CpS 301 Lab 2: Forms and Reports

Average time to complete: **6 hours**

Overview

In this lab, you will create forms and reports in Microsoft Access that enable you to view and manipulate data stored in MySQL.

Prerequisites

Install the following to complete this lab:

- Files from class lab2 folder on github (see the Resources page on the website for the link to class files).
- A recent version of Microsoft Access

    For Part III, you also need:
- MySQL
- MySQL ODBC driver that matches the "bitness" (32-bit or 64-bit) of your version of Access. I recommend getting the MSI installer version. I've experienced problems using version 8.1 of the ODBC driver, so I suggest using the older 8.0 version (available here: https://downloads.mysql.com/archives/c-odbc/)

Warmup

Get a copy of the univdb.accdb Access database from the class sampledb folder on github.

Watch the "Learning Microsoft Access" lecture videos on the course resources page. To get the most benefit, I recommend that you follow along with the videos and try out what you see demonstrated using the univdb.accdb sample database.
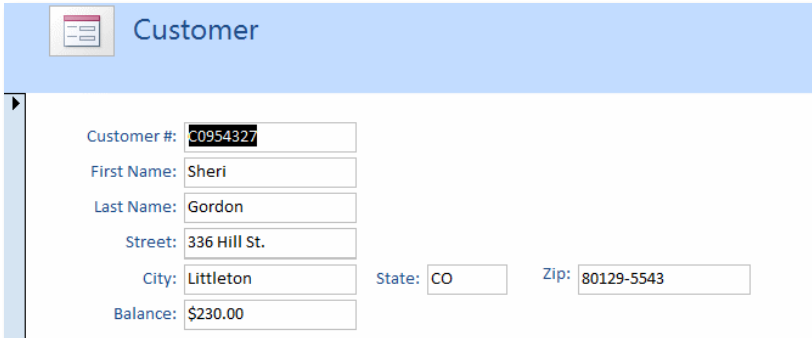
Part I: Forms (8 points)

1. Open lab2.accdb in Access. Review the tables.

2. Create a new form for the Customer table by clicking the Customer table, then **Create > Form**. Save it as **Customer Form**. Switch to design view, and delete the Orders subform that Access included automatically. Reduce the size of the Detail section so that it is just large enough to hold the form elements.

3. Open the Properties window (**Design > Property Sheet**). Click on various areas of the form and notice how the Properties window changes to show properties related to the area you clicked (the dropdown at the top of the Properties window indicates which object is selected).

    Select **Form** from that dropdown at the top of the Properties window to access the form properties. Click on the **All** tab in the Property Sheet to see all of the properties, then change the

Default View property to **Continuous** and switch to Form View to see the result. You should now see multiple Customer records. If you don't see multiple Customer records, switch back to design view and reduce the size of the Detail section further.

4. Then, reorganize the form design to look like Figure 1 below (the color scheme does not need to match). Make a screen shot of your work at this point and save into a lab report document with the heading Screen Shot #1.

5. In the navigation bar, select the OrderTbl table and click **Create > Form**. This will create a master-detail form showing the OrderTbl and related OrdLine records. Save as **Order Form**. Page through the records briefly to explore the current functionality. Then, delete the OrdLine detail that Access automatically added, because you need to create a customized display.

6. Drag the OrdLine table from the Navigation bar onto your Order Form. Accept the default wizard options to create a subform named OrdLine subform. Switch to Form View and test out the form; it should behave like the original version in the previous step. Switch to Design View and verify that the Link Master Fields and Link Child Fields are set correctly (OrdNo in both).

7. Change the dropdowns for Customer, Employee, and Product to display information as shown in Figure 2.

8. Tidy up the top section of the Order Form to look like Figure 2, take a screen shot, and paste it into your lab report document as Screen Shot #2.

Figure 1

Figure 2

Part II: Reports (8 points)

1. Create a query that pulls together information from the Customer, OrderTbl, OrderLine, Product, and Employee tables. If you do this visually using the Access query designer, it's easier to set up the joins. Then, you can use the SQL view to tweak the query, if you don't want to fiddle with the Access query grid.

   Include the following fields in the query output:

   - CustNo
   - CustStreet
   - OrdNo
   - OrdDate
   - ProdName
   - Qty
   - ProdPrice

   Also include the following calculated fields:

   - ExtPrice: Qty * ProdPrice
   - CustName: A concatenation that combines CustFirstName and CustLastName to produce, ex., "Sheri Gordon" (use the + operator to concatenate strings in Access)
   - CustAddress: A concatenation that combines CustCity, CustState, and CustZip to produce, ex., "Littleton, CO 80129-5543"

- EmpName: A concatenation of EmpLastName and EmpFirstName that produces, ex., "Johnson, Thomas"

  Sort by CustNo, OrdNo, and ProdName.

2. Debug the query as needed until it works, then save it as **qryOrderReport**. Copy and paste the SQL, together with the first 15 rows of results, into your lab report with the heading "Order Report Query."

3. Create a new report using the Report Wizard based on the query you created. Define two grouping levels: CustNo and OrdNo. Save the report as **rptSalesOrderReport**.

4. This report will display each customer's orders together on a page, listing the customer, employee, date of order, line items, and total for order and customer (see Figure 3 below for how yours should look when you are finished). I suggest you delete the fields put onto the report by the wizard, and drag them on manually from the Field List in order to get the layout you want.

5. Place a Text Box control at the top of the CustNo group header that says Customer xxx, where xxx is the CustNo. Use the following formula for the Control Source property:

   ='Customer ' & [Customer.CustNo]

   (Note that you must put the square brackets around the entire field name as shown).

6. Place the customer number, name, and address on the report. Add the other fields to the report necessary to make the report look like the sample below. To get the totals to display for each customer and order, configure the CustNo group and OrdNo group to have a footer section, and add a Label with a formula that uses the Sum function to sum up the value of the ExtPrice column.

7. To get each customer to print on a separate page, click on the CustNo group footer, and set its Force New Page property. (Note that you must view the report in Page Layout view to see the page breaks.)

8. Run the report. Flip through the pages to make sure the data is correct. Take screenshots of the first two pages of the result to include in lab report. Make sure the text is legible.

Figure 3

Customer C0954327

CustName: Sheri Gordon
Address: 336 Hill St.
             Littleton, CO 80129-5543

Order #O1116324

Date: 01/23/2007
Employee: Jenkins, Joe

Product	Qty	Price Ea	Ext Price
8-Outlet Surge Protector	1	$14.99	$14.99
		Order Total:	$14.99

Order #O2334661

Date: 01/14/2007
Employee: Santos, Landi

Product	Qty	Price Ea	Ext Price
10 Foot Printer Cable	1	$12.00	$12.00
CVP Ink Jet Color Printer	1	$99.00	$99.00
17 inch Color Monitor	1	$169.00	$169.00
		Order Total:	$280.00
		Total for Customer:	$294.99

Part III: Access and MySQL (4 points)

1. Close Access, and make a copy of the lab2.accdb named lab2mysql.accdb. Open lab2mysql.accdb.

2. Create a MySQL database on your computer named orderdb. Execute the ordentry_mysql.sql script to populate it with tables and data.

3. Create an ODBC User Data Source. Choose the MySQL Unicode driver, and set the Data Source properties as follows:

   a. Data Source Name: lab2

   b. TCP/IP Server: localhost

   c. User: root

   d. Password: (your MySQL root password)

      e.   Database: orderdb

4. In Access, delete all of the tables, but leave the forms and report in place. Use the External Data feature to link to tables in your MySQL database.

5. Test the forms and report you created earlier in the lab. Everything should continue to work as it did when using native Access tables. Take screen shots of your live Customer Form and rptSalesOrderRpt showing data from the MySQL tables and paste them into your lab report as Screen Shot #3 and #4.

Submission

Upload lab2.accdb and lab2mysql.accdb to Canvas, together with a report.pdf containing screen shots, the report query, notes about any known issues. Include a standard cover sheet as specified in the course syllabus that includes the time you spent on the lab (count all hours spent outside class watching the Access lecture videos and reviewing Access resources as well as working on the lab).

Submission tip: If Canvas rejects your database submission as too large, use the **Compact and Repair Database** tool on the Database Tools tab to reduce the size. That should allow it to be submitted.