

Module 5 Lab

Lab Notes:

Complete as many of the following problems as you can in the available lab time.

Any problems that you don't complete can be used as self-study aids outside of class. An answer key can be found on your lab machine under the C:\SQLForDA\ folder.

Query Problems

1. Write a query to find the full name and address of the 100 customers who've spent the most money on cars. Use an uncorrelated subquery in the WHERE clause.
2. Write a query that lists the customer's first and last name, sales amount, sales date, and a fourth column named "Sales Amount Group" that display the text string "Above Average" if the sales amount is above the overall average sales amount, and "Below Average" if the sales amount is below the average sales amount. Use an uncorrelated subquery in the SELECT list.

HINT: Use the uncorrelated subquery within an IIF or CASE statement.

3. Write a query that returns the car id, make, model, year, sales amount, and sales date for the two largest sales from each year. Sort the results from most recent to oldest. Use a correlated subquery.

HINT: The correlated subquery should be in the WHERE clause and use the YEAR function.

4. Write a query that returns the sales person's first and last name, the sales date and sales amount for each sale. Include a column that lists the average sales amount over all sales for that sales person. Sort the results by last name, then first name. Use a derived table.

HINT: Create a derived table that lists the SalesPersonID and average sale for each sales person.

5. Re-write the query you wrote for Module 5, Query Problem 4 using a common table expression rather than a derived table.

HINT: Your CTE should list the SalesPersonID and average sale for each sales person.

6. Write a query that returns the last name and first name of each customer who's purchased a car, the customer's marital status, whether he or she lives in a rural, suburban, or urban area, and the average sales amount of cars purchased by that customer.

Also include a column named "Marital Rural/Urban Average" that lists the average sales amount

for all customers with the same marital status and RuralUrban values. Sort the output by last name, and then first name. Use derived tables.

HINTS:

- a. Create one derived table that lists the customer id and average sales amount for that customer.
 - b. Create another derived table that lists the average sales amount for each marital status value and RuralUrban value. You'll need to JOIN this table to the others on marital status and RuralUrban value.
7. Write a query that returns the name and complete mailing address for the 25 customers who've spent the most on cars and live in an urban area. Use a common table expression.

HINT: Create a CTE that returns the customer id's of the top 25 urban customers, then use this in an IN operation.