

## MEMO

**DATE:** March 1, 2021  
**TO:** Cambria Art Gallery Development Teams  
**FROM:** Leonard  
**SUBJECT:** Development Guidelines

**DUE DATE:** Wednesday, March 10, 2021 11:59pm

### SQL Chapters needed to complete this task:

SQL 1: Retrieving Data Using the SQL Select Statement (SELECT)  
SQL 2: Restricting and Sorting Data (ORDER BY)  
SQL 3: Using Single-Row Functions to Customize Output (CONCATENATE ... or use ||)  
SQL 4: Using Conversion Functions and Conditional Expressions (NVL function)  
SQL 5: Reporting Aggregated Data Using the Group Functions (IMPORTANT)  
SQL 6: Displaying Data from Multiple Tables (IMPORTANT)  
SQL 7: Using Subqueries to Solve Queries (IMPORTANT)  
SQL 11: Creating Other Schema Objects (CREATE VIEW, IMPORTANT)

- STATE ANY ASSUMPTIONS YOU HAVE MADE
- CHECK YOUR WORK TO ASSURE IT IS CORRECT
- IF YOU ARE UNABLE TO ACCOMPLISH ANY PART OF THIS TASK, THIS MUST BE STATED AT THE BEGINNING OF YOUR SUBMISSION. NO PARTIAL CREDIT WILL BE GIVEN FOR THIS TASK IF IT CAN BE EASILY DETERMINED THAT YOU HAVE SUBMITTED WORK THAT IS INCORRECT.
- CHECK YOUR SCRIPT TO ASSURE YOUR CODE MATCHES YOUR ERA DIAGRAM.
- MAKE SURE YOU HAVE ADDED SUFFICIENT DATA AND A VARIETY OF DATA TO SHOW YOUR QUERIES ARE CORRECT.
- **FORMAT YOUR QUERIES SO THAT THEY ARE EASY TO READ AND I DO NOT HAVE TO SCROLL TO THE RIGHT**

### TASK 6: Analysis

Queries: Write SELECT statements to answer / show the requested information

#### NOTES: **READ THIS ...**

1. Concatenate names with a blank between first and last name if any names are requested.
2. Do NOT add any extra attributes to tables that provide answers to these queries and make the query easier to write (e.g., adding NumberOfPurchases to the Customer table). One goal of these queries is to have to put together data from different tables using JOIN commands and to create queries that do calculations.
3. Create good column aliases for all calculated values.
4. Order By should always be ascending unless asked specifically to be descending.
5. **When asked to provide a single value as output (as in Query Customer Analysis 3), include at the beginning of the output words that describe what is being displayed (for Query: Customer Analysis 3 you would display: Number of customers: ) REMEMBER TO DO THIS!!**

**EACH QUESTION IS INDEPENDENT. ONLY ANSWER WHAT IS BEING ASKED IN A PARTICULAR QUESTION**

**PLACE A COMMENT BEFORE EACH CREATE OR REPLACE VIEW statement as I have shown for the first two queries in CUSTOMER ANALYSIS. Do this for each query in each of these set of queries.**

## **CUSTOMER ANALYSIS (CA)**

### **--QUERY Customer Analysis 1 \*\*\*\*\***

1. List of customers (Name, Phone) and the number (COUNT) of pieces of art they have purchased. If a customer has not purchased any work of art, the query must return 0 for them. List in decreasing order of number of pieces of art purchased.

### **--QUERY Customer Analysis 2 \*\*\*\*\***

2. List of customers (Name, Phone) who have purchased a work of art from us and have also had a work of art serviced from us (order by last name).

**Etc ...**

3. How many customers have purchased a work of art from us but have not had a work of art serviced by us?
4. List of all customers (Name, Phone) who are interested in paintings and their interest is still relevant (i.e., end date hasn't passed or is not specified). Comments:
  - a. Note, this query should run correctly to answer this even if you do not have data that has a result.
  - b. Because end date was not required, I assume you have put some entries in where the end date is not specified and so your query must deal with this condition.
  - c. If you want to test your query, add at least 3 records as follows: one where the customer is interested in paintings and the end date is still in the future, one where the customer is interested in paintings and the end date has passed, and one where the customer is interested in paintings and the end date is null. Your query should retrieve the first and third of these 3 records.
5. List of customers (Name, phone) who bought artwork from us and did not purchase a warranty (only show customer names once). Order by last name.
6. Which customer purchased the most number of artwork from us? Show Customer Name and the number of artwork purchased.
7. From which customer did we make the most amount of money in artwork sales? (Show Customer Name and amount we earned. (Amount we earned is selling price – discount – purchase price).

## ART SALES ANALYSIS (ASA)

### --QUERY Art Sales Analysis 1 \*\*\*\*\*

1. How many works of art were sold? Be sure to put in: Number of artwork sold: (I mention this here but don't mention it again ...)

### --QUERY Art Sales Analysis 2 \*\*\*\*\*

2. How many works of art of each art category were sold? Show artwork category and number of artwork sold in that category. (Extra Credit if you can figure out a nice way to show 0 for categories that not had any artwork sold).

Etc.

3. What is the current value of art work on hand (i.e., art work still for sale, not including artwork on consignment)? Use purchase price as the value of a work of art to answer this question.
4. List of artwork on consignment where we have not reached the End Date as specified in the Consignment agreement. Show Artwork ID, Art Category, Art Title, Status, Proposed selling price.
5. How much did Leonard make in consignment artwork sales? Calculated based on actual selling price less discounts and using the percent commission as listed in the Consignment Agreement.

## ART SERVICE ANALYSIS

### --QUERY Art Service Analysis 1 \*\*\*\*\*

1. How many services were offered in the past 30 days? (based on when the query is run, not hardcoded to be specific date)
2. How much in profit did Cambria Art Gallery make in Services? (Profit is price – cost).
3. List of all profits (price less cost) for all services performed where the profits are grouped by service type (e.g., framing) Show service type, sum of profits, sum of costs, and profit.
4. Which service was the most profitable? Show only the name of the service and the amount earned by performing that service.

## PROFIT / EMPLOYEE ANALYSIS

1. List the name of sales person who sold the highest number of artwork items. Show sales person name and the number of artwork sold.
2. List the name of the sales person who earned the highest in total commissions on artwork that was sold (i.e., do not take into consideration Consignments). Sales people earn commission on the profit (Profit = Selling Price – discount – purchase price). Show sales person name and the total amount of the commissions earned.
3. List the name of the sales person who earned the highest commission on an individual sale of a work of art. (Show sales person name and the amount of that commission).

#### EXTRA CREDIT:

1. List of artwork and the name of the artist. Show Artwork ID, Artwork Title, Artist ID, Artist Name.
2. List the names of the artists and the number of artwork we have in the artwork table (includes those for sale, sold, and on consignment). Show Artist ID, Artist Name, Number of works of art.
3. Show the name of the artist that has been the most profitable for us (only consider artwork that we purchased and sold). Show name of artist and the amount of profit we made.

#### SUBMISSION REQUIREMENTS

##### **SUBMISSION PART 1: SCRIPT consisting of the following:**

Comment statements with the names of your team members and required comments as mentioned above.

CREATE OR REPLACE VIEWS for all queries. Add comments as specified above.

##### **SUBMISSION PART 2: PDF document showing Query statements and their results**

Present your work as follows:

*If the results are wide, you will need to submit two print screens showing left and right sides of the output.*