## **Highline College**

## **Busn 216: Computer Applications for Business**

#### M365 Video #14: Building/Creating Queries in Access

This handout will illustrate the steps of converting the data that we created in our M365 Video 13 into useful information, and we will do that by creating Queries.

- 1. Data Analysis: Raw Data into Useful Information
- 2. Query: Ask a question about the raw data stored in a database. The answer is the useful information used for decision making.
  - a. Queries we will create in this video:
    - i. Products Sell Price
    - ii. Products from Riverside Station
    - iii. Gross Profit
    - iv. Inventory
    - v. Inventory Value
    - vi. Inventory to Re-order
    - vii. Average Cost Price
    - viii. Average Cost Price Grouped by Supplier
    - ix. Min & Max Cost Price Grouped by Supplier
    - x. Average Sell Price
    - xi. Average Sell Price Grouped by Customer
    - xii. Min & Max Sell Price Grouped by Customer
    - xiii. Sell Price >20 AND <40
    - xiv. Products Description Contains \*Bouquet\*
    - xv. Supplier Store Code RS or AS
    - xvi. Supplier Record by Parameter
- 3. Steps to create a query:
  - a. Click on the Query Design button in the Queries group in Create Ribbon Tab.



b. From the Add Tables Pane double click the tables that you want to ask the question of and then click the close button to close the Add Tables pane. If you accidentally add a wrong table, right click on the table, and click Remove Table.



c. You can move and/or expand the Table Field List to resize and view all fields and then pull up the Query Grid.

G Queyi	Products  Product Description Quantity on Hand Cost Sell Price Supplier Code Quantity Sold Wholesale Retail			ove/Expar 2 Table Fie	nd/Resize eld List	]/	Pull up the Query Grid			
Field. Table: Soft Show. Criteria: or			0	0		0	0	0	0	

- d. Create the Query in the Query Grid by double clicking the Field to place in the Query grid or by dragging the Field List to the Query Grid.
- e. Then use Ctrl + S to save the Query with a name that will reflect what the Query is.



### These are all the Queries that we will create, including picture of each Query:

- 1) Question: Query Show the Description and the sell price for each product, sort by sell price.
  - a) Name of Query: Product and Sell Price
  - b) Show Products Table
  - c) Show Fields:
    - i) Product Description
    - ii) Sell Price
  - d) Sort: Ascending on Sell Price field

01 Proc	duct and Sell Price $\times$					
	Products	7				
	*					
	<ul> <li>ProductID</li> <li>Product Description</li> <li>Quantity on Hand</li> <li>Cost</li> <li>Sell Price</li> <li>Supplier Code</li> <li>Customer Code</li> <li>Quantity Sold</li> <li>Wholesale Retail</li> </ul>					
Field: Table: Sort: Show: Criteria:	Product Description v Products	Sell Price Products Ascending	 0	0		

- 2) Question: Show Products from Riverside Station Store
  - a) Name of Query: Products from Riverside Station
  - b) Show Products Table and Supplier List Table
  - c) Show Fields:
    - i) From Products Table:
      - (1) Products Description
      - (2) Supplier Code
    - ii) From Supplier List Table:
      - (1) Supplier Store Name

02 Products	s from Riverside Station	×										
4	Products       *         *       *											
Field: Pro Table: Pro Sort: Show: Criteria: or:	oduct Description 🗸	Supplier Code S Products S RS*	Supplier Store Name Supplier List					0	0			

- 3) Question: Calculate the Gross Profit
  - a) Name of Query: Gross Profit
  - b) Show Products Table
  - c) Show Fields:
    - i) Products Description
    - ii) Cost
    - iii) Sell Price
    - iv) Quantity Sold Calculated Fields:
    - v) Gross Per Product: [Sell Price]-[Cost]
    - vi) Total Gross Per Product: [Gross Per Product]\*[Quantity Sold]

📑 03 Gro	oss Profit $ imes$								
Г	Products								í
-	*	-							
	ProductID								
	Product Description								
	Quantity on Hand								
	Cost								
	Sell Price								
	Supplier Code								
	Customer Code								
	Quantity Sold								
	Wholesale Retail								
4		_	_						•
Field	d: Product Descriptic 🗸 Se	II Price	Cost	Quantity Sold	Gross Per Product: [Sell Price]-[Cost]	Total Gross Per Product: [Gross Per Product]*[Quantity Sold]			
Table	e: Products Pr	oducts	Products	Products					
Show	v: 🔽								
Criteria	a:		-				 	0	0
0	n								
1	4.00								•

- 4) Question: Calculate the Inventory
  - a) Name of Query: Inventory
  - b) Show Products Table
  - c) Show Fields:
    - i) ProductsID
    - ii) Products Description
    - iii) Quantity on Hand
    - iv) Quantity Sold
      - Calculated Field:
    - v) Inventory: [Quantity on Hand]-[Quantity Sold]

📑 04 Inver	ntory $ imes$							
		Produ P P C C C S S C C V	roductID roduct Description Ruantity on Hand ost ell Price upplier Code ustomer Code Ruantity Sold Vholesale Retail					
				1				
Field: Table: Sort:	ProductID Products	V	Product Description Products	Quantity on Hand Products	Quantity Sold Products	Inventory: [Quantity on Hand]-[Quantity Sold]		
Show: Criteria:								
or:								

- 5) Question: Calculate the Inventory Value
  - a) Name of Query: Inventory Value
  - b) Show Products Table
  - c) Show Fields:
    - i) ProductsID
    - ii) Products Description
    - iii) Quantity on Hand
    - iv) Quantity Sold
      - Calculated Field:
    - v) Inventory: [Quantity on Hand]-[Quantity Sold]
    - vi) Inventory Value: [Inventory]\*[Cost]

05 Inver	ntory Value	×							
		Produ	ıcts						
		*							
		t Pr	roductID						
		Pr	roduct Description						
		Q	uantity on Hand						
		C	ost						
		Se	ell Price						
		Su	upplier Code						
		C	ustomer Code						
		Q	uantity Sold						
		W	/holesale Retail						
-									
			1						
Field:	ProductID	$\sim$	Product Description	Quantity on Hand	Quantity Sold	Inventory: [Quantity on Hand]-[Quantity Sold]	Inventory Value: [Inventory]*[Cost]		
Table:	Products		Products	Products	Products				
Show:									
Criteria:	<b>`</b>					<b>u</b>		0	0
or:									
1	1								

- 6) Question: Show supplier store name and phone for the products that have On Hand less than 15
  - a) Query Name: Inventory to Re-order
  - b) Show Products Table and Supplier List Table
  - c) Show Fields:
    - i) ProductID
    - ii) Product Description
    - iii) Quantity on Hand
    - iv) Quantity Sold
    - v) Supplier Store Name
    - vi) Telephone Calculated Field:
    - vii) Inventory: [Quantity on Hand]-[Quantity Sold]



- 7) Question: Calculate the average Cost Price
  - a) Name of Query: Average Cost Price
  - b) Show Products Table
  - c) Show Fields:
    - i) Cost
  - d) Totals Row:
    - i) Cost: Avg function
  - e) Note: You must right-click Query Grid to show the Totals Row

07 Aver	age Cost Price $\times$					
P	roducts					
	<ul> <li>ProductID</li> <li>Product Description</li> <li>Quantity on Hand</li> <li>Cost</li> <li>Sell Price</li> <li>Supplier Code</li> <li>Customer Code</li> <li>Quantity Sold</li> <li>Wholesale Retail</li> </ul>					
<						
Field: Table: Total: Sort: Show:	Cost V Products Avg		0	0	0	
Criteria:						

- 8) Question: Calculate the average Cost Price for each Supplier
  - a) Name of Query: Average Cost Price Grouped by Supplier
  - b) Show Products Table and Supplier List Table
  - c) Show Fields:
    - i) Supplier Code
    - ii) Supplier Store Name
    - iii) Cost
  - d) Total Rows
    - i) Cost: Avg function
    - ii) Supplier Code: Group By
    - iii) Supplier Store Name: Group By
  - e) **Note:** "Group By" is a Database Term which means to group the records together by a condition and then do something with the records like calculation.



Page 6 of 11

- 9) Question: Calculate the Min and Max Cost for each Supplier
  - a) Name of Query: Min & Max Cost Price Grouped by Supplier
  - b) Show Products Table and Supplier List Table
  - c) Show Fields:
    - i) Supplier Code
    - ii) Supplier Store Name
    - iii) Cost
  - d) Total Rows:
    - i) Cost: Min function
    - ii) Cost: Max function
    - iii) Supplier Code: Group By
    - iv) Supplier Store Name: Group By



- 10) Question: Calculate the average Sell Price
  - a) Name of Query: Average Sell Price
  - b) Show Products Table
  - c) Show Fields:
    - i) Sell Price
  - d) Totals Row:
    - i) Sell Price: Avg function

10 Av	verage Sell Price $ imes$			
	Products			
	ProductiD Product Description Quantity on Hand Cost Sell Price Supplier Code Customer Code Quantity Sold Wholesale Retail			
•				 
Fiel	d: Sell Price 🗸			
Tota	al: Avg			
Soi Shov Criteri	rt:			
0	DI:			

- 11) Question: Calculate the average Sell Price to each customer
  - a) Name of Query: Average Sell Price Grouped by Customer
  - b) Show Products Table and CustomerList Table
  - c) Show Fields:
    - i) Customer Code
    - ii) Last Name
    - iii) First Name
    - iv) Sell Price
  - d) Total Rows
    - i) Sell Price: Avg function
    - ii) Customer Code: Group By
    - iii) Last Name: Group By
    - iv) First Name: Group By

11 Aver	age Sell Price Grouped	by Customer $\times$					
P	Products *  ProductID Product Description Quantity on Hand Cost Sell Price Supplier Code Customer Code Quantity Sold Wholesale Retail			CustomerList * * Customer Code Last Name First Name Address City State Zip Telephone Email Address			
-					•		 
Field:	Customer Code	Last Name		First Name	Sell Price		
Table:	CustomerList	CustomerList	(	CustomerList	Products		
Total:	Group By	Group By	(	Group By	Avg		
Sort:							
Show:							
Criteria:	eria:						
OI:							

- 12) Question: Calculate the Min and Max Sell Price to each customer
  - a) Name of Query: Min & Max Sell Price Grouped by Customer
  - b) Show Products Table and CustomerList Table
  - c) Show Fields:
    - i) Customer Code
    - ii) Last Name
    - iii) First Name
    - iv) Sell Price
  - d) Total Rows

100 43.5

- i) Sell Price: Min function
- ii) Sell Price: Max function
- iii) Customer Code: Group By
- iv) Last Name: Group By
- v) First Name: Group By

12 14111	& Wax Sell Flice Group	ped by customer /					
F	roducts  *  Product Description Quantity on Hand Cost Sell Price Supplier Code Customer Code Quantity Sold Wholesale Retail		CustomerList * Customer Last Name First Name Address City State Zip Telephone Email Addi	Code			
•				-			
Field: Table: Total:	Customer Code CustomerList Group By	Last Name CustomerList Group By	First Name CustomerList Group By	Sell Price Products Min	Sell Price Products Max		
Sort: Show: Criteria:							0
01.							

- 13) Question: Show records where the Sell Price is greater than \$20 and less than \$40.
  - a) Name of Query: Sell Price >\$20 AND <\$40
  - b) Show Products Table
  - c) Show Fields:
    - i) All Fields
  - d) Criteria (AND Criterial goes on same row):
    - i) Sell Price field: >20 And <40

📑 13 S	ell Price >\$20 AND <\$40	×								
	Products									
	*									
	ProductID									
	Product Description	in								
	Quantity on Hand									
	Cost									
	Sell Price									
	Supplier Code									
	Customer Code									
	Quantity Sold									
	Wholesale Retail									
<										
Fie	ld: ProductID	Product Description	Quantity on Hand	Cost	Sell Price	Supplier Code	Customer Code	Quantity Sold	Wholesale Retail	
Tab	le: Products	Products	Products	Products	Products	Products	Products	Products	Products	
So	rt:	_				_				
Crite	w:	<u>~</u>	<u>~</u>		> 20 And < 40	<u>~</u>				U
	or:				20 And \$40					
1										

14) Question: Show records that has a product description that contains Bouquet

- a) Name of Query: Product Description Contains \*Bouquet\*
- b) Show Products Table
- c) Show Fields:
  - i) All Fields
- d) Criteria:
  - i) Description Field: \*Bouquet\*
- e) Note: \* is a wildcard that represents zero or more characters and ? represents a single character.
- f) This sort of query is called a "Contains Query".

_										
14 Prod	ucts Description Conta	ins *Bouquet* 🛛 🗙								
P	roducts ProductID Product Description Quantity on Hand Cost Sell Price Supplier Code Customer Code Quantity Sold Wholesale Retail			Đ						
		1						1		
Field:	ProductID	Product Description	Ouantity on Hand	Cost	Sell Price	Supplier Code	Customer Code	Ouantity Sold	Wholesale Retail	
Table:	Products	Products	Products	Products	Products	Products	Products	Products	Products	
Sort:										
Show:										
Criteria:		Like "*Bouquet*"								
or										

- 15) Question: Shows records for the Suppliers RS or AS
  - a) Query Name: Supplier Store Code RS or AS
  - b) Show Supplier List Table
  - c) Show Fields:
    - i) All Fields
  - d) Criteria (OR Criteria goes on different rows but after you close and open again they appear on a single row, the Criterial row with OR operator):
    - Supplier Code field: RS OR

Supplier Code field: AS

-	oupprier e		.0					
15 Suppl	lier Store Code RS or A	as ×						
Su R	pplier List * Supplier Store Code Supplier Store Name Address City State Zip Telephone							
Field: Table:	Supplier Store Co¢ ↓ Supplier List	Supplier Store Name Supplier List	Address Supplier List	City Supplier List	State Supplier List	Zip Supplier List	Telephone Supplier List	
Sort: Show: Criteria: or:	TRS" Or "AS"						Ø	

- 16) Question: Shows supplier records by parameter
  - a) Query Name: Supplier Record by Parameter
  - b) Show Products Table
  - c) Show Fields:
    - i) All Fields
  - d) Criteria:

Square brackets with a phrase in it, like: [Enter Supplier Code:]

e) Note: *Parameter Query* displays a dialog box that prompts one to enter one or more criteria values when you run or open the query.

16 Suj	pplier Record by Param	eter ×								
	Products									
-	*									
	ProductID									
	Product Descriptio	n								
	Quantity on Hand									
	Cost									
	Sell Price									
	Supplier Code									
	Customer Code									
	Quantity Sold									
	Wholesale Retail									
•										
E ala			0.17.11.1		6 H D I			0.00		
Table	Products	Product Description	Quantity on Hand	Products	Sell Price Products	Supplier Code Products	Products	Quantity Sold	Products	
Sort	t	Hoddets	Troducts	Troducts	moducis	Troducts	Troducts	Troducts	rioddets	
Show	r. 🔽		Image: A start and a start	Image: A start and a start	Image: A start and a start			Image: A start and a start		
Criteria	3:					[Enter Supplier Code:]				
1										

# Keyboard Shortcuts:

1) F2 to rename Table, Query, Form, Report.