Northeastern University
Khoury College of Computer and Information Sciences

CS1100: More Practice Querying Databases

Knowledge Needed

This lab requires the following Access techniques:

- Building queries using multiple tables using WASE (<u>W</u>idening-<u>A</u>ggregation-<u>S</u>election-<u>E</u>limination of duplicates) also called WAFE (<u>W</u>idening-<u>A</u>ggregation-<u>F</u>iltering-<u>E</u>limination of duplicates)
- Use GROUP BY to eliminate duplicates
- Apply aggregation functions to groups as well as tables
- Create calculated fields (Widening)
- Leverage nested queries to build complex queries
- Follow the Principle of Simplest Query (WAFE)

The Database

This database represents customer and order information for the *GoodReads* bookstore. We have been asked to help the owner understand his sales better and therefore have been given certain queries. For each of the problems assume that the data in the database might change. Your query should give the correct results for whatever data happens to be in the database. If the problem says that your query result should not have duplicate entries for a particular field, it is not sufficient that your there are no duplicate entries for the particular data in the database. Your query must give unique values for that field whatever data happens to be in the database.

Database Structure

To help you in designing queries, the database structure is shown below:
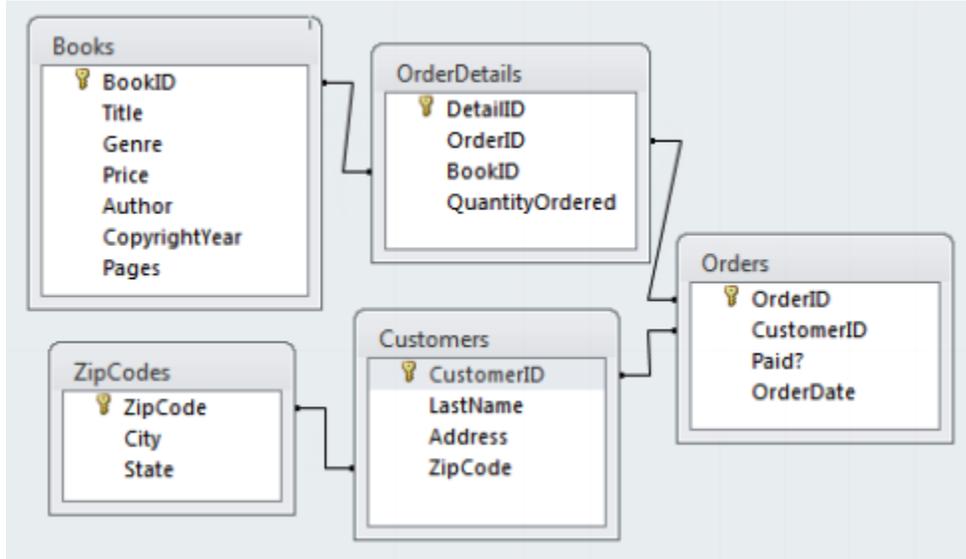
Practice Problems

1. What is the maximum Order total across all orders? In other words, what's the "largest" order. Give a single number.

2. How many cities have one or more Customers that placed an Order for at least $60? Give a single number.

3. How many Customers placed 2 or more orders? Give a single number.

4. How many Customers placed at least one Order with more than 4 different books? Give a single number.

5. How many Customers placed at least 2 orders, each of which has a total value of more than $50? Give a single number.

6. What is the most expensive book? Provide the BookID, Title, and the Author.

7. Which is the Order/Orders with the least number of pages? List OrderID only.

8. Which Orders have between 30 and 100 total pages (inclusive)? List all of the OrderIDs and their total number of pages.

9. Who placed an order for the most expensive Book (recall that you found the most expensive Book in question 11)? List the CustomerID and Last Name. There may be more than one customer, but each customer should only appear once in the result.

10. How many copies of the Book with ID 86 did we ship? Give a single number. Count only the number of copies that were shipped, i.e., that were part of an order. (Ordered = Shipped)

11. How many Books are there in each genre? List the Genre and the number of Books in each one.