

Lab 9: Presenting Data in the Museum Gift Shop Database

Problem: The local Museum operates a gift shop that sells various science-related items. The gift shop manager would like to prepare a form so that his employees can update the gift shop items easily, and he would like reports generated.

Instructions:

1. Open the "Lab 8 Museum Gift Shop.accdb" database and File / Save As "Lab 9 Museum Gift Shop.accdb".
2. Open the Form Design for the "Item" Form (which we created in Lab 6) and modify it as follows:
 - a. Move your cursor to the top of the line labeled "form footer" near the bottom of the form. When you see the cursor change to the line with arrows pointing up and down, indicating you can change the height of the row, drag downward so that the label moves downward giving you more space below the last fields in your form.
 - b. In the center of the ribbon, there is a collection of icons. Find the tool that is called the "Combo box" (you might need to use the scroll button INSIDE the tool icons in the ribbon). A combo box is a field on the form that has a space for the value, and a down caret at the right to list choices for the value.
 - c. Click the icon once then go to an open place in your form design and "draw" the combo box by holding the left button down and dragging the mouse in a rectangular or diagonal fashion.
 - d. You now have an *unbound* combo box and the Combo Box Wizard will pop up. Select the option, "I will type the values that I want" and click "Next".
 - e. In "Col1", type the three valid item type values. In lab 8, we introduced item types of ACT for activity, BKS for books, and NOV for novelty or gift. When you have entered all item types, click Next.
 - f. Keep the default option, "Remember the value for later use." and click "Next" again.
 - g. Change the label for your combo box to "Item Type" and click "Finish". This finishes your combo box but does not connect the combo box to the "Item Type" field in your table. You will see that the combo box still says "Unbound".
 - h. Right-click INSIDE the "unbound" box and select the "Properties" action at the bottom of the list to bring up the combo box properties (**not** the form properties.) You should now see a "Property Sheet" on the right side of your Access window.
 - i. In the Property Sheet, click on the "Data" tab. Then in the Control Source row, click on the drop-down arrow and select "Item Type".
 - j. Drag your combo box so that it lines up under the "Vendor Code" field and resize it so it looks good. Also drag the Item Type label so that it lines up under the "VC" label.
 - k. Switch to the Form view. Scroll through some items using the Record buttons at the bottom of the screen. You should see the Item Type on your form, and if you click on the down arrow, you should see the three valid item types.
 - l. Go back into Design View and modify the "On Hand" field so that if there are fewer than 10 items on hand, the value will show up in a red bold font. (Hint... this is a "conditional format" action on the "On Hand" object in the form.)
 - m. Use the form to get to items 5923, 7934 and change the Description to have your initials at the beginning of the description.
 - n. Save the Items form.
3. Open the "Item Status Report" object in Layout view and create the report shown in Figure 1 Item Status Report by executing the following instructions:
 - a. Move the item type field and its label to the left of the report and move the description field to the right of item type.
 - b. Group the report by Item Type and sort by Description within Item Type by using the "Group and Sort" icon.

- c. Create a “Total” within the Item Type group to show the average wholesale cost of items with that item type. Add a label to the left of this result in the Item Type Footer that says “Average Wholesale” and a label in the Report Footer that says “Average Wholesale for All Items”.
- d. Change the Combo Box for the “Item Type” field to a text box, and modify the Control Source property to contain nested “if” function invocations, so that Item Types of “ACT” display as “Activities”, “BKS” displays as “Books”, and “NOV” displays as “Gifts and Novelties”.
- e. Remove the “Item Number” field and label.
- f. Make the numeric fields right justified by modifying the “Text Align” property. Do the same with the labels for the numeric fields.
- g. Remove the “Now()” specification in the footer, and add Date and Time in the right side of the header.
- h. Create a conditional format for the “On Hand” field. If there are 5 or fewer items on hand, the value should appear in a red bold font.
- i. Change the “Back Color” and “Alternate Back Color” properties for the Item Type Header to “Highlight”
- j. Save your modified “Item Status Report” report object.

4. Filter the report for all items where the number on hand is less than 10. Save the filtered report as Filtered Item Status Report.

5. Use the Report Wizard to create the “Items by Vendor” report shown in Figure 2 Items by Vendor Report. This report needs to be based off the query we created in Lab 7 that joined the Items table and the Vendor table. The report should be grouped by Vendor Name and sorted by Description within Vendor Name. Use the Design View to add the average wholesale price (a formula in a textbox) as the new last line of the Items by Vendor Report. Be sure the title for that line says only “Average Price:”.

6. **Extra Credit:** (If you do this, and get it wrong, there will be no deduction, but if you get it right, you can add up to 10 extra credit points to this assignment to compensate for deductions on other questions.)

Create a new report called the “Item Reorder Report”, as in Figure 3 Item Reorder Report. The report should list the items to purchase in order to get at least 10 of each item on hand. (If there are more than 10 items, nothing needs to be purchased.)

The “Item Reorder Report” should show the Item Number, the Vendor Name, the Description, the Wholesale Cost, the number On Hand, the number of items to be purchased, the cost of purchasing that many items, and the cumulative or running cost, of the sum of this row’s purchase and all the purchases above this row. The report should ONLY display items which need to be purchased. The report should be sorted from the least expensive purchase up to the most expensive purchase. (If you don’t have enough money in the budget to make purchases for all items, the cumulative cost will help you decide how many of which items to purchase.)

Hint: You will need to make a new query with derived fields for the number of items to purchase, and the cost of purchasing those items.

Hint: To make a cumulative (running) total, make a text field that references the field to sum, and uses the “Running Sum” property.

Item Status Report				Friday, April 3, 2020 2:52:09 PM
Item Type	Description	On Hand	Wholesale Cost	
Activities	Amazing Science Fun	8	\$13.50	
	Cosmos Uncovered	9	\$8.95	
	Crystal Growing Kit	7	\$6.75	
	Fun Straws	20	\$4.55	
	Paper Planes	22	\$7.10	
	Sidewalk Art and More	15	\$9.35	
	Slime Time	15	\$15.35	
	TWB Discovery Dinosaurs	3	\$12.35	
	TWB Gyrobot	24	\$27.99	
	Average Wholesale		\$11.77	
Books				
	Big Book of Why	12	\$7.99	
	Fun with Math	16	\$12.95	
	Geek Toys Guide	20	\$5.10	
	Gem Nature Guide	12	\$9.50	
	Average Wholesale		\$8.89	
Novelties and Gifts				
	Agate Bookends	4	\$16.25	
	Dinosaur Egg Ornament	12	\$7.50	
	Fibonacci Necklace	5	\$16.75	
	Onyx Jar	2	\$7.50	
	Average Wholesale		\$12.00	
	Average Wholesale for All Items		\$11.14	

Figure 1 Item Status Report

Items by Vendor

Vendor Name

Atherton Wholesalers

Description

Item Number

Wholesale Cost

Amazing Science Fun

3673

\$13.50

Big Book of Why

3873

\$7.99

Crystal Growing Kit

4573

\$6.75

Gem Nature Guide

7123

\$9.50

Onyx Jar

8344

\$7.50

Vendor Name

Gift Specialties

Description

Item Number

Wholesale Cost

Agate Bookends

3663

\$16.25

Dinosaur Egg Ornament

4583

\$7.50

Fibonacci Necklace

6185

\$16.75

Sidewalk Art and More

9201

\$9.35

Vendor Name

Smith Distributors

Description

Item Number

Wholesale Cost

Cosmos Uncovered

4553

\$8.95

Fun Straws

6325

\$4.55

Fun with Math

6234

\$12.95

Geek Toys Guide

6345

\$5.10

Paper Planes

8590

\$7.10

Slime Time

9458

\$15.35

Vendor Name

Bartenstein Widgets

Description

Item Number

Wholesale Cost

TWB Discovery Dinosaurs

5923

\$12.35

Figure 2 Items by Vendor Report

Item Reorder Report

Item Nu	Vendor Name	Description	On Hand	Wholesale	Purchase	Cost	Cum. Cost
4553	Smith Distributors	Cosmos Uncovered	9	\$8.95	1	\$8.95	\$8.95
4573	Atherton Wholesale	Crystal Growing Kit	7	\$6.75	3	\$20.25	\$29.20
3673	Atherton Wholesale	Amazing Science Fun	8	\$13.50	2	\$27.00	\$56.20
8344	Atherton Wholesale	Onyx Jar	2	\$7.50	8	\$60.00	\$116.20
6185	Gift Specialties	Fibonacci Necklace	5	\$16.75	5	\$83.75	\$199.95
5923	Bartenstein Widgets	TWB Discovery Dinosa	3	\$12.35	7	\$86.45	\$286.40
3663	Gift Specialties	Agate Bookends	4	\$16.25	6	\$97.50	\$383.90

Figure 3 Item Reorder Report