# Overview of the Assignment:

Oracle, IBM DB2 and other ORDBMS that support standard object-relational features.

**Please submit screenshots demonstrating the execution of your SQL statements, both DDL , DML and the results of the SQL statements.**

# Object-relational DBMS

In this exercise, we will construct and query an *AUTOMOBILE* table by using abstract data types (ADTs), VARRAYs, and nested tables. The syntax is for Oracle.

1. Create a *PERSON\_TY* abstract data type which has the following fields -- first\_name, last\_name, date\_of\_birth. Assign each field an appropriate data type.
2. Create a *DRIVER\_TY* abstract data type which has the following fields -- *PERSON\_TY,* Drivers\_License\_ID, Date Driven. Assign each field an appropriate data type.
3. Create a *OWNER\_TY* abstract data type which has the following fields -- *PERSON\_TY, Date\_Purchased, Date\_Sold.* Assign each field an appropriate data type.
4. Create a *OWNERS\_VA* VARRAY of the *OWNER\_TY* abstract data type you created in step 2. Define the VARRAY to allow for 3 *OWNER\_TY* elements.
5. Create an *AUTOMOBILE* table which is composed of the following elements:

* A vehicle\_identification\_number field which is the primary key.
* An OWNER*\_VA* VARRAY.
* A nested table named *DRIVERS\_NT* which contains the following fields – *DRIVER\_TY*. Assign each field an appropriate data type.

1. Insert the following rows into the *AUTOMOBILE* table:  
   **ROW 1**

* The Vehicle Identification Number is 101.
* The first driver is named "Erin Smalltalk", who was born on 5/23/1965, driver license MA101, date driven 3/1/2018.
* The second driver is named "Joe Smalltalk", who was born on 10/7/1982, driver license MA204, date driven 3/15/2018.
* The only owner is named "Lance Smalltalk", who purchased the automobile 1/29/2016.

**ROW 2**

* The Vehicle Identification Number is 102.
* The first driver is named "Julie Goldstein", who was born on 7/19/1977, driver license MA506, date driven 1/5/2016.
* The second driver is named "Max Lucids", who was born on 2/12/1987, driver license MA706, date driven 3/5/2018.
* The first owner is named "George Stephanopolis", who purchased the automobile 7/15/2014 and sold on 6/17/2016.
* The second owner is named "Max Lucids", who purchased the automobile on 6/18/2016.

1. Write a query which lists the first and last names of all drivers, along with the vehicle identification number of the car they drive and date driven.
2. Write a query which lists the first and last names of all owners, along with the vehicle identification number of the car, the date of purchase and sale.

Use the **Ask the Teaching Team Discussion Forum** if you have any questions regarding the how to approach this assignment.

Save your assignment as ***lastnameFirstname\_assign6\_0.docx*** and submit it in the *Assignments* section of the course.

For help uploading files please refer to the *Technical Support* page in the syllabus.