Northeastern University
College *of* Computer and Information Science

CS1100: Access Lab 2

Creating Simple Database Queries

To complete this assignment you must submit an electronic copy to Blackboard by the due date. Download the file *cs1100.a2.accdb* and **save a copy of it**. **Do not open Access databases directly from Blackboard or the course website – save it to your desktop first!**

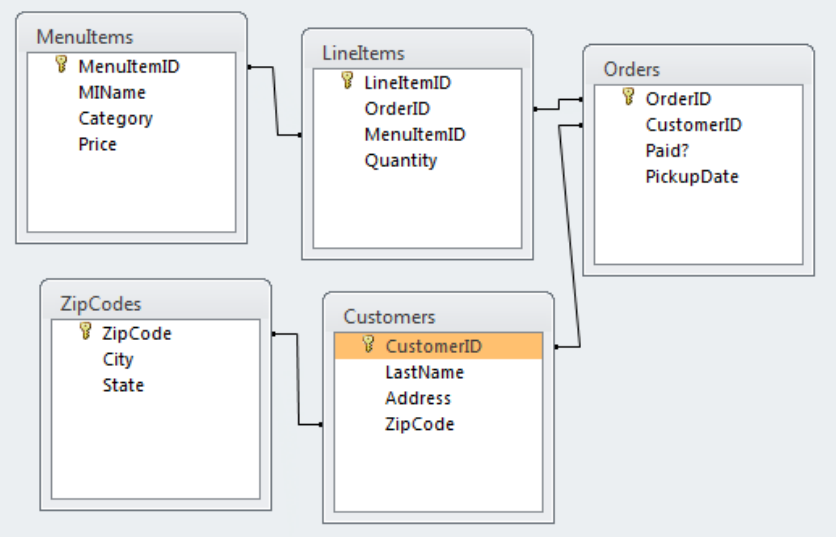
This database represents customer and order information for the *Milk & Honey* bakery. We have been asked to help the owner understand his sales better and therefore have been given certain queries. **For each of the problems assume that the data in the database might change. Your query should give the 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 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.

Knowledge Required

- Aggregate functions (such as COUNT and SUM)
- Calculated fields
- Selection criteria and WHERE clauses with aggregate functions
- Functional dependencies and the number of rows resulting from a join

Database Structure

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



Queries (5 Points Each)

Save your queries using the naming pattern *QLastnameX*, where *Lastname* is your last name and *X* is the question number. For example, my solution for question 3 must be saved under the name *QSchmidt3*.

1. Write a query to find the LastName, ZipCode and Customer ID of all customers. Your query result should not have duplicate entries for the same Customer.

2. Write a query to find the CustomerID, LastName and ZipCode of all Customers that placed one or more orders and the Order ID for each order. If a customer placed more than one order, that customer should appear in the result more than once.

3. Write a query to find the CustomerID, LastName and ZipCode of all Customers that placed one or more orders. Your query result should not have duplicate entries for the same Customer.

4. Write a query to find the dates on which orders will be picked up. Your query result should not have duplicate entries for a date.

5. Write a query to find all the MenuItems that were ordered. List the MenuItemID and MIName. Your query result should not have duplicate entries for menu items.

6. Write a query to find all the Cities where at least one Customer from that city placed an order. Your query result should not have duplicate cities.

7. Write a query to find all Orders that contain a Line Item with a Quantity of at least 2 for that MenuItem. List the Order ID. Your query result should not have duplicate entries for that order.

8. Write a query to find the Customers who placed one or more Orders containing a Line Item with a Quantity of at least 2 for a particular item. List the Customer's LastName and CustomerID. Your query result should not have duplicate entries for that customer.

9. Write a query to find the Customers who placed one or more orders that have been paid. Your query result should not have duplicate entries for that Customer.

10. Write a query to find the Customers who placed one or more Orders that contained a pie. List the Customer's Last Name and CustomerID. Your query result should not have duplicate entries for that customer.

11. How many Customers are there from each City? List the City and the number from that city.

12. How many Orders did each Customer place? List the Customer ID, Last Name and the number of Orders placed.

13. Which Customers placed at least 3 orders? List the Customer ID, Last name and the number of Orders placed.

14. What is the total cost for each Order? List the Order ID and the total for each order.

15. How much did each Customer that placed an Order spend on all of their orders combined? List the Customer ID, Last Name and the amount spent.

16. What is the max Extended Price for each order? (Recall that an Extended Price for a Line Item is Quantity * Price) List the Order ID and the max extended price for each order.

17. What is the max Extended Price of all Orders? (Give a single number)

18. Which Orders include a Line Item with an Extended Price of at least $50? List the Order IDs with no duplicates.

19. Which Customers placed an Order that included a Line Item with an Extended Price of $50 or more? List the Customer IDs with no duplicates.

20. Which Orders have a total value of more than $200? List the Order IDs and the totals.

After you have completed these tasks, your modified version of the database should contain a number of additional queries. **Close Access and then submit this modified Access database to Blackboard.**

Grading Rubric

This rubric is intended to guide graders in their evaluation of the students' submissions.

Criterion	Discussion	Grading
Queries named according to naming pattern	All queries must follow the pattern *QLastnameX*	-2% for each incorrectly named query
Queries produce correct output and are designed correctly	Each query must produce the correct result.	-5% for each query that does not produce correct result or is not designed to produce correct output even if data changes -1% for each extra or missing field -2 % for incorrect filtering criteria