIMAL(10,2). This step demonstrated the importance of selecting appropriate data types and enforcing constraints like **PRIMARY KEY** and **UNIQUE** to ensure data integrity.

One of the main challenges faced during this lab was understanding **SQL syntax** for table creation. Although phpMyAdmin provides a user-friendly interface, writing SQL statements manually required attention to detail, as minor errors could cause execution failures. Another common difficulty was ensuring that MySQL was running properly within XAMPP, as some students encountered **port conflicts** or **service errors**, which required troubleshooting by stopping conflicting services or changing port settings. Despite these challenges, we gained valuable knowledge about **Relational Database Management Systems (RDBMS)**, SQL queries, and database administration. The ability to interact with MySQL through both **phpMyAdmin** and **manual SQL queries** provided us with flexibility in database management. This lab was essential in helping us understand how databases work, how to create and manipulate them, and how SQL is used in real-world applications, laying the foundation for more advanced database-driven projects.

2. Show the capture screen showing the results of Exercise no. 1



3. Write the SQL statement and show the capture screen showing the results of Exercise no. 2


employees
Columns
New
Address (varchar, NULL, nullable)
BirthDate (date)
CellPhone (varchar, NULL, nullable)
City (varchar, NULL, nullable)
Email (UNI, varchar, NULL, nullable)
EmployeeID (PRI, int)
FirstName (varchar)
HealthCoverage (varchar, NULL, nullable)
HireDate (date)
HomePhone (varchar, NULL, nullable)
LastName (varchar)
Notes (text, NULL, nullable)
OfficePhone (varchar, NULL, nullable)
Salary (decimal, NULL, nullable)
State (varchar, NULL, nullable)
Title (varchar, NULL, nullable)
Zip (varchar, NULL, nullable)
Indexes

```
CREATE TABLE Employees (
   EmployeeID INT AUTO_INCREMENT PRIMARY KEY,
   FirstName VARCHAR(50) NOT NULL,
   LastName VARCHAR(50) NOT NULL,
   HireDate DATE NOT NULL,
   BirthDate DATE NOT NULL,
   Title VARCHAR(100),
   Salary DECIMAL(10,2),
   Address VARCHAR(255),
   City VARCHAR(100),
   State VARCHAR(50),
   Zip VARCHAR(20),
   HomePhone VARCHAR(20),
   OfficePhone VARCHAR(20),
   CellPhone VARCHAR(20),
   Email VARCHAR(100) UNIQUE,
   HealthCoverage VARCHAR(50),
   Notes TEXT
);
```