National University of Computer and Emerging Sciences, Lahore Campus

	Course Name:	**Fundamentals of Database Systems**	**Course Code:**	**CS2011**
	Program:	**BS Electrical Engineering**	**Semester:**	**Fall 2023**
	Assignment Submission Date:	**4-Oct-2023**	**Total Marks:** / **Weight:**	**80** / **3**
	Section:	**BEE-7A**	**PLO 1**	**C5**
	Exam Type:	**Assignment- 1**	**CLO #**	**2**

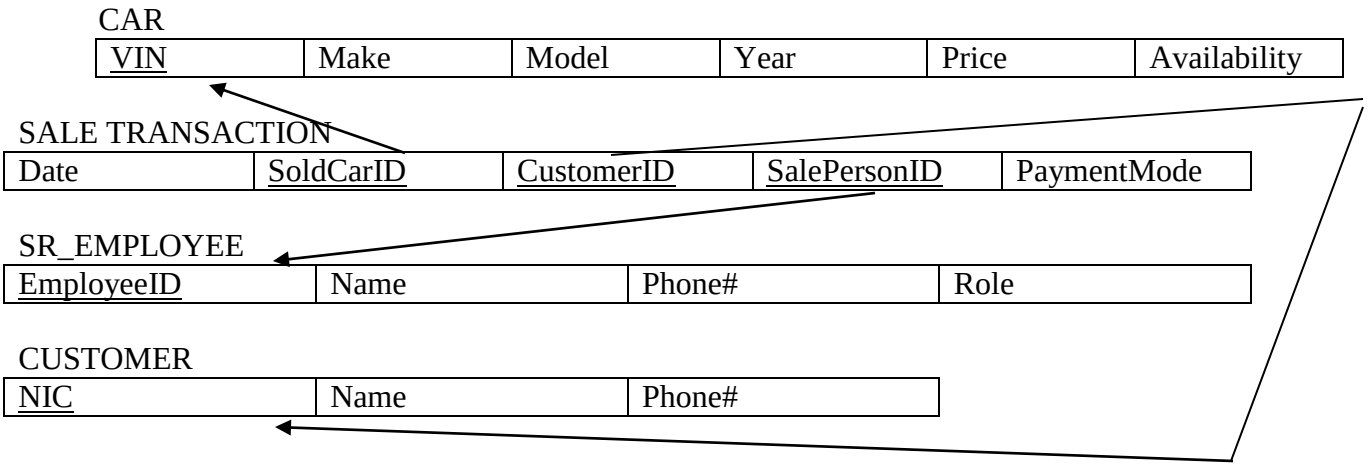
Instructions:

1. Please upload a word file named as your rollnumber consisting of your SQL queries and screenshot of outputs on slate by 1pm on 4-Oct-2023.
2. Academic integrity is expected of all the students. Plagiarism or cheating in any assessment will result in negative marking or an **F** grade in the course, and possibly more severe penalties.

-

Question No. 1 (CLO No. 2) **Marks: 80**

Consider the following relational database schema of a car showroom



a) Give SQL(DDL) statements to **construct** the above schema in the database (in order). Please ensure that for "availability" column of "Car" table there should only be two possible values of "In Stock" and "Out of Stock".

b) Please mention the order in which you upload the data which is provided in the in the accompanying **data.xls** file. Note that you are free to use any data import tool for loading the data provided, in the tables you created in part(a). **Please ensure that all the data is correctly loaded before proceeding with part(c).**

c) Write SQL(DML) query statement to answer each of the following queries. Please include the select query as well as a screenshot of the results you get when you run your query in the database. You wouldn't get any credit if the screenshot of the results you get on running the query is not there. Also please note that your query should be generic avoid using functions like e.g. TOP which are specific to MS SQL server.

1. Provide a sorted list of customers who have purchased cars along with make, model and price of the car.
2. List the names of salespeople who have handled transactions for customers with '123' in their phone numbers and price of car in the range 30000 to 40000.

3. Find the total number of sales transactions handled by each showroom employee, sorted by employee name.
4. List **all** the showroom employees alongwith transaction details they have made. If an employee hasn't made a transaction null should appear against transaction.
5. Show all the details of cars that are "In Stock" and have not been sold yet sorted by car make and model.
6. List the name(s) of customer who have bought both a Honda Civic as well as a Chevorlet Malibu.
7. Give the make and model of the 3rd most expensive car.
8. Give the name(s) of the customer who has bought the most expensive car that has been sold.
9. What are the details of the most recent sales transaction, including the car sold, customer information, and payment details?
10. Identify the top-selling car model (the one sold the most) and the total number of units sold.