

# **Introduction to Relational Database – DATA1201:**

## **My Guitar Shop Project Part 1**

### **DIRECTIONS**

This group project will test your ability to translate what you studied throughout the course into a project. You will be given a starting database for a music shop with sample data and will be required to use your knowledge of relational databases and SQL to accomplish various tasks. This is part one of the project. The project is in two parts.

The project contributes to 30% of your final grade and this part contributes to 15% of it.

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### Instructions

1. Form a group. Maximum 3 members.
2. Create a Git group repository. Repository should contain all the group deliverables. Repository will be used to assess work habits and individual contributions.
3. **Setup the database:** In this step, you need to download the database script from link and run it using the Management Studio, this will setup the database with sample data. (Add screenshot to deliverable file)
4. **ERD:** In this step, you need to investigate the various tables in the database and draw an ERD for this database (14%) (do not use auto generation)
5. **Mockup:** Basic screen mockup (user interface) that would allow users to add data to the database.
6. **Data Retrieval:** You need to write the appropriate SQL statement to accomplish the following:
  - a. Write a SELECT statement that returns four columns from the Products table: ProductCode, ProductName, ListPrice, and DiscountPercent. Sort the result set by list price in descending order.
  - b. Write a SELECT statement that returns one column from the Customers table named FullName that joins the LastName and FirstName columns. Format this column with the last name, a comma, a space, and the first name. For instance: Doe, John. Sort the result set by last name in ascending order.
  - c. Write a SELECT statement that returns the OrderID, the OrderDate and the ShipDate for rows that have the ShipDate as null.
  - d. Write a SELECT statement that returns these column names and data from the OrderItems table: ItemID , ItemPrice, DiscountAmount ,Quantity, PriceTotal (calculated by multiplying the item price by the quantity), DiscountTotal (calculated by multiplying the discount amount by the quantity), ItemTotal (calculated by subtracting the discount amount from the item price and then multiplying by the quantity)
  - e. Write a SELECT statement that joins the Customers, Orders, OrderItems, and Products tables. This statement should return these columns: LastName, FirstName, OrderDate, ProductName, ItemPrice, DiscountAmount, and Quantity. Sort the final result set by LastName, OrderDate, and ProductName.

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- f. Use the UNION operator to generate a result set consisting of three columns from the Orders table:

ShipStatus                      A calculated column that contains a value of SHIPPED  
or NOT SHIPPED

OrderID                        The OrderID column

OrderDate                    The OrderDate column

If the order has a value in the ShipDate column, the ShipStatus column should contain a value of SHIPPED. Otherwise, it should contain a value of NOT SHIPPED.

Sort the final result set by OrderDate.

- g. Write a SELECT statement that returns these columns:
  - i. The count of the number of orders in the Orders table
  - ii. The sum of the TaxAmount columns in the Orders table
- h. Write a SELECT statement that answers this question: What is the total amount ordered for each product? Return the following columns:
  - The product name from the Products table
  - The total amount for each product in the OrderItems table
- i. Write a SELECT statement that answers this question: Which products have a list price that's greater than the average list price for all products? Return the ProductName and ListPrice columns for each product. Sort the results by the ListPrice column in descending order.
- j. Write a SELECT statement that returns one row for each category that has never been assigned to any product in the Products table.

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### General submission guidelines

- Commit deliverables to your private assignment GitLab:
- Once you are ready to submit your assignment for marking, drop the submission file in the D2L assignment dropbox. The file should contain:
  - Your identification information (see below).
  - Your repository address with specific revision you want to be considered.
  - External sources disclosure. Use “No external sources” when appropriate.
  - Journal and self-reflection. At minimum your self-reflection should include: *How did you arrive to the solution? What did you struggle with? Which kind of tests did you use to validate your solution? Which part of this assignment was the most difficult to do?*

#### **Git repository:**

*lrdb\_termyear\_grpname*

***Submission file (individual) should be named as follows (self-reflection and journal):***

*DATA1201\_termyear\_project1\_groupname\_bvcusername.pdf*

***SQL script file should be named as follows:***

*DATA1201\_termyear\_project1\_groupname.sql*

***Screen mock-up file should be named as follows:***

*DATA1201\_termyear\_project1\_groupname\_mockup.pdf*

***Results file should be named as follows:***

*DATA1201\_termyear\_project1\_groupname\_results.zip*

***Individual CSV file should be named as follows:***

*DATA1201\_termyear\_project1\_groupname\_questionId.zip*

***All files (with exception of CSV and zip) should identify the author with the following information:***

*Course code : DATA1201*

*Term/Year : TermYear*

*Assignment code: P1*

*Author :*

*BVC username:*

*Date created : YYYY-MM-DD*

*Group name:*

*Git address:*

*Description :*

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### Rubric (out of 100 marks)

Question	Mark
1 Work habits, journal, and self-reflection	5
2- ERD entities	10
2- ERD relationships	10
2- ERD attributes	5
3a – Screen mock up – consistency, usability, completeness (min 4 screens to qualify for any marks in 3a and 3b)	7
3b – Screen mock up – choice of widget in relation to column	7
4.a (correctness and convention)	5.5
4.b (correctness and convention)	5.5
4.c (correctness and convention)	5.5
4.d (correctness and convention)	5.5
4.e (correctness and convention)	5.5
4.f (correctness and convention)	5.5
4.g (correctness and convention)	5.5
4.h (correctness and convention)	5.5
4.i (correctness and convention)	6
4.j (correctness and convention)	6

Project will not be accepted after submission end date (see D2L).

File(s) with wrong name and/or format/extension will be ignored and will not receive marks.

You will receive 0 (zero) if the URL for your commit is not correct or accessible to your instructor.

**If any part of the project is deemed to be not original (plagiarized) EVERYBODY involved will receive 0 (zero).**

**\*\*\* end of assignment**