

Excel PivotTables

Student Manual

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Print Edition: August 20, 2015

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1: PivotTables – The Basics

Complete this unit and you'll be able to answer the following questions:

- A. What is an Excel PivotTable?
- B. How do you create a simple PivotTable?
- C. What are the rules for setting up source data for a PivotTable?
- D. How do you pivot in a PivotTable?
- E. How do you change the value calculation?
- F. How do you change the number formatting?

Topic A: What is an Excel PivotTable?

An Excel PivotTable is tool that can be used to quickly create interactive summary reports (tables) from raw data. Because they are interactive PivotTables allow you to easily do any of the following:

- Choose a summary calculation (sum, average, maximum, minimum, etc.)
- Display the results vertically or horizontally
- Sort the results in ascending, descending or a custom order
- Filter the data to show what is important to you
- Change or insert additional summary calculations as needed
- Pivot the data (switch the rows and columns)
- Group the data into larger collections
- "Drill down" to see additional details

The following figures are examples of PivotTables that were created from an Excel list of 5406 movies.

3	Titles	Ratings 🔻						
4	Categories 🖵	G	PG	PG-13	R	NC-17	NR	Grand Total
5	1970	24	104		73	1		202
6	1971	38	99		76			213
7	1972	26	125		82			233
8	1973	24	96		90			210
9	1974	22	87		70			179
10	1975	11	90		64			165
11	1976	23	97		62			182
12	1977	16	86		54	1		157
13	1978	12	91		70			173
14	1979	13	102		69			184
15	1992	5	29	55	121	2	5	217
16	1993	5	38	52	89	2	2	188
17	1994	2	14	16	27	1		60
18	Grand Total	221	1058	123	947	7	7	2363

Figure 1: Movies from the 1970s by Year and by Rating

Categories 🕞	Titles
1920-1929	1
1950-1959	2
1960-1969	313
1970-1979	1898
1980-1989	2263
1990-1999	929
Grand Total	5406

Figure 2: Movies by Decade

	A		В		С	D	E	F	G	Н
1										
2										
3	Titles		Ratings	-						
4	Categories	-		G	NC-17	NR	PG	PG-13	R	Grand Total
5	Action			2			70	21	218	311
6	Adventure			30			100	11	36	177
- 7 -	Animated			43		1	13	1	6	64
8	Biography			6			49	17	49	121
9	Children's			37			15			52
10	Comedy			65	3	1	487	206	505	1267
11	Crime			4	1		78	5	252	340
12	Dance			4			1	4		9
13	Disaster			3			14		3	20
14	Docudrama			1			1			2
15	Documentary			10		2	11		7	30
16	Drama			40	7	6	410	127	650	1240
17	Fantasy			16			37	13	11	77
18	Historical			4			23	3	18	48
19	Horror			2	1		110	16	317	446
20	Musical			32			53	8	22	115
21	Mystery			4			40	4	45	93
22	Opera			1			1		1	3
23	Political						5		10	15
24	Prison						3		27	30
25	Religious			5			5	2	5	17
26	Romance			2			50	18	43	113
27	Science			22			88	22	69	201
28	Sports			7			51	9	28	95
29	Spy			4			39	3	15	61
30	Thriller						50	10	143	203
31	War			12			38	5	26	81
32	Western			25			105	3	42	175
33	Grand Total			381	12	10	1947	508	2548	5406

Figure 3: Movies by Category and Rating

3	Categories 🔽	Titles
4	Action	311
5	G	2
6	PG	70
7	PG-13	21
8	R	218
9	Adventure	177
10	G	30
11	PG	100
12	PG-13	11
13	R	36
14	Animated	64
15	G	43
16	NR	1
17	PG	13
18	PG-13	1
19	R	6
20	Biography	121
21	G	6
22	PG	49
23	PG-13	17
24	R	49
25	■Children's	52
26	G	37
27	PG	15
28	■Comedy	1267
29	G	65

Figure 4: Movies per Category, per Rating report

3	Categories ,T	Titles
4	⊟G	381
5	Action	2
6	Adventure	30
7	Animated	43
8	Biography	6
9	Children's	37
10	Comedy	65
11	Crime	4
12	Dance	4
13	Disaster	3
14	Docudrama	1
15	Documentary	10
16	Drama	40
17	Fantasy	16
18	Historical	4
19	Horror	2
20	Musical	32
21	Mystery	4
22	Opera	1
23	Religious	5
24	Romance	2
25	Science	22
26	Sports	7
27	Spy	4
28	War	12
29	Western	25
30	⊟PG	1947
31	Action	70
32	Adventure	100

Figure 5: Movies per Rating, per Category report

Topic B: How do I create a simple and easy to use PivotTable?

The exercise below uses the **1b_Movies.xlsx** file.

- 1. Start Excel and create or open your file.
- 2. Position the cursor in one cell, and only one cell of the data.

	A	В	С	D	E	F
1	MovieNumber	Title	Year	Category	Rating	Color
2	1	\$(Dollars)	1972	Crime	R	TRUE
3	2	\$1,000,000 Duck	1971	Comedy	G	TRUE
4	3	10	1979	Comedy	R	TRUE
5	4	10 Rillington Place	1970	Crime	PG	TRUE
6	5	100 Rifles	1969	Western	PG	TRUE
7	6	11 Harrowhouse	1974	Crime	PG	TRUE
8	7	1492: Conquest of Paradise	1992	Drama	PG-13	TRUE
9	8	16 Days of Glory	1986	Documentary	G	TRUE
10	9	1776 h	1972	Historical	G	TRUE
11	10	18 Again!	1988	Comedy	PG	TRUE
12	11	1900 —	1977	Drama	NC-17	TRUE
Figu	ure 6					

3. From the ribbon choose **Insert**, **Tables**, **PivotTable**.



Figure 7

4. In the resulting dialog box make sure the **table/range** is referring to the correct table or range and that the destination is a **New Worksheet**, then click **OK**.

Create PivotTable	8 ×
Choose the data that y	ou want to analyze
Select a table or rate	inge
<u>T</u> able/Range:	'Movie List'!SAS1:SFS5407
O Use an external data	ita source
Choose Con	nection
Connection na	ime:
Choose where you war	t the PivotTable report to be placed
New Worksheet	
Existing Workshee	t
Location:	
Choose whether you w	ant to analyze multiple tables
🔲 Add this data to the	ne Data <u>M</u> odel
	OK Cancel



5. Drag the fields from the PivotTable Field List to the desired location as shown below.





6. Notice, you now have a PivotTable.

4	A	B		С	D	E	F	G	н	-		M
1			_		-		-	-		41	PivotTable Fiel	ds •x
3	Count of Title Row Labels 🔻	Column Labels	•	NC-17	NR	PG	PG-13	R	Grand Total		Choose fields to add to re	port: 🗘 🔹
5	Action		2			70	21	218	311	11	MovieNumber	
6	Adventure		30			100	11	36	177	11	Title	
7	Animated		43		1	13	1	6	64	11	Vear	
8	Biography		6			49	17	49	121	11		
9	Children's		37			15			52	11	Category	
10	Comedy		65	3	1	487	206	505	1267	11	✓ Rating	
11	Crime		4	1		78	5	252	340	11	Color	
12	Dance		4			1	4		9	11	MORE TABLES	
13	Disaster		3			14		3	20	11	the second second	
14	Docudrama		1			1			2	11		
15	Documentary		10		2	11		7	30	11		
16	Drama		40	7	6	410	127	650	1240	11		
17	Fantasy		16			37	13	11	77	11	D	·
18	Historical		4			23	3	18	48	11 1	Drag fields between areas	s below:
19	Horror		2	1		110	16	317	446			
20	Musical		32			53	8	22	115	11	I FILTERS	
21	Mystery		- 4			40	4	45	93	11		Rating •
22	Opera		1			1		1	3			
23	Political					5		10	15			
24	Prison					3		27	30			
25	Religious		5			5	2	5	17			
26	Romance		2			50	18	43	113			
27	Science		22			88	22	69	201		-	
28	Sports		7			51	9	28	95		ROWS	2: VALUES
29	Spy		4			39	3	15	61		Category •	Count of Title 🔹
30	Thriller					50	10	143	203			
31	War		12			38	5	26	81			
32	Western		25			105	3	42	175			
33	Grand Total		381	12	10	1947	508	2548	5406			
34												
35												
36										J		LIDDATE
	∢ → Sh	eet1 Movie Lis	t	Ð			1			·	D Delet Layout Opdate	OFDATE

Topic C: What are the rules for setting up source data for a PivotTable?

PivotTables are based on source data. That source data is usually already in Excel as a range of cells or as an Excel table. But it is also possible to create PivotTables from source data that is outside Excel. For example you could create a PivotTable from an Access database.

When setting up your source data in Excel make sure it is in a tabular format. In other words you should make sure your source data follows these rules.

- Each column of data has a column heading
- Each column heading is unique
- Each column heading is in the same row
- The column headings do not span multiple rows
- No merged cells exist anywhere in the data
- All the data is contiguous there should be no blank rows and no blank columns in the source data
- The data in each column follows a consistent format
- The data is not in section headings
- Data values are not used in column headings

Topic D: How do you "pivot" in a PivotTable?

To pivot is to turn. In an Excel PivotTable you can "pivot" or move one field to a new location, from row to column for example, while all the other fields stay in their current location.

To pivot just drag the field from its current location to its new location as shown in the following examples.



Figure 11: Pivot from column to filter







Figure 12: Pivot from row to filter



Figure 14: Pivot from column to row

Topic E: How do you change the value calculation?

The exercise below uses the **1e_Employees.xlsx** file.

When creating the PivotTable the value calculation will default to SUM if the field is numeric and COUNT if the field is text. To change the calculation do the following.

1. Click the arrow next to the value calculation.



2. From the pop up menu choose Value Field Settings...



3. In the Value Field Settings dialog box click the desired calculation type.

Value Field Settings	§ <u>x</u>
Source Name: Salary	
Custom Name: Sum of S	alary
Summarize Values By	Show Values As
Summarize value field t	y
Choose the type of calc data from the selected f	ulation that you want to use to summarize ield
Sum	
Average	E
Min	
Product	
[Number Formet]	
	OK Cancel

- 8 <mark>X</mark> Value Field Settings Source Name: Salary Custom Name: Total Salary Summarize Values By Show Values As Summarize value field by Choose the type o summarize Enter a new label in the data from the sele Custom Name box. Count Average Max Min ÷ Product Number Format OK Cancel
- 4. Optional: Edit the name in the **Custom Name** box as needed.

Figure 18

5. Click **OK**.

The Pivot Table is updated with the new calculation and label.

14	A	В	С	D	E	F	G					
1	Drop Report Filter Fields Here											
2												
3	Total Salary	Office 💌										
4	Dept 💌	Chicago	Dallas	DC	NY	SFO	Grand Total					
5	Acct				14513		14513					
6	Manf			9500			9500					
7	Mktg		23780		2684	2200	28664					
8	Sales	16115			3184	22767	42066					
9	Grand Total	16115	23780	9500	20381	24967	94743					
10		1	1	1	1	1						

Topic F: How do you change the number formatting?

The exercise below uses the **1f_Employees.xlsx** file.

The wrong way

When changing the formatting of numeric fields and calculations, **resist the temptation to use the number formatting options on the ribbon's Home tab**, because these tools only change the formatting of the cell(s) you have selected. If you later pivot or refresh the data you may then discover that some of the updated values have the wrong format.



Figure 20

The right way

The correct way to change the number formatting is to use the Number Format button on the Field Settings dialog box as shown below.

1. Click the arrow next to the field's name.



2. From the pop up menu choose Value Field Settings...

×	Remove Field
6	Value Field Settings
Tota	al Salary 😽 👻

Figure 22

3. In the Value Field Settings dialog box click the **Number Format** button.

Value Field Settings
Source Name: Salary
Custom Name: Total Salary
Summarize Values By Show Values As
Summarize value field by
Choose the type of calculation that you want to use to summarize
Count Average
Max Min
Product
Number Format OK Cancel

Figure 23

4. Use the Format Cells dialog box to format the number as desired, then click **OK**.

Format Cells		?
Category: General Number Currency Accounting Date Time Percentage Fraction Scientific Text Special Custom	Sample S2,200 Decimal places: 0	•
Currency formats are decimal points in a c	used for general monetary values. Use Accounting formats to alignation of the second s	n Cancel

Figure 24

24	A		B	С	D	E	F	G
1								
2								
3	Total Sala	ary	Office 💌					
4	Dept	-	Chicago	Dallas	DC	NY	SFO	Grand Total
5	Acct					\$14,513		\$14,513
6	Manf				\$9,500			\$9,500
7	Mktg			\$23,780		\$2,684	\$2,200	\$28,664
8	Sales		\$16,115			\$3,184	\$22,767	\$42,066
9	Grand Tot	tal	\$16,115	\$23,780	\$9,500	\$20,381	\$24,967	\$94,743

The Pivot Table is updated with the new formatting.

2: Drilling Down

Complete this unit and you'll be able to answer the following questions:

- A. What does it mean to drill down?
- B. How do you drill down on a summary value?
- C. How do you drill down on a row label?
- D. How do you drill down on a column label?
- E. How do you remove the details?

Topic A: What does it mean to drill down?

The example below uses the **2abc_Orders.xlsx** file.

To "drill down" is to investigate in depth or at a deeper level. In a PivotTable we can drill down to get more details. For example, if your PivotTable shows total sales for the month you can drill down to see the details of who bought what when.

		А	В						
3	Rov	w Labels	Sum of Quantit	у					
4	Can	n. & Mex	6	71					
5	Cen	ntral	10	71					
6	Nor	rtheast	11:	85					
7	Nor	rthwest	1	55					
8	Sou	utheast	7	55					
9	Sou	thwest	5	58					
10	Gra	and Total	44	25					
_				-1					
			-	-					
				/					
		A	в	С	D	E	F	G	н
	1	A Region	B Store Name	C • Order # •	D Product ID	E Order Date	F Product Description	G Unit Price	H Quantity 🔽
	12	A Region Northwest	B Store Name Tennis Anyone	C • Order # • 1266	D Product ID 13-6655	E Order Date 3/25/1998	F Product Description tennis racquet	G Unit Price 40.97	H Quantity 🔽 20
	1 2 3	A Region Northwest Northwest	B Store Name Tennis Anyone Tennis Anyone	C • Order # • 1266 1266	D Product ID 13-6655 10-6025	E Order Date 3/25/1998 3/25/1998	F Product Description tennis racquet shoes, tennis	G Unit Price 40.97 59.39	H Quantity 20 12
	1 2 3 4	A Region Northwest Northwest Northwest	B Store Name Tennis Anyone Tennis Anyone The Big Outdoors	C • Order # • 1266 1266 1033	D Product ID 13-6655 10-6025 14-8417	E Order Date 3/25/1998 3/25/1998 8/1/1995	F Product Description tennis racquet shoes, tennis badminton set	G Unit Price 40.97 59.39 17.74	H Quantity 20 12 5
	1 2 3 4 5	A Region Northwest Northwest Northwest	B Store Name Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors	C Order # 1266 1266 1033 1033	D Product ID 13-6655 10-6025 14-8417 13-8713	E Order Date 3/25/1998 3/25/1998 3/25/1998 8/1/1995 8/1/1995	F Product Description tennis racquet shoes, tennis badminton set backpack	G Unit Price 40.97 59.39 17.74 16.29	H Quantity 20 12 5 5
	1 2 3 4 5 6	A Region Northwest Northwest Northwest Northwest	B Store Name Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors	C Order # 1266 1266 1033 1033 1033	D Product ID 13-6655 10-6025 14-8417 13-8713 13-6655	E Order Date 3/25/1998 3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995	F Product Description tennis racquet shoes, tennis badminton set backpack tennis racquet	G Unit Price 40.97 59.39 17.74 16.29 40.97	H Quantity 20 12 5 5 5 10
	1 2 3 4 5 6 7	A Region Northwest Northwest Northwest Northwest Northwest	B Store Name Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors	C Order # 1266 1266 1033 1033 1033 1033	D Product ID 13-6655 10-6025 14-8417 13-8713 13-6655 12-6032	E Order Date 3/25/1998 3/25/1998 3/25/1998 8/1/1995 8/1/199 8/1/199 8/1/191 8/1/191 8/1 8/1/191 8/1/191 8/1/191 8/1 8/1/191 8/11 8/1	F Product Description tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3)	G Unit Price 40.97 59.39 17.74 16.29 40.97 1.75	H 20 12 5 5 10 15
	1 2 3 4 5 6 7 8	A Region Northwest Northwest Northwest Northwest Northwest Northwest	B Store Name Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors	C Order # 1266 1266 1033 1033 1033 1033 1033	D Product ID 13-6655 10-6025 14-8417 13-8713 13-6655 12-6032 10-8142	E Order Date 3/25/1998 3/25/1998 3/25/1998 8/1/1995 8/1/199 8/1/199 8/1/199 8/1/199 8/1/199 8/1/199 8/1/199 8/1/191 8/1/11 8/111 8/111 8/11 8/	F Product Description tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3) boots, hiking	G Unit Price 40.97 59.39 17.74 16.29 40.97 1.75 76.73	H Quantity 20 12 5 5 10 15 10
	1 2 3 4 5 6 7 8 9	A Region Northwest Northwest Northwest Northwest Northwest Northwest	B Store Name Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors Sports Tech	C Order # 1266 1266 1033 1033 1033 1033 1033 1033 1033	D 13-6655 10-6025 14-8417 13-8713 13-6655 12-6032 10-8142 14-8819	E Order Date 3/25/1998 3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995 8/1/1995 8/1/1995 8/1/1995 7/1/1995	F Product Description tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3) boots, hiking nets, fishing	G Unit Price 40.97 59.39 17.74 16.29 40.97 1.75 76.73 3.82	H Quantity 20 12 5 5 10 15 10 15
	1 2 3 4 5 6 7 8 9 10	A Region Northwest Northwest Northwest Northwest Northwest Northwest	B Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors Sports Tech Sports Tech	C Order # 1266 1266 1033 1033 1033 1033 1033 1007 1007	D 13-6655 10-6025 14-8417 13-8713 13-6655 12-6032 10-8142 14-8819 14-8613	E Order Date 3/25/1998 3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995 8/1/1995 8/1/1995 7/1/1995 7/1/1995	F Product Description tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3) boots, hiking nets, fishing tackle box	G Unit Price 40.97 59.39 17.74 16.29 40.97 1.75 76.73 3.82 24.32	H Quantity 20 12 5 5 10 15 10 15 5 5

Topic B: How do you drill down on a summary value?

The exercise below uses the **2abc_Orders.xlsx** file.

Drilling down is easy, just double click on the cell with the summary value. When you do a new sheet is added that shows all the records that made up the summary value.

		A	В						
3	Row La	bels	- Sum of Quantity	У					
4	Can. &	Mex	67	1					
5	Centra	1	107	1					
6	Northe	ast	118	35					
7	Northwest 155								
2	Southeast Double click on a summary value to drill down.								
2	South	ast	<u>_</u>						
9	Southy	vest	55	-					
10	Grand	Total	442	1					
		A	в	с	D	E	F	G	н
	1 Reg	ion 🕞	Store Name	Order #	Product ID	Order Date 🗖	Product Description	Unit Price	Quantity
	2 Nor	thwest	Tannia Anyana	1266	12 6655	0/05/4000			
	3 Nor		Tennis Anyone	1200	13-0033	3/25/1998	tennis racquet	40.97	20
		thwest	Tennis Anyone	1266	10-6025	3/25/1998	shoes, tennis	40.97	20
	4 Nor	rthwest rthwest	Tennis Anyone The Big Outdoors	1266	10-6025 14-8417	3/25/1998 3/25/1998 8/1/1995	shoes, tennis badminton set	40.97 59.39 17.74	20 12 5
	4 Nor 5 Nor	rthwest rthwest rthwest	Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors	1266 1266 1033 1033	10-6025 14-8417 13-8713	3/25/1998 3/25/1998 8/1/1995 8/1/1995	tennis racquet shoes, tennis badminton set backpack	40.97 59.39 17.74 16.29	20 12 5
	4 Nor 5 Nor 6 Nor	thwest thwest thwest thwest	Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors	1200 1266 1033 1033 1033	10-6025 14-8417 13-8713 13-6655	3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995	tennis racquet shoes, tennis badminton set backpack tennis racquet	40.97 59.39 17.74 16.29 40.97	20 12 5 5 10
	4 Nor 5 Nor 6 Nor 7 Nor	thwest thwest thwest thwest thwest	Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors	1266 1266 1033 1033 1033 1033	13-6655 10-6025 14-8417 13-8713 13-6655 12-6032	3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995 8/1/1995	tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3	40.97 59.39 17.74 16.29 40.97) 1.75	20 12 5 5 10 15
	4 Nor 5 Nor 6 Nor 7 Nor 8 Nor	thwest thwest thwest thwest thwest thwest	Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors	1286 1266 1033 1033 1033 1033 1033	13-6655 14-8417 13-8713 13-6655 12-6032 10-8142	3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995 8/1/1995 8/1/1995	tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3 boots, hiking	40.97 59.39 17.74 16.29 40.97) 1.75 76.73	20 12 5 5 10 15 10
	4 Nor 5 Nor 6 Nor 7 Nor 8 Nor 9 Nor	thwest thwest thwest thwest thwest thwest thwest	Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors Sports Tech	1286 1266 1033 1033 1033 1033 1033 1033	13-6655 14-8417 13-8713 13-6655 12-6032 10-8142 14-8819	3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995 8/1/1995 8/1/1995 7/1/1995	tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3 boots, hiking nets, fishing	40.97 59.39 17.74 16.29 40.97) 1.75 76.73 3.82	20 12 5 5 10 15 10 15
	4 Nor 5 Nor 6 Nor 7 Nor 8 Nor 9 Nor 10 Nor	thwest thwest thwest thwest thwest thwest thwest thwest	Tennis Anyone Tennis Anyone The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors The Big Outdoors Sports Tech Sports Tech	1286 1266 1033 1033 1033 1033 1033 1007 1007	13-6655 10-6025 14-8417 13-8713 13-6655 12-6032 10-8142 14-8819 14-8613	3/25/1998 3/25/1998 8/1/1995 8/1/1995 8/1/1995 8/1/1995 8/1/1995 7/1/1995 7/1/1995	tennis racquet shoes, tennis badminton set backpack tennis racquet balls, tennis (can of 3 boots, hiking nets, fishing tackle box	40.97 59.39 17.74 16.29 40.97) 1.75 76.73 3.82 24.32	20 12 5 5 10 15 10 15 10 15 5 5

Figure 26

Topic C: How do you drill down on a row label?

The exercise below uses the **2abc_Orders.xlsx** file.

In addition to drilling down on a summary value, you can also drill down on a row label. This will give you additional summary information based on another pivot field.

1. **Right click** on the row field value for which you want to drill down, then choose **Expand/Collapse**, and then **Expand**.

3	Row Labels	•	Sum of Quar	tit	y
4	Can. & Mex			67	'1
5	Central	_		107	'1
6	Northeast	Calif	$ I = \bigcirc \cdot A \cdot \square $	- +.0	% , 空 . ⁰⁰ 🛷
7	Northwest	Ĩ		15	55
8	Southeast		<u>C</u> opy <u>F</u> ormat Cells	78	35
9	Southwest	٢	<u>R</u> efresh	. 55	8
10	Grand Total		Sort → Filter →	42	25
11			Su <u>b</u> total "Region"		
12			Expand/Collapse >	(0)]	Expand
13		4	<u>G</u> roup <u>U</u> ngroup	4	Collapse Expand Entire Field
14			Move ►	- P	<u>Collapse Entire Field</u>
15		•	Field Settings		Conapse to Region
16			PivotTable <u>O</u> ptions Hide Fiel <u>d</u> List		

Figure 27

The Show Detail dialog box will appear.

Show Detail	X
Choose the field containing the detail you want	to <u>s</u> how:
Store Name	~
Order #	
Product ID	
Order Date	
Quantity	
	-
ОК С	ancel

2. Choose the field you want to display and click **OK**.

The new field will appear in the PivotTable.

3	Row Labels	Sum of Quantity
4	🗄 Can. & Mex	671
5	🕀 Central	1071
6	Northeast	1185
7	□ Northwest	155
8	B&B Sporting Goods	15
9	Sports Tech	63
10	Tennis Anyone	32
11	The Big Outdoors	45
12	: Southeast	785
13	: Southwest	558
14	Grand Total	4425

Figure 29

The new field will also appear in the row fields list.

ROWS	
Region	•
Store Name	•

Topic D: How do you drill down on a column label?

The exercise below uses the **2d_Orders.xlsx** file.

Drilling down on a column is very similar to drilling down on a row label.

1. **Right click** on the column field value for which you want to drill down, then choose **Expand/Collapse**, and then **Expand**.





The Show Detail dialog box will appear.

Show Detail
Choose the field containing the detail you want to show: Store Name Order # Product ID Order Date Product Description Unit Price Ouantity
T
OK Cancel

Figure 32

2. Choose the field you want to display and click **OK**.

The new field will appear in the PivotTable.

Column Labels	1			
■ Can. & Mex				
Alvarez Equipaje de Juegos	Canadian Sports Ltd.	El Mundo de Futbol	Juegos de Mexico	Juegos Mundial
141	. 71	33	65	80

Figure 33

The new field will also appear in the row fields list.

III COLUMNS	
Region	-
Store Name	•

Topic E: How do you remove the details?

The example below uses the **2e_Orders.xlsx** file.

After drilling down you can use the hide details Collapse buttons which appear as little boxes with minus signs. To view the details again just click the expand buttons which appear as little boxes with plus signs. Similar buttons are found on the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010).



Figure 35

You can also remove the details by removing the field from the field list area as shown below.

	Region	-
-	Store Name	-

Figure 36

3: PivotTable Tricks

Complete this unit and you'll be able to answer the following questions:

- A. How do you show items with no data?
- B. How do you show 0 instead of blank?
- C. How do you select different parts of the PivotTable?
- D. How do you move a PivotTable?
- E. How do you duplicate a PivotTable?
- F. How do you rename a PivotTable?
- G. How do you change the data source?
- H. How do you create a Pivot Chart?

Topic A: How do you show items with no data?

The exercise below uses the **3a_Movies.xlsx** file.

PivotTables, by default only show records that have values. For example compare the two PivotTables below. The one on the left shows no PG-13 movies prior to 1983. But the example on the right show all items, even if when they have no data.

Row Labels	Movies	Row Labels .	Movies
□ 1980	214	⊡ 1980	214
G	9	G	9
PG	91	NC-17	
R	114	NR	
□ 1981	201	PG	91
G	4	PG-13	
PG	81	R	114
R	116	□ 1981	201
⊟ 1982	184	G	4
G	4	NC-17	
PG	73	NR	
PG-13	1	PG	81
R	106	PG-13	
□ 1983	189	R	116
G	2	□ 1982	184
PG	86	G	4
PG-13	2	NC-17	
R	99	NR	
□ 1984	206	PG	73
G	2	PG-13	1
PG	71	R	106
PG-13	21	□ 1983	189
R	112	G	2
Grand Total	994	NC-17	
		NR	
		PG	86
		PG-13	2
		R	99
		□1984	206
		G	2
		NC-17	
		NR	
		PG	71
		PG-13	21
		R	112
		Grand Total	994

Figure 37

1. Click the arrow next to the field.



2. From the pop up menu choose Field Settings...

X	Remove Field	J
6	Field Settings	b
Ratin	ng 👻	

3. In the Field Settings dialog box click the **Layout & Print** tab, then check the **Show Items with no data** option and click **OK**.

ſ	Field Settings
	Source Name: Rating Custom Name: Rating Subtotals & Filters Layout & Print Layout © Show item labels in outline form © Display labels from the next field in the same column (compact form) © Display subtotals at the top of each group © Show item labels in tabular form Repeat item labels Insert blank line after each item label © Show items with no data
	Print Insert page break after each item OK Cancel

Figure 40

Topic B: How do you show 0 instead of blank?

The exercise below uses the **3b_Movies.xlsx** file.

When you display items with no data you can show the data with a blank or a zero value.

1. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Options** drop down and select **options**.

	PIVOTTABL	E TOOLS	
	ANALYZE	DESIGN	
PivotTable Name:	Active Field:	- 1	
PivotTable2	Rating		
Options 🔹	Field Se	ttings Down	
Options D		Active	2
Show Re	Filter <u>P</u> ages.	· fr	Г
✓ <u>G</u> enerate Get	tPivotData	Ja	
- igure 41			

2. On the Layout & Format tab check the For empty cells show: option, and then type 0 or whatever value you would like to see when the cell is empty, then click OK.

Layout Merge and center cells with labels When in compact form indent row labels: 1	Layout & Format	Totals & Filters	Display	Printing	Data	AltText
□ Merge and center cells with labels When in compact form indent row labels: 1	Lavout					
When in compact form indent row labels: 1 <td>Merce and co</td> <td>enter cells with labe</td> <td>ls</td> <td></td> <td></td> <td></td>	Merce and co	enter cells with labe	ls			
Display fields in report filter area: Down, Then Over Report filter fields per column: 0 Format □ For grror values show: □ ☑ For empty cells ghow: 0 ☑ Autofit column widths on update ☑ Preserve cell formatting on update	When in compac	t form indent row la	bels: 1	🖨 chara	acter(s)	
For empty cells show: 0 Q Autofit column widths on update Preserve cell formatting on update	Display fields in r Report filter field Format	eport filter area: [Is per column: 0 ues show:	Down, Ther	• Over 💌		
	For empty ce	Ils show: 0 n widths on update formatting on upda	e ate			

Figure 42

Topic C: How do you select different parts of the PivotTable?

The exercise below users the **3cdef_Movies.xlsx** file.

There are multiple ways to select the different parts of the PivotTable including the following:

• From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Entire PivotTable** option to select the whole table.

		PIVOT	TABLE TO	OLS				
Te	chMentors	ANALY	ZE D	ESIGN	1			
				2	S S	2		fx
	Refresh Cha	ange Data	Clear	Selec	t	Move	Fields,	Items,
ons	- S	ource 🕶	•	•		PivotTable	& S	ets 🕶
	Dat	a			La	abels <u>a</u> nd Val	ues	Ci
-				5	Va	alues		
		1		6	Ŀ	abels		
	K I	-	M		Er	ntire Pivot <u>T</u> al	ble	-
				>	Er	nable	on	
			1					

Figure 43

• Select a row by positioning the cursor on the left side of the row, and clicking when the cursor appears as a black arrow.



Select a column by positioning the cursor at the top of a column, and clicking when the cursor appears as a column.



Figure 45

Topic D: How do you move a PivotTable?

The exercise below uses the **3cdef_Movies.xlsx** file.

A PivotTable can be placed in its own spreadsheet, or it can be moved to another sheet.

- 1. Position the cursor in any cell of the PivotTable.
- 2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Move PivotTable** icon.



Figure 46

The Move PivotTable dialog box will appear.

Choose where you want the PivotTable report to be placed O New Worksheet Existing Worksheet Location: Sheet1!B3 OK Cancel	Move PivotTable		? X
Location: Sheet1!B3	Choose where you <u>New Workshee</u> Existing Works	vant the PivotTable report to be placed t heet	i i
OK Cancel	Location:	Sheet1!B3	I
		ОК	Cancel

Figure 47

3. Specify if you want to move the PivotTable to a **New Worksheet** or to an **Existing Worksheet**.

If you choose an Existing Worksheet then you need to specify the address of the cell that will serve as the top left corner of the PivotTable. As shown in Figure 47 above the address must include the sheet name, and exclamation mark, and the cell reference.

4. Click OK.

Topic E: How do you duplicate a PivotTable?

The exercise below uses the **3cdef_Movies.xlsx** file.

- 1. Click in any one cell of the PivotTable.
- Select the entire PivotTable by choosing from the PivotTable Tools, Analyze ribbon (PivotTable Tools, Options in Excel 2010), and then selecting the Entire PivotTable option.

		PIVOT	TABLE TO	OLS				
Te	chMentors	ANALY	ZE D	ESIGN	1			
	La B			2	2	2		fx
ons	Refresh Cha	inge Data ource •	Clear •	Selec	t	Move PivotTable	Fields, & S	Items, ets •
	Dat	а			La	abels <u>a</u> nd Val	ues	Ci
	ar i a				La	alues abels		
	K L		M		Er	ntire Pivot <u>T</u> al	ble	<u> </u>
				>	Er	nable	on	
Figu	re 48					0		

- 3. Copy the PivotTable to the clipboard by pressing **Ctrl C**.
- 4. Position the cursor in a different sheet or in a new location on the same sheet, provided the new location is not currently part of a PivotTable.
- 5. Paste the data by pressing **Ctrl V**.

Topic F: How do you rename a PivotTable?

The exercise below uses the **3cdef_Movies.xlsx** file.

Each PivotTable has a unique name. This name is found in the PivotTable Name box on the left side of the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options tab in Excel 2010).

FILE	ANALYZE	DESIGN		
PivotTable Nam	e: Active Fiel	ld:	3	
PivotTable2	Category			
Coptions 🝷	Field S	Settings Down Up -		
PivotTable		Active Field		

Figure 49

You can rename the PivotTable by simply typing the new name in the PivotTable Name box.

Note: Unlike named ranges, PivotTable names can have spaces as shown below.

PivotTable Name:
Movies Pivot
Options -
PivotTable

Figure 50

Topic G: How do you change the data source of a PivotTable?

The exercise below uses the **3g_Movies.xlsx** file.

As we saw in the first lesson, each PivotTable is based on some source data. You can change the source of a PivotTable.

- 1. Click in any one cell of the PivotTable.
- 2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Change Data Source** button.



3. Using the Change PivotTable Data Source dialog box identify the new source (table or range) for your PivotTable, then click **OK**.



Figure 52
Topic H: How do you create a PivotChart?

The exercise below uses the **3h1_Movies.xlsx** file.

A PivotChart is a graphical representation of the data in a PivotTable. Because it is an Excel chart it has all the features of regular Excel charts, plus it has PivotTable like features because it is based on an existing PivotTable.

There are two ways to create a PivotChart

Method 1

1. Position the cursor in any one cell of the PivotTable.



2. Press **F11**.

Method 2

The exercise below uses the **3h2_Movies** file.

1. Position the cursor in one cell, and only one cell of the data.

- 24	A	В	С	D	E	F
1	MovieNumber	Title	Year	Category	Rating	Color
2	1	\$(Dollars)	1972	Crime	R	TRUE
3	2	\$1,000,000 Duck	1971	Comedy	G	TRUE
4	3	10	1979	Comedy	R	TRUE
5	4	10 Rillington Place	1970	Crime	PG	TRUE
6	5	100 Rifles	1969	Western	PG	TRUE
7	6	11 Harrowhouse	1974	Crime	PG	TRUE
8	7	1492: Conquest of Paradise	1992	Drama	PG-13	TRUE
9	8	16 Days of Glory	1986	Documentary	G	TRUE
10	9	1776	1972	Historical	G	TRUE
11	10	18 Again!	1988	Comedy	PG	TRUE
12	11	1900	1977	Drama	NC-17	TRUE
E: ~.	ro 54					

Figure 54

2. From the ribbon choose **Insert**, **Charts**, **PivotChart** (Insert, Tables, PivotTable, PivotChart in Excel 2010).

FILE HOME INSERT PA			
PivotTable Recommended Table PivotTables	Recommended Charts	PivotChart Map	Line Col
Tables	Charts	Pivot <u>C</u> hart	N dià
B26 ▼ : X ✓ .		PivotChart & P	ivotasle
Figure 55			

3. In the resulting dialog box make sure the **table/range** is referring to the correct table or range that holds your data and that the destination is a **New Worksheet**, then click **OK**.

Create PivotChart	? <mark>- X -</mark>					
Choose the data that y	ou want to analyze					
Select a table or ratio	inge					
Table/Range:	Movie List ISAS1:SFS5407					
O Use an external da	ita source					
Choose Con	nection					
Connection na	ime:					
Choose where you war	it the PivotChart to be placed					
	←					
© Existing Workshee	rt .					
Location:	Location:					
Choose whether you want to analyze multiple tables						
Add this data to the Data <u>M</u> odel						
	OK Cancel					





4. Drag the fields from the PivotTable Field List to the desired location.

Figure 57

5. Move and resize the chart as needed.



4: Refreshing Pivot Data

Complete this unit and you'll be able to answer the following questions:

- A. Why do you need to refresh a PivotTable?
- B. How do you refresh a PivotTable?
- C. How do you refresh all the PivotTables in the workbook?

Topic A: Why do you need to refresh a PivotTable?

The exercise below uses the **4a_Northwind.xlsx** file.

Unlike Excel formulas and function, PivotTables do not get automatically updated when the source data changes. That's because the source data of the PivotTable is contained in a hidden object called a PivotCache. The PivotCache is a static copy of the data as it appeared when the PivotTable was created. Thus, when you change the original data the PivotTable does not automatically get updated because its cache needs to be refreshed.

To demonstrate the need to refresh the PivotCache try the following:

1. View your Pivot Table and take note of some of its calculations.

Row Labels	•	Total Sales
Alfreds Futterkiste		\$6,451
Ana Trujillo Emparedados y helado	S	\$4,168
Antonio Moreno Taquería		\$4,841
Around the Horn	\$12,175	
Berglunds snabbköp		\$27,539
Blauer See Delikatessen		\$7,326
Blondesddsl père et fils		\$15,335

Figure 59

2. Change one or more values in the source data.

In this example you might change the discount rate in cell K1 of the Orders sheet from 1% to 2% and see all the discounts and extended prices change.



Figure 60: Notice the extended prices change when the discount is changed.

3. View the Pivot Table again. Notice that the numbers have not changed.

Row Labels	۲	Total Sales
Alfreds Futterkiste		\$6,451
Ana Trujillo Emparedados y helado	S	\$4,168
Antonio Moreno Taquería		\$4,841
Around the Horn		\$12,175
Berglunds snabbköp		\$27,539
Blauer See Delikatessen		\$7,326
Blondesddsl père et fils		\$15,335

Topic B: How do you refresh a PivotTable?

The exercise below uses the **4bc_Northwind.xlsx** file.

When you refresh a PivotTable you are in reality refreshing its PivotCache. You can do so by following the steps listed below. However, please note that all the other PivotTables that use the same PivotCache will also be refreshed because their cache has been refreshed.

1. If needed, notice the values in the various PivotTables.

In this example four PivotTables are on the Pivots sheet. The PivotTable in columns A and B is based on the Orders sheet. The three PivotTables in columns D and E are based on the Employees sheet.

- 2	A	В	С	D	E
3	Customers -	Total Sales		Department -	Total Salary after Raise
4	Alfreds Futterkiste	\$6,451		Acct	\$14,658
5	Ana Trujillo Emparedados y helados	\$4,168		Manf	\$9,595
6	Antonio Moreno Taquería	\$4,841		Mktg	\$28,951
7	Around the Horn	\$12,175		Sales	\$42,487
8	Berglunds snabbköp	\$27,539		Grand Total	\$95,690
9	Blauer See Delikatessen	\$7,326			
10	Blondesddsl père et fils	\$15,335			
11	Bólido Comidas preparadas	\$2,373			
12	Bon app'	\$24,023			
13	Bottom-Dollar Markets	\$18,844			
14	B's Beverages	\$8,916			
15	Cactus Comidas para llevar	\$2,494			
16	Centro comercial Moctezuma	\$640		Office 🔻	Total Salary after Raise
17	Chop-suey Chinese	\$13,489		Chicago	\$16,276
18	Comércio Mineiro	\$5,604		Dallas	\$24,018
19	Consolidated Holdings	\$6,459		DC	\$9,595
20	Die Wandernde Kuh	\$11,415		NY	\$20,585
21	Drachenblut Delikatessen	\$3,849		SFO	\$25,217
22	Du monde entier	\$3,354		Grand Total	\$95,690
23	Eastern Connection	\$11,258			
24	Ernst Handel	\$59,239			
25	Familia Arquibaldo	\$4,016			
26	Folies gourmandes	\$8,942			
27	Folk och fä HB	\$23,652			
28	France restauration	\$7,234			
29	Franchi S.p.A.	\$6,467		Employee 💌	Total Salary after Raise
30	Frankenversand	\$21,809		Abramas	\$2,222
31	Furia Bacalhau e Frutos do Mar	\$9,234		Adelheim	\$3,003
32	Galería del gastrónomo	\$3,294		Albrecht	\$2,096
33	Codos Cocina Típica	\$14,041		Bachman	\$1,645
. 60	nchonetes	\$11,125	and the second se	-	\$6,544

2. As needed, change the data in each of the source data ranges that support the various PivotCaches.

In this example change the discount rate in the Orders sheet cell K1 to 5%. Also change the employee's raise in the Employees sheet cell F1 to 6%.

3. Click in any one cell of the PivotTable.

In this example click on cell D4.

-2	D	E	1
1			
2			
3	Department -	Total Salary after Raise	
4	Acct 52	\$14,658	
5	Manf	\$9,595	
6	Mktg	\$28,951	
7	Sales	\$42,487	
8	Grand Total	\$95,690	
9		·	
10	1		

Figure 63

4. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Refresh**, **Refresh** option.

					PIVOTTA	BLE TOOLS	
Tee	chMen	tors	Acrobat	A	VALYZE	DESIGN	
ons	Refre	sh Ch	ange Data Source •	Clear	Select	Move PivotTable	fx Fields, Items, & Sets ▼
	là	<u>R</u> efre	sh		.ctior	ns	c
	ß	Refre	sh <u>A</u> ll	5			
	0 Bx	Refre <u>C</u> anc	<u>s</u> h Status el Refresh		M	I N	0
		Conr	nection Prop	erties			

Figure 64

Notice that the data in the three PivotTables based on the Employees sheet (the PivotTables in columns D and E) have changed, but the data in the PivotTable (the PivotTable in columns A and B) has not changed.

	The values in the PivotTables based on the Orders sheet has not changed.			The value PivotTab Employe changed	es in the three les based on the es sheet have
A	A	В	С	D	E F
1 2		V			
3	Customers 🗸	Total Sales		Departmer -	Total Salary after Raise
4	Alfreds Futterkiste	\$6,451		Acct	\$15,384
5	Ana Trujillo Emparedados y helados	\$4,168		Manf	\$10,070
6	Antonio Moreno Taquería	\$4,841		Mktg	\$30,384
7	Around the Horn	\$12,175		Sales	\$44,590
8	Berglunds snabbköp	\$27,539		Grand Total	\$100,428
9	Blauer See Delikatessen	\$7,326			
10	Blondesddsl père et fils	\$15,335			
11	Bólido Comidas preparadas	\$2,373			
12	Bon app'	\$24,023			
13	Bottom-Dollar Markets	\$18,844			
14	B's Beverages	\$8,916			
15	Cactus Comidas para llevar	\$2,494			
16	Centro comercial Moctezuma	\$640		Office 💌	Total Salary after Raise
17	Chop-suey Chinese	\$13,489		Chicago	\$17,082
18	Comércio Mineiro	\$5,604		Dallas	\$25,207
19	Consolidated Holdings	\$6,459		DC	\$10,070
20	Die Wandernde Kuh	\$11,415		NY	\$21,604
21	Drachenblut Delikatessen	\$3,849		SFO	\$26,465
22	Du monde entier	\$3,354		Grand Total	\$100,428
23	Eastern Connection	\$11,258			
24	Ernst Handel	\$59,239			
25	Familia Arquibaldo	\$4,016			
26	Folies gourmandes	\$8,942			
27	Folk och fä HB	\$23,652			1
28	France restauration	\$7,234			<i>P</i>
29	Franchi S.p.A.	\$6,467		Employee -	Total Salary after Raise
30	Frankenversand	\$21,809		Abramas	\$2,332
31	Furia Bacalhau e Frutos do Mar	\$9,234		Adelheim	\$3,151
32	Galería del gastrónomo	\$3,294		Albrecht	\$2,200
33	Godos Cocina Típica	\$14,041		Bachman	\$1,727
2	Lanchonetes	\$11,125		al and a second se	\$6,868

Topic C: How do you refresh all the PivotTables in the workbook?

The exercise below uses the **4bc_Northwind.xlsx** file and is dependent on your completing the exercise in topic B.

If you have a workbook with multiple PivotTables which are based on multiple PivotCaches you can refresh all of them by doing the following.

- 21	A	B	С	D	E	F
1						
2						
3	Customers	 Total Sales 		Departmer *	Total Salary after Raise	
4	Alfreds Futterkiste	\$6,451		Acct	\$15,384	
5	Ana Trujillo Emparedados y helados	\$4,168		Manf	\$10,070	
6	Antonio Moreno Taquería	\$4,841		Mktg	\$30,384	
7	Around the Horn	\$12,175		Sales	\$44,590	
8	Berglunds snabbköp	\$27,539		Grand Total	\$100,428	
9	Blauer See Delikatessen	\$7,326				
10	Blondesddsl père et fils	\$15,335				
11	Bólido Comidas preparadas	\$2,373				
12	Bon app'	\$24,023				
13	Bottom-Dollar Markets	\$18,844				
14	B's Beverages	\$8,916				
15	Cactus Comidas para llevar	\$2,494				
16	Centro comercial Moctezuma	\$640		Office 💌	Total Salary after Raise	
17	Chop-suey Chinese	\$13,489		Chicago	\$17,082	
18	Comércio Mineiro	\$5,604		Dallas	\$25,207	
19	Consolidated Holdings	\$6,459		DC	\$10,070	
20	Die Wandernde Kuh	\$11,415		NY	\$21,604	
21	Drachenblut Delikatessen	\$3,849		SFO	\$26,465	
22	Du monde entier	\$3,354		Grand Total	\$100,428	
23	Eastern Connection	\$11,258				
24	Ernst Handel	\$59,239				
25	Familia Arquibaldo	\$4,016				
26	Folies gourmandes	\$8,942				
27	Folk och fä HB	\$23,652				
28	France restauration	\$7,234				
29	Franchi S.p.A.	\$6,467		Employee -	Total Salary after Raise	
30	Frankenversand	\$21,809		Abramas	\$2,332	
31	Furia Bacalhau e Frutos do Mar	\$9,234		Adelheim	\$3,151	
32	Galería del gastrónomo	\$3,294		Albrecht	\$2.200	
33	Godos Cocina Típica	\$14,041		Bachman	\$1,727	
2	Lanchonetes	\$11,125		10	\$6.868	

1. If desired, notice the values in the various PivotTables.

Figure 66

2. As needed, change the data in each of the source data ranges that support the various PivotCaches.

In this example change the discount rate in the Orders sheet cell K1 to 3%. Also change the employee's raise in the Employees sheet cell F1 to 3%.

A I J K L	
2 Today's discount 3%	
Pivots Orders Employees	Change the discount rate
	on the orders sheet
E F G H	and the Raise percentage
1 Raise 3.00%	on the Employees sheet.
Pivots Orders Employees	

Figure 67

3. Click in any one cell of any PivotTable in your workbook. In this example click again on cell D4.

24	D	E
1		· · · · · · · · · · · · · · · · · · ·
2		
3	Departmer 🔻	Total Salary after Raise
4	Acct 5	\$15,384
5	Manf	\$10,070
6	Mktg	\$30,384
7	Sales	\$44,590
8	Grand Total	\$100,428
9		

Figure 68

4. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Refresh**, **Refresh All** option.



Figure 69

Notice that all the PivotTables in your workbook have been updated.



5: Sorting PivotTables

Complete this unit and you'll be able to answer the following questions:

- A. How do you sort PivotTable data by row labels?
- B. How do you manually rearrange row labels?
- C. How do you sort PivotTable data by column label?
- D. How do you manually rearrange column labels?
- E. How do you sort PivotTable data by a value field?

Topic A: How do you sort PivotTable data by row labels?

The example below uses the **5a_Employees.xlsx** file.

You can easily sort PivotTable results by selecting a row label and then clicking any of the three sorting buttons shown on the **Data** ribbon (in Excel 2010 sort options are also on the PivotTable Tools, Options tab).

FORMULAS	DATA	REVIEW	VIEW	DEVELOP
Conne Conne Sh Conne Proper Edit Lir	ties ties	Sort	Filter	Clear Reapply Advanced
Connections	i d	~~ S	ort & Filter	

Figure 71

You can also sort by a row label by clicking the field's drop down menu and choosing **Sort A to Z** or **Sort Z to A**.

	-			
	3	Sum of Salary		
	4	DeptLast Name	-	Total
1	ţ	Sort A to Z		1629
2		Sort 7 to A		2129
1	1 4	3 <u>6</u> 1(210)		2129
		More Sort Options		2934
-	K	Clear Filter From "Dept"		2434
				1379
		Laber Filters		1879

Figure 72

Topic B: How do you manually move row labels?

The example below uses the **5b_Employees.xlsx** file.

In addition to sorting the rows in your PivotTable you may want to manually rearrange the location of each row. For example instead of listing each office alphabetically, as shown below in Figure 73, you may want to list all the cities by their location (i.e. East coast cities first followed by the Midwest cities, and then finally West coast cities at the end) as shown in Figure 74.

Total Salary		Total Salary	
Office 🗸	Total	Office 🚽	Total
Chicago	\$16,115.00	NY	\$20,381.00
Dallas	\$23,780.00	DC	\$ 9,500.00
DC	\$ 9,500.00	Chicago	\$16,115.00
NY	\$20,381.00	Dallas	\$23,780.00
SFO	\$24,967.00	SFO	\$24,967.00
Grand Total	\$94,743.00	Grand Total	\$94,743.00

Figure 73 – Offices sorted alphabetically

Figure 74 – Offices manually rearranged.

To manually move rows do the following:

- 1. Right click on the row that you want to move.
- 2. Select Move, and then select one of the available move options.



Topic C: How do you sort PivotTable data by column label?

The example below uses the **5c_Employees.xlsx** file.

In addition to sorting PivotTable results vertically, you can also sort the data horizontally by selecting a column label (assuming it has at least one column field) and then clicking any of the three sorting buttons shown on the **Data** ribbon (in Excel 2010 sort options are on the PivotTable Tools, Options tab).

FORMULAS	DATA	REVIEW	VIEW	DEVELOP
Conner Conner Conner Propert	ties ks	Sort	Filter	Clear Reapply Advanced
Connections		NS S	ort & Filter	

Figure 76

You can also sort by a column label by clicking the field's drop down menu and choosing **Sort A to Z** or **Sort Z to A**.

- 24	A	В	С	D	E	F
1		Drop Re	port Filt	er Fields	Here	
2						
3	Sum of Salary	Dept 🔻				
A1	Sort A to Z				Manf	Grand Total
ZI	Cart 744 A					16115
Ā↓	Sort Z to A					23780
	More Sort Optio	ons			9500	9500
-	Class Eilbas Essa	"Dent"				20381
5	Clear Fliter From	n Dept				24967
	Label Filters			4	9500	94743
-		-				
-		and the second s				

Topic D: How do you manually move column labels?

The example below uses the 5d_Employees.xlsx file.

Manually rearranging column labels is very similar to manually moving rows labels. To manually move columns do the following:

- 1. Right click on the column that you want to move.
- 2. Select Move, and then select one of the available move options.

Dept 🗔			Aria	$\begin{array}{c c} 1 & \cdot & 10 & \cdot & A \\ \hline r & \equiv A & \cdot & A \end{array}$	۸ [*] \$	•% • 🔯	
Acct	Manf	Mktg	Ĩ	Sales	Gran	na rota	l.
		2378	1 1 1 1 1 1 1	<u>C</u> opy <u>F</u> ormat Cells <u>R</u> efresh		16115 23780	
14513	9500	268	 Image: A start of the start of	<u>S</u> ort Fil <u>t</u> er Su <u>b</u> total "Dept"	>	9500 20381 24967	·
14513	9500	2866	4	Expand/Collapse	•	94743	
201/			×	Move Remove "Dept" Field Settings PivotTable Option Hide Field List	ns	Move "N Move "N Move "N Move "D Move "D Move "D Move "D	Iktg" to Beginning Iktg" Left Iktg" Right Iktg" to End ept" to Beginning ept" Up ept" Down ept" to End
						Move D	ept" to Ro <u>w</u> s

6: Grouping PivotTables

Complete this unit and you'll be able to answer the following questions:

- A. How can you group different labels together?
- B. How do you group numbers together?
- C. How do you group dates by year, quarter, or month?
- D. How do you ungroup a grouped field?

Topic A: How can you group different labels together?

The exercise below uses the **6_Northwind.xlsx** file's **Region Pivot** sheet.

Sometimes you want to group together the row labels or the column labels that appear in your PivotTable. For example, with you may want to put the west coast states in one group and the mountain states in another group.

	А	В
1	Country	USA 🗊
2		
3	Row Labels	ज Total Sales
4		
5	CA	\$3,076
6	OR	\$29,190
7	WA	\$29,292
8	🗏 Mountain	
9	ID	\$104,362
10	MT	\$1,947
11	WY	\$11,442
12	Grand Total	\$179,309

To group labels together do the following:

- 1. Click on the first label that you want in the group.
- 2. While holding down the control key click on other labels that you want in the group.
- 3. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Group Selection** option.

FILE					ANALYZE DESIGN
PivotTabl PivotTab E Optic Pivot	le Name: ble1 ons • Table	Active Field: Region Field Settings Active Down Active	Image: Principle Image: Principle Drill Up → Collapse Field	→ Group Selection @ Ungroup ⑦ Group Field Group	Insert Insert Filter Slicer Timeline Connecti Filter
A8	•	: 🗙 🖌 f x	WA	Group Selection Create a group cont	aining the
		Α	В	selected items.	
1	Cou	intry	USA 🗔]	
2					(
3	Rov	v Labels 🗔	Total Sales		
4	CA		\$3,076		
5	ID		\$104,362		
6	MT		\$1,947		
7	OR		\$29,190		
8	WA		\$29,292		
9	WY		\$11,442		
10	Gra	nd Total	\$179,309		
11					

Topic B: How do you group numbers together?

The exercise below uses the **6_Northwind.xlsx** file's **Product ID Pivot** sheet.

When a PivotTable row or column labels are numeric you may want to group the numeric data together in set of fives, tens, hundreds, etc. For example instead of showing the Total Quantity Sold per Product ID, you may want to show the total sold per product grouping, where the grouping is in sets of ten.

Product ID	Total Qty Sold
1	828
2	1057
3	328
4	453
5	298
6	301
	763
73	
74	297
75	1155
76	981
77	791
Grand Total	51317
Figure 81	

Total Qty Sold
4495
6607
6204
6796
6161
7728
7129
6197
51317

Figure 82

60

To group numeric labels together do the following:

- 1. Click on one of the numeric labels.
- 2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Group Selection** option.



3. Optional: In the grouping dialog box set the desired starting and ending numbers, as well as the desired grouping interval.

In this example we changed the starting value to 0.

Auto	
Starting at:	0
Ending at:	77
By:	10

Figure 84

Product ID	Total Qty Sold
0-9	4495
10-19	6607
20-29	6204
30-39	6796
40-49	6161
50-59	7728
60-69	7129
70-79	6197
Grand Total	51317

Topic C: How do you group dates by year, quarter, or month?

The exercise below uses the **6_Northwind.xlsx** file's **Order Date Pivot** sheet.

In addition to creating groups for textual labels and numeric labels, you can also create groups based on date labels.

Invoice Date 🖵	Total Hours
⊟ 2007	
□Qtr1	
Jan	5,217
Feb	8,710
Mar	5,811
Qtr1 Total	19,738
□Qtr2	
Apr	7,200
May	7,349
Jun	6,831
Qtr2 Total	21,380
□Qtr3	
Jul	7,177
Aug	7,530
Sep	6,663
Qtr3 Total	21,370
□Qtr4	
Oct	7,154
Nov	7,526
Dec	5,535
Qtr4 Total	20,215
2007 Total	82,703

Note: In order to group a date label by date, it must include all three parts of a date (year, month, and day). If the date label has only one or two of the three parts, then Excel will not recognize it as a date.

Order Year	Order Month	Order Date
1996	July	07/04/96
1996	Juix	07/05/96
<mark>) 996</mark>	July	
1996	August	08/01/96
1996	August	08/02/96
1996	September	09/04/96
1996	September	09/05/96

Figure 87: The year and month columns above cannot be used as a date grouping field in a PivotTable because they are not complete dates. However, the order date field can be grouped as a date because it contains a month, day and year.

To group date labels together do the following:

- 1. Click on one of the date labels.
- 2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Group Selection** option.



3. Optional: In the grouping dialog box change the desired starting and ending dates.

Starting at:	7/4/1996	
Ending at:	5/7/1998	

4. In the grouping dialog box click on the desired date intervals. In the example below the PivotTable will group the Invoice date by Year, Quarter, Month and Day.

siouping	
Auto	7
Starting at:	7/4/1996
Ending at:	5/7/1998
Ву	
Seconds Minutes Hours	^
Days Months Quarters Years	
	-
Nu	mber of days: 1
	OK Cancel

Figure 90

5. Click OK.

Order Date	Total Sales
≡ 1996	
■ Qtr3	
<mark>⊟Ju</mark> l	
4-Jul	\$440.00
5-Jul	\$1,863.40
8-Jul	\$2,206.66
9-Jul	\$3,597.90
10-Jul	\$1,444.80
<u> </u>	5.62

1	Α	B	C 🗎	PivotTable Fields	- ×
3	Order Date	Total Sales		Choose fields to add to report:	Ø •
4	□ 1996			Order ID	
5	■Qtr 3			Customer ID	
6	Jul	\$27,861.89		Required Date	
7	Aug	\$25,485.27		Shipped Date	
8	Sep	\$26,381.40		Product ID Product Name	
9	⊟Qtr4			Unit Price	
10	Oct	\$37,515.72		Discount	
11	Nov	\$45,600.04		Freight	
12	Dec	\$45,239.63		Company Name	
13	⊟ 1997			Region Country	
14	⊒Qtr1			Monthe	
15	Jan	\$61,258.07		Drag fields between areas below:	
16	Feb	\$38,483.63		▼ FILTERS	
17	Mar	\$38,547.22			
18	⊟Qtr2				
19	Apr	\$53,032.95			
20	May	\$53,781.29		E ROWS	
21	Jun	\$36,362.80		Years •	Total Sales
22	■Qtr 3			Quarters	
23	Jul	\$51,020.86	Order Date	Order Date 🔻	
24	Aug	\$47,287.67	·×		
25	Sep	\$55,629,24			100.175
	Orders Region Pive	ot Product ID Pivot Orde	r Date Pivot Pro-	Uefer Layout Update	UPDATE

6. Optional: Drag the original date field from the row area to remove the details of each individual date.

Tip: It is highly recommended that you select the **Days** option in the grouping dialog box. If you do not include the Days option the PivotTable will redefine your date field as shown below.

1	Α	B	С	PivotTable Fields
3	Order Date -	Total Sales		Choose fields to add to report:
4	□1996			
5	■Qtr 3			Customer ID
6	Jul	\$27,861.89		Required Date
7	Aug	\$25,485.27		Shipped Date Grouping
8	Sep	\$26,381.40		Drag fields betwee
9	⊟Qtr4			Ending at: 5/7/1998
10	Oct	\$3 In this screen sh was not selected	ot notice that the	Days option
11	Nov	\$40,000.01		Minutes Hours
12	Dec	\$45,239.63		Days Months O'varters
13	□ 1997			· · · · · · · · · · · · · · · · · · ·
14	⊟Qtr1			Number of days: 1 🔭
15	Jan K	\$61,258.07		OK Cancel
16	Feb	\$38,483.63		
17	Mar	\$38,547.22		E ROWS Σ VALUES
18	⊟Qtr2			Years
19	Apr	\$53,032.95		Order Date
20	Mav	\$53 781 29		Excel therefore associates the "Order Date" field as a month field.

Topic D: How do you ungroup a grouped field?

The exercise below uses the **6_Northwind.xlsx** file's **Product Grouping Pivot** sheet.

After combining multiple values into a group, you may want to ungroup that field so you can again view the details associated with that field.

To ungroup a grouped field do the following:

Row Labels	Total Qty Sold
0-9	4495
10-19	6607
20-29	6204
30-39	6796
40-49	6161
50-59	7728
60-69	7129
70-79	6197
Grand Total	51317
Figure 94	

1. Select one of the values of the grouped field.

2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), click the **Group**, **Ungroup** option.



Figure 95

The field will be restored to its original non-grouped state.

Row Labels	Total Qty Sol	d
1	8:	28
2	10	57
3	3:	28
	1	53

7: Filtering PivotTables

Complete this unit and you'll be able to answer the following questions:

- A. How do you filter by selecting row labels?
- B. How do you filter by selecting column labels?
- C. How do you filter by using comparison operators?
- D. How do you filter by values?
- E. How do you filter when there are multiple rows/columns?
- F. How do you create and use a report filter?
- G. What are Report Filter Pages and how do you create them?

Topic A: How do you filter by selecting row labels?

The exercise below uses the **7a_Movies.xlsx** file.

When you apply a filter to a PivotTable you limit the data that will appear. You can filter the rows that appear by doing the following:

1. Click the Row Label drop down button.

Row Labels	7
	13

2. Uncheck the **Select All** option.

₽↓	Sort Smallest to Largest
₹↓	Sort Largest to Smallest
	More Sort Options
₹	Clear Filter From "Year"
	Label Filters
	Value Filters
	Search 🔎
~	Select AID
	.:
Figur	e 98

- 3. Check the boxes for the values you want displayed in the PivotTable.

····· (Select All)	~
1925	
1951	E
1955	
···· 🗹 1962	
1967	
1968	
1969	
1970	-

Figure 99

4. Click OK.

The resulting PivotTable displays the rows you selected.

Count of Title Column	Labels 💌			
Row Labels 🛛 🗐	G	PG	R	Grand Total
1962	1			1
1966		1	4	5
1967		7	3	10
1968	44	37	37	118
1969	51	83	45	179
Grand Total	96	128	89	313

- Tip: Notice that whenever a label filter has been applied the button changes to show an icon with a filter.
 - No filter was applied.
 - A filter has been applied.

Topic B: How do you filter by selecting column labels?

The exercise below uses the **7b_Movies.xlsx** file.

In addition to selecting the row labels, you can filter a PivotTable by selecting column labels by doing the following:

1. Click the Column Label drop down.

Column Labels	N.
Figure 101	

2. Uncheck the Select All option.

₽↓	Sort A to Z
₹Ļ	S <u>o</u> rt Z to A
	More Sort Options
F _	<u>C</u> lear Filter From "Rating"
	Label Filters
	Value Filters
	Search 🔎
	Select All SG
	.:

- Figure 102
- 3. Check the boxes for the values you want to display in the PivotTable.

(Select All)	
🗹 G	
PG	
PG-13	
R	
NC-17	
NR	
4. Click **OK**.

The resulting PivotTable displays the columns you selected.

Count of Title Column Labels	"		
Row Labels 🛛 🗐	G	PG	Grand Total
1962	1		1
1966		1	1
1967		7	7
1968	44	37	81
1969	51	83	134
Grand Total	96	128	224

Figure 104: PivotTable with both column and row filters.

Topic C: How do you filter by using comparison operators?

The exercise below uses the 7c_Movies.xlsx file.

In the previous topics the PivotTable were filtered by the user selecting the items they wanted to see. Sometime a faster approach is to apply a "Label filter" which lets you filter by a comparison operators such **Equals...**, **Greater Than..., Less Than..., Begins With...** and many more as shown below.

A Sort Smallest to Largest	
Z↓ Sort Largest to Smallest	
More Sort Options	
📡 <u>C</u> lear Filter From "Year"	
Label Filters	📡 <u>C</u> lear Filter
Value Filters	<u>E</u> quals
Search 🔎	Does <u>N</u> ot Equal
	Begins W <u>i</u> th Does No <u>t</u> Begin With Ends Wi <u>t</u> h Does Not End Wit <u>h</u> Cont <u>a</u> ins <u>D</u> oes Not Contain <u>G</u> reater Than Greater Than <u>O</u> r Equal To Less Than Or Equal To Bet <u>w</u> een Not <u>B</u> etween

Figure 105

To filter by using a comparison operator do the following:

- 1. Click either the Row Label drop down button, or the Column Label drop down button.
- 2. Click on the Label Filters option.
- 3. Click on the desired operator.

Label Filters	<u>۲</u>	Ę,	<u>C</u> lear Filter
<u>V</u> alue Filters	•		<u>E</u> quals
Search	Q		Does <u>N</u> ot Equal
	4 m >		Begins W <u>i</u> th Does No <u>t</u> Begin With Ends Wi <u>t</u> h Does Not End Wit <u>h</u> Cont <u>a</u> ins <u>D</u> oes Not Contain <u>G</u> reater Than
ОК	Cancel		Greater Than <u>O</u> r Equal To Less Than

Figure 106

4. Fill in the desired values in the resulting dialog box.

Label Filter (Year)	8 <mark>- X</mark>
Show items for which the label is greater than or equal to 💌 1970	
Use ? to represent any single character Use * to represent any series of characters	
	OK Cancel

Figure 107

5. Click OK.

The resulting PivotTable displays the rows or columns that meet your criteria.

Count of Title Column Labels	•		Ju I			1	
Row Labels 🛛 🗐	G	NC-17	PG	PG-13	R	NR	Grand Total
1970	24	1	104		73		202
1971	38		99		76		213
1972	26		125		82		233
1973	24		96		90		210
1974	22		87		70		179
1975	11		90		64		165
1976	23		97		62		182
1977	16	1	86		54		157
1978	12		91		70		173
1979	13		102		69		184
1980	9		91		114		214
1981	4		81		116		201
1982	4		73	1	106		184
1983	2		86	2	99		189
1984	2		71	21	112		206
1985	6		57	49	110		222
1986	6		57	47	127		237
1987	5		69	56	157		287
1988	7		64	49	150		270
1989	6	1	40	64	141	1	253
1990	7	2	38	55	133		235
1991	6	2	33	41	147		229
1992	5	2	29	55	121	5	217
1993	5	2	38	52	89	2	188
1994	2	1	14	16	27		60
Grand Total	285	12	1818	508	2459	8	5090

Topic D: How do you filter by values?

The exercise below uses the **7d_Movies.xlsx** file.

In the previous topics we have filtered the data based on the row or column labels. But sometimes you may want to filter the results based on the value. For example you may want to show all the years where the movie count is between 100 and 200.

To filter by value do the following:

- 1. Click either the Row Label drop down button, or the Column Label drop down button.
- 2. Click on the Value Filters option.
- 3. Click on the desired operator.

Label Filters	•	
<u>V</u> alue Filters	+ 5	<u>C</u> lear Filter
Search	Q	<u>E</u> quals
(Select All)	~	Does <u>N</u> ot Equal
		Greater Than
	=	Greater man
1955		Greater Than <u>O</u> r Equal To
1962		Less Than
1966		
1967		Less Than Or Equal To
1969		Between
1970	-	Not Between
		<u>T</u> op 10
OK	Cancel	

Figure 109

4. Fill in the desired values in the resulting dialog box.

Value Filter (Year)		8 <mark>- X</mark>
Show items for which		
Count of Title 💌 is between	▼ 100	and 200
		OK Cancel

5. Click OK.

The resulting PivotTable displays all the rows or columns where the row or column total meets your criteria.

Count of Title Column Labels	•						
Row Labels 🗐	GN	IC-17	PG	PG-13	R	NR	Grand Total
1968	44		37		37		118
1969	51		83		45		179
1974	22		87		70		179
1975	11		90		64		165
1976	23		97		62		182
1977	16	1	86		54		157
1978	12		91		70		173
1979	13		102		69		184
1982	4		73	1	106		184
1983	2		86	2	99		189
1993	5	2	38	52	89	2	188
Grand Total	203	3	870	55	765	2	1898

Figure 111: Display only rows that have a total count between 100 and 200.

Topic E: How do you filter when there are multiple rows/columns?

The exercise below uses the **7e_Movies.xlsx** file.

You can have many rows and/or many columns in your PivotTable. For example, the PivotTable shown below has two rows and one column.

4	Count of Title Row Labels	Column Labels	G PG	PG-13	R	NC-17	NR	Grand Tote	al	PivotTable Fields		. ×
6	⊜1925	Manual .					1		1	Channe Eidda ha add ha ann an		A -
7	Comedy						1		1	Choose fields to add to report:		w ·
8	⊜1951						1		1	MovieNumber		
9	Drama						1		1	☑ Title		
10	⊜1955			1					1	Vear		
11	Crime			1					1	Category		
12	⊟1962		1						1	Rating		
13	Adventure		1						1			
14	⊡1966			1	4	4			5			
15	Drama				1				1	MORE TABLES		
16	Horror			1					1			
17	Western				3				3	Drag fields between areas below:		
18	⊟1967			7	3	Ċ.			10	T FILTERS	III COLUMNS	
19	Action			1					1			
20	Adventure			1					1		Rating	•
21	Biography			1					1		S WALLIES	•
22	Comedy			1					1	= ROWS	Z VALUES	
23	Crime			1					1	Year 👻	Count of Title	•
24	Drama		1000		2				2	Category 🔻		
18					-		-					
										Defer Layout Update		UPDATE

Figure 112

When there are multiple items the label's drop down will include a select field option so you can specify which of the rows or columns you want to filter.

Year	X
Year	6
Category	
More Sort Options	

Figure 113

Topic F: How do you create and use a report filter?

The exercise below uses the **7f_Movies.xlsx** file.

In addition to filtering data that appears in the rows and columns, you can also filter the PivotTable by fields that are not in the rows and columns. For example, you may want to create a PivotTable that shows the number of Adventure movies by Year and Rating.

Category	Adventure	Τ.				
Count of Title	Column Labels	•				
Row Labels 💌		G	PG	PG-13	R	Grand Total
1962		1				1
1967			1			1
1968		1				1
1969		3	2		1	6
1970		3	4			7
1971		4	4		2	10
1972		4	1		2	7
1973		2	3		1	6
197		2	-		1	7
				-		
1991			1		3	5
1992					2	2
1993			1	1		2
1994			1			1
Grand Total		30	100	11	36	177

Figure 114

To create a PivotTable with a Report filter do the following:

- 1. Create the PivotTable as you would normally.
- 2. Drag one or more desired fields to the report filters area.

choose neids to add to rep	port:	\$ ◄
MovieNumber		
✓ Title		
✓ Year		
Category		Y
✓ Rating		
Color		
MORE TABLES		
Drag fields between areas	below:	
Category	▼ Rating	•
■ ROWS	Σ values	
Vear	▼ Count of Title	•
rea		
reat		

3. Click the report filter's drop down, and then choose the desired value.

Search	
: (All)	
Action	Ċ.
Adventure	
Animated	
Biography	ī
Children's	
Comedy	
Crime	
- Dance	
- Disaster	
- ·	

- Figure 116
- 4. Click **OK**.

The PivotTable is updated to meet your criteria.

Note: During step 3 you can check the **Select Multiple Items** option and then choose multiple items for the desired filter.

Search	5
: I (All)	•
Action	
Adventure	E
Animated	
Biography	
Children's	
Comedy	
Crime	
Dance	
Disaster	-
Select Multiple Items	
ОК	Cancel
	.:

Figure 117

The end result shows all the values that match either value.

Category	(Multiple Items)	Ψ,				
Count of Title	Column Labels	•		D0 14	-	
Row Labels 💌		G	PG	PG-13	к	Grand Lotal
1962		1				1
1967			2			2
1968		1			1	2
1969		3	2		2	7
1970		3	5		2	10
1971		4	7		5	16
1972	-	5	2		9	
						18
50						
1991			3		22	-JU
1992			1	3	13	17
1993			4	6	9	19
1994			2		5	7
Grand Total		32	170	32	254	488

Topic G: What are Report Filter Pages and how do you create them?

The exercise below uses the **7g_Movies.xlsx** file.

Now that you have created a PivotTable with a report filter, imagine if you needed to create a separate sheet for each of the possible values in the report filter field. The results, called "Report Filter Pages", would look something like the following. To manually create all of these would be tedious and time consuming.



Thankfully you can quickly and easily create Report Filter Pages by doing the following.

- 1. Click in any one cell of the PivotTable.
- From the PivotTable Tools, Analyze ribbon (PivotTable Tools, Options in Excel 2010), click the Options drop down and then click Show Report Filter Pages...

	PIVOTTABLE TOOLS							
FILE	ANALYZE	DESIGN						
PivotTable Name	e: Active Fie	ld:						
PivotTable87	Count of	Title						
Options	Field :	Settings Down						
Options		Active						
Show Rep	ort Filter Page	es						
✓ <u>G</u> enerate (GetPivotData							

Figure 120

3. If the Show Report Filter Pages dialog box displays, then choose the desired Report Filter and then click **OK**.

Show Report Filter Pages	ୃ	8
Show all report filter pages of:		
Color		^
Category		- 11
		-
ОК	Cano	cel

Figure 121

Excel will then create a separate sheet for each value in the selected field.

Action Adventure Animated Biography Children's Comedy Crime Dance Disaster Docudrama Documentary Drama Fantasy Historic ... Figure 122

8: Using Slicers

Complete this unit and you'll be able to answer the following questions:

- A. What is a slicer?
- B. How do you insert a slicer?
- C. How do you move the slicer?
- D. How do you resize the slicer?
- E. How do you change the slicer caption?
- F. How do you delete a slicer?
- G. How do you connect a slicer to multiple PivotTables?

Topic A: What is a slicer?

The examples below uses the **8a_Movies.xlsx** file.

A slicer is a visual tool that makes filtering data easy and intuitive. With slicers a user can easily see all the possible values from which they can filter the data.

The following screen shot shows a PivotTable from the Movie List with four connected slicers based on the Category, Rating, Color and Year fields.



Figure 123: PivotTable with four connected slicers based on the Category, Rating, Color and Year fields.

With slicers you can easily filter the data by simply clicking on the desired value. For example in the screen shot below the user clicked on 1980.

- 21	A	В	С	D	E	F	G H		J	1	<	L	M	N O
1														
2	0				_			_	ç	- 2				
3	Count of Title	Column Labels	In Color	Grand Tatal		Category	5	×	Rating	™x	Year			×
4	Action	black and white	6	Grand Total		Action	Adventure	51	6		1925	1951	1955	1962
6	BPG		2	2		Action	Adventure	21		=1	1020	10001	1000	1002
7	1980		2	2		Animated	Biography		PG		1966	1967	1968	1969
8	⊜R		4	4		Children's	Comedy	ור	R		1970	1971	1972	1973
9 10	1980		4	4		Crime	Disaster	٦ľ	NC-17	Ť	1974	1975	1976	1977
11	∋PG		3	3			Contract I	51	ND	-1	1070	1070	1080	1001
12	1980		3	3	- 11	Drama	Fantasy				1970	1919	1900	1901
13	⊜R		3	3		Historical	Horror		PG-13		1982	1983	1984	1985
14	1980		3	3		Musical	Mustery	٦l			1986	1987	1988	1989
15	⊜Animated		1	1		Musicar	10/31017	31	Coulor	7				
17	1980		1	1		Prison	Religious		Color	"×	1990	1991	1992	1993
18	Biography	2	7	9		Romance	Science		Black and White	•	1994			
19	∋G		1	1		Sports	Sov	٦I	In Color					
20	1980		1	1		opono	J_ 997	51						
21	BPG	1	1	2		Thriller	War							
22	1980	1	5	2		Western	Dance		In this ex	ami	nle a	fter th	e use	r I
24	1980	1	5	6		Desudence	Desumentany	۲I			oic, a		0000	" I
25	B Children's	· · · ·	2	2		Docuarama	Documentary		selected	198	0 fro	m the	Year	slicer
26	∋G		2	2		Opera	Political		the Divot	Tah		e filto	rod to	
27	1980		2	2	L			_	LITE FIVOL	ab		Since		
28	B Comedy	1	52	53					Ishow dat	a fr	om tł	nat ve	ar.	
29	∋G		1	1								,,.		
30	1980		1 1	1 11						_				

Figure 124: The user filtered the PivotTable to only show movies from 1980 by clicking on that button in the Year slicer.

Multiple values can be selected from the same slicer by doing the following:

- 1. Click on the first desired value.
- 2. Hold down the control key and select the next desired value from the same slicer.
- 3. Repeat step 2 until you have selected all the desired values.
- 4. Release the control key.

1 2 Column Labels ' Grand Total 8 Row Labels '/ In Color 9 9 9 #R 6 9 9 1 1970 1 1 1 1970 1 1 1 1970 1 1 1 1970 2 2 1 1971 3 3 1 1970 2 2 1 1971 4 4 1 1970 3 3 1 1970 3 1 1 1970 3 3 1 1970 4 4 1 1970 4 4 1 1971 4 4 1 1971 4 4 1 1971 4 4 1 1971 4 4 1 1971 4 4 1 1971 1 1 1 1970 1 1 1 <th>1</th> <th>A</th> <th>В</th> <th>С</th> <th>E F</th> <th>G H</th> <th></th> <th>I J</th> <th>1</th> <th>K L</th> <th></th> <th>м</th> <th>N C</th>	1	A	В	С	E F	G H		I J	1	K L		м	N C
2 Count of Title Column Labels • G 4 Row Labels / In Color Grand Total 9 PG 4 1970 1 1 1971 3 9 PR 5 1 1971 3 1 1970 2 11 1971 3 1 1970 7 13 9 PR 1970 7 14 1970 7 15 1970 4 16 1970 4 18 1971 4 19 PR 2 1970 4 4 1971 4 4 1971 4 4 1971 2 2 1970 4 4 1971 2 2 1970 4 4 1971 1 1 2 9 6 6 2 1970 1 1971	1												
3 Oxdim Callers (*) Grand Total 4 Row Labels (*) in Color 9 9 9 #R 4 4 7 1970 1 1 1 1971 3 3 9 #R 5 5 10 1970 2 2 11 1971 3 3 12 #Adventure 17 17 13 G 7 7 14 1970 4 4 1971 4 4 4 1971 4 4 4 1971 4 4 4 1971 4 4 4 1971 4 4 4 1971 2 2 1000000000000000000000000000000000000	2	Count of Title	Column Labole				_		-				
Section Solution Solution Solution 6 PRG 4 4 1 1970 1 1 8 1971 3 3 9 R 5 5 10 1970 2 2 11 1971 3 3 12 1970 2 2 13 9 R 5 10 1970 2 2 11 1971 3 3 16 1970 3 3 16 1970 4 4 1971 4 4 4 1971 4 4 4 1971 4 4 4 1971 4 4 4 1971 2 2 1971 1 20 1971 4 4 4 1971 1 1 1 1 20 1970 1 1 1 1 21	4	Bow Labels	Lo Color	Grand Total	Category	۳.	٤	Rating	¹⁷ ×	Year			¹ X
6 ePG 4 4 1 1970 1 1 8 1970 1 1 9 eR 5 5 10 1970 2 2 11 1970 2 2 11 1970 2 2 13 9G 7 7 14 1970 3 3 15 1971 4 4 16 1970 4 4 19 9R 2 2 1970 4 4 1970 4 4 19 9R 2 2 1970 4 4 1971 2 2 1970 4 4 19 9R 2 2 1970 4 4 1971 2 2 1970 1 1 2 1970 1 1370 1 1 1971 3	Б	Action	9	9	Action	Adventure	۱II	G		1962	1967	1968	1969
7 1970 1 1 9 9R 5 5 10 1970 2 2 11 1970 2 2 11 1970 2 2 11 1970 2 2 11 1971 3 3 12 Adventure 17 17 13 6 7 7 14 1970 3 3 15 1971 4 4 19 PR 2 2 18 1971 4 4 19 PR 2 2 1971 4 4 19 PR 2 2 1971 2 2 1000 1991 1992 1993 198 1971 2 2 1000 1991 1992 1993 198 1970 1 1 1 1 1 1 1 1 1 1 1 1 1 <t< th=""><th>6</th><th>∋PG</th><th>4</th><th>4</th><th>Animated</th><th>Diserentur</th><th>511</th><th>E PG</th><th></th><th>1970</th><th>1971</th><th>1072</th><th>1079</th></t<>	6	∋PG	4	4	Animated	Diserentur	511	E PG		1970	1971	1072	1079
8 19/1 3 3 9 R 5 5 10 1970 2 2 11 1971 3 3 12 BAdventure 17 17 13 9 R 1970 1971 14 1970 3 3 1981 1982 1981 14 1970 3 3 1986 1981 1982 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1981 1989 1991 1991 1991 1991 1991 1991 1991 1991 1991 1991 1992 1993 1996 1996 1996 1996 1996 1996 1996 1996 1996 1996 1996 1996 199	7	1970	1	1	Animaled	biography	211	Fa		1010	1.971	1912	1913
9 1 9 1970 1 17 17 17 17 18 9 7 7 7 19 1970 1 14 1970 3 3 19 19 1982 1983 1984 1985 1986 1989 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 1982 1981 <t< td=""><td>8</td><td>1971</td><td>3</td><td>3</td><td>Children's</td><td>Cornedy</td><td>Л</td><td>R</td><td></td><td>1974</td><td>1975</td><td>1976</td><td>1977</td></t<>	8	1971	3	3	Children's	Cornedy	Л	R		1974	1975	1976	1977
11 1971 3 3 12 aAdventure 17 17 13 1971 3 3 14 1970 3 3 15 1971 4 4 16 BPG 8 8 17 1970 4 4 18 1971 4 4 19 R 2 2 1970 4 4 18 1971 4 4 19 R 2 2 1970 4 4 1 18 1971 2 2 1970 4 4 1 17 17 1 1 26 5 5 1 1966 1970 1 1 1 1 26 1970 1 1 1 1970 1 1 1 1 28 1970 1 1 1 1970 1 1 <td>10</td> <td>1970</td> <td>2</td> <td>2</td> <td>Crime</td> <td>Disaster</td> <td>۱I</td> <td>NC-17</td> <td></td> <td>1978</td> <td>1979</td> <td>1980</td> <td>1981</td>	10	1970	2	2	Crime	Disaster	۱I	NC-17		1978	1979	1980	1981
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	11	1971	3	3	Desumentani	Drama	ήIJ	NP		1082	1089	1084	1985
13 BG 7 7 14 1970 3 3 15 1971 4 4 16 PPG 8 8 11 1970 4 4 18 1971 4 4 19 PR 2 2 1971 2 2 1 19 PR 2 2 1970 4 4 19 PR 2 2 1971 2 2 1 1970 4 4 1 11 20 1971 2 2 1 1970 4 4 1 10 10 21 9Musical 11 1 1 10 22 1970 1 1 1 1 26 1970 1 1 1 1 19 1970 1 1 1 1 19 1970 1 1 1 1 <td>12</td> <td>⊜Adventure</td> <td>17</td> <td>17</td> <td>Documentary</td> <td>Urama</td> <td>2 II</td> <td></td> <td></td> <td>1902</td> <td>1900</td> <td>1304</td> <td>1900</td>	12	⊜Adventure	17	17	Documentary	Urama	2 II			1902	1900	1304	1900
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	13	∋G	7	7	Fantasy	Historical	JI	PG-13		1986	1987	1988	1989
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	14	1970	3	3	Horror	Musical	١I			1990	1991	1992	1993
17 1970 4 4 18 1971 4 4 18 1971 4 4 19 1971 2 2 1971 2 2 10 Color 1966 20 1970 4 4 10 Color 1966 21 Musical 11 11 11 10 22 1970 4 4 4 10 10 10 26 1970 1 1 10 11 11 10	16	BPG	8	4	Muston	Delition	11	Color	7.	1004	1025	1051	1055
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	17	1970	4	4	Mystery	Poincai	11		~	1994	1920	1901	1900
19 BR 2 2 1971 2 2 21 Musical 11 11 22 6 5 5 31 1970 4 4 24 1971 1 1 15 PFO 2 2 26 1970 1 1 27 1971 1 1 28 1970 1 1 29 1970 1 1 20 1971 1 1 29 1970 1 1 1971 3 8 1 1971 1 1 1 10 1971 3 8 1970 1 1 1 31 BRomance 6 6 28 1970 1 1 34 1971 1 1 36 1970 3 3 37 BR 1 1 37 8 <t< td=""><td>18</td><td>1971</td><td>4</td><td>4</td><td>Prison</td><td>Religious</td><td>Л</td><td>In Color</td><td></td><td>1966</td><td></td><td></td><td></td></t<>	18	1971	4	4	Prison	Religious	Л	In Color		1966			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	19	BR	2	2	Romance	Science	٦H	Black and Wh	ite				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	20	1971	2	2	Courts		ΚIJ						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	22	e Musical	5	5	Sports	Spy	11						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	23	1970	4	4	Thriller	War	Л						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	24	1971	1	1	Western	Dance	٦L						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	25	∋PG	2	2			41						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	26	1970	1	1	Docudrama	Upera	Л						
By clicking on the desired values in the slicers, the user was able to filter this PivotTable to only show movies made in in 1970 or 1971 and the category was Action, Adventure, Musical, or Romance.	22	19/1					_						
By clicking on the desired values in the slicers, the user was able to filter this PivotTable to only show movies made in in 1970 or 1971 and the category was Action, Adventure, Musical, or Romance.	29	1970		4	1								- 1
$31 \oplus Romance$ 66 $22 \oplus G$ 2 $31 \oplus Romance$ 6 $23 \oplus G$ 2 $31 \oplus 170$ 1 $34 \oplus 1970$ 1 $36 \oplus PG$ 8 $37 \oplus R$ 1 1970 1 $37 \oplus R$ 1 1000 1 $37 \oplus R$ 1 1000 1 $37 \oplus R$ $37 \oplus R$ 1 $37 \oplus R$ 1 $37 \oplus R$ $37 \oplus R$ $37 \oplus R$ $38 \oplus R$ $39 \oplus R$	30	1971	3	3	By aliakin	a on the c	1~	aired val		in the	aliaa	re th	. I
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	31	Romance	6	6	Dy clickin	y on the c	Je	siled val	ues	in the	Silce	is, ine	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	32	∋G	2	2	luser was	able to filt	te	r this Piv	otTa	ble to	onlv	show	
34 1971 1 1 ⁶ = P ⁶ ⁸ - 8 ⁶ = P ⁶ ⁸ - 8 ⁸ - 1970 ⁸ - 11 ⁸ - 1970 ¹ - 1 ¹ - 1 ¹ - 1 ¹ - 1	33	1970	1	1	14001, 1140						· · · · · ·	011011	
35 aPG 3 3 36 1970 3 3 7) aR 1 1 38 1970 1 1	34	1971	1	1	movies m	ade in in	19	970 or 19)/1 a	and th	e cat	egory	
36 1970 3 3 7) BR 1 1 86 1970 1 1 90 Control of the second	35	∋PG	3	3	Juran Antin	n Advant				r Don		~ ′	- 1
3/ BR 1 1 88 1970 1 1 9 Dec 17 41 4 4	36	1970	3	3	was Actio	in, Auveni	u	re, music	ai, C		nance	Ξ.	- 1
	37	BR 1070	1	1	1								- 1
39 GE904 L019L 431 431	38	Grand Total	10	49			_						

Figure 125: By clicking on 1970 and then control clicking on 1971, the user filtered the PivotTable to show movies from 1970 or 1971. They then further filtered the data by clicking on Action and then control clicking on Adventure, Musical and Romance.

To clear a filter from a slicer click on the clear filter icon in the top right corner of the slicer.

er			
925	1951	1955	1962
Clickt	ho cloar fil	for icon to	omovo
Click t the se	the clear filt lected filter	ter icon to r	emove

Figure 126

As you use the slicers you may notice that some slicer buttons change positions and become greyed out. This occurs when those items are not found in your current selection.

For example in the screen shot below the user selected G and PG movies from the 1960s. Notice that some of the buttons in the Category slicer moved to the bottom and are greyed out because no G and PG movies with those categories were made in the 1960s.



Topic B: How do you insert a slicer?

The exercise below uses the **8b_Movies.xlsx** file.

To insert a slicer do the following:

- 1. Click inside the PivotTable.
- 2. From the **PivotTable Tools**, **Analyze** ribbon (PivotTable Tools, Options in Excel 2010), choose the **Insert Slicer** icon.



Figure 128

3. From the Insert Slicers dialog box, check the field(s) to be used for the desires slicers and then click **OK**.

For this example we selected only the Category field.

Insert Slicers		8 <mark>- X -</mark>
MovieNumber Title Vear Category Rating Color		
	ОК	Cancel

Topic C: How do you move the slicer?

The exercise below uses the **8cd_Movies.xlsx** file.

When you insert multiple slicers you may find that they often overlap.

2	A	В	С	D	E	F		G	Н		1	
1												
2	Or and of Title	Outrough the balls										
3	Count of Title	Column Labels -		Orea d Tatal								
4	Row Labels	Black and white	In Color	Grand Total								
5	BAction		311	311								
6	BG		2	2								
1	1972		1	1								
8	1975		70	Year			T.	1				
9	BPG		/0				.×					
10	1967		1	192	5		-					
11	1970		1		Categ	orv]			
12	1971		3	195				×				
13	1972		1	1950	Action	ו		•				
14	1973		4			Dating				٦		
15	1974		9	196	2 Adver	Raung	,		"X			
16	1975		3		Anim	G						
17	1976		6				Colo				7	1
18	1977		5	196	7 Biogr	NC-1					۳×	
19	1978		2				Bla	ck and W	/hite			
20	1979		5	1968								
21	1980		2	108	Come	PG	In C	Color				
22	1981		4	190							_	
23	1982		4	4	Crime	PG-1						
24	1983		2	2	Dene	R						
25	1984		1	1	Dang							
26	1985	N	1	1								
27	1986	63	2	2								
28	1987		2	2								
29	1988		3	3	l							
30	1990		2	2								
31	1991		2	2								
32	1992		1	1								1
0.0	1000	-										

Figure 130

The good news is you can move the slicers by dragging them from their title bar.

To move the slicer do the following:

- 1. Position the cursor in the title bar of the slicer.
- 2. While holding down the mouse button, drag the slicer to the desired location.
- 3. Release the mouse button.





Topic D: How do you resize the slicer?

The exercise below uses the **8cd_Movies.xlsx** file, and assumes you have completed the exercise in topic C.

You can change the size of the slicer by dragging and dropping the size handles that appear when the slicer is selected.



Figure 132

You can also change the dimensions of the slicer by using the size options in the ribbon's **Slicer Tools, Options** tab.

	SLICER	R TOOLS			0
Acrob	at OPT	IONS			
2	Colum	ns: 1	+	3	:
Rotate	Width:	1.81"	• •	Width: 2"	\$
	В	uttons		Size	r <u>s</u>

Figure 133

The buttons on the slicer, and the number of columns displayed can also be modified from the ribbon's **Slicer Tools, Options** tab.

	SLICER	TOOLS				
	ΟΡΤΙ	ONS				
2	🖶 Column	s: 3	\$	1 Height:	2.6"	•
Petate	🔅 🛛 Height:	0.25"	¢	•		
*	🜄 Width:	0.51"	¢	width:	2"	Ĵ
	But	tons		Siz	e	rs.

Figure 134

In the example below the slicers were moved, the category slicer was set to two columns, and the year slicer was set to three columns.

Category	T _×	Rating	Year	7
Action	Adventure	G	1925 1951	1955
Animated	Biography	NC-17	1962 1966	1967
Children's	Comedy	NR	1968 1969	1970
Crime	Dance	PG	1971 1972	1973
Disaster	Docudrama	PG-13	1974 1975	1976
Documentary	Drama	R	1977 1978	1979
Fantasy	Historical		1980 1981	1982
Horror	Musical	Color	1983 1984	1985
Mystery	Opera	Black and White	1986 1987	1988
Political	Prison	In Color	1989 1990	1991
Religious	Romance		1992 1993	1994
Science	Sports			
Spy	Thriller			
War	Western			

Topic E: How do you change the slicer caption?

The exercise below uses the **8ef_Employees.xlsx** file.

Because field names are not always user friendly, you may want to change the caption that appears at the top of a slicer.

To change a slicer's caption do the following:

- 1. Click on the slicer.
- 2. Select the ribbon's **Slicer Tools, Options** tab and then change the value in the **Slicer Caption** box.



Figure 136

In this example we changed the **Dept** and **Office** slicers' captions to **Department** and **Home Office**.

Dept 🛛 🕅	Office 🕅
Acct	Chicago
Manf	Dallas
Mktg	DC
Sales	NY
	SFO

Figure 137: Before the captions were changed

Department 🏹	Home Office
Acct	Chicago
Manf	Dallas
Mktg	DC
Sales	NY
	SFO

Figure 138: After the captions were changed.

Topic F: How do you delete a slicer?

The exercise below uses the **8ef_Employees.xlsx** file and assumes you have completed the exercise in topic E.

To delete a slicer do the following:

- 1. Select the slicer.
- 2. Optional: Click the clear filter icon in the top right corner of the slicer.



3. Press the delete key on the keyboard.

Figure 139

Topic G: How do you connect a slicer to multiple PivotTables?

A slicer can be connected to multiple PivotTables thus allowing you to create electronic dashboards that filter multiple PivotTables and their related PivotCharts with one click.

To connect a slicer to multiple PivotTables do the following:

- 1. Select the slicer.
- 2. From the ribbon's Slicer Tools, Options, tab click Report Connections.

		SLICER TOOLS	
FILE		OPTIONS	
Slicer Caption: Category Slicer Settings Slicer	Report Connections		

Figure 140

3. In the Report Connections dialog box, check the PivotTables that should be connected to this slicer, and then click **OK**.

Report Co	nnections (Category)		8 <mark>- X -</mark>
Select Piv	otTable and PivotChart re	ports to conr	nect to this filter
	Name	Sheet	
	Movies by Category	Sheet1	
	Movies by Rating	Sheet1	
	(ок ү	Cancel

Figure 141

Now when you click a button in that slicer all the connected PivotTables and their related PivotCharts will be modified.

9: Subtotals and Grand Totals

Complete this unit and you'll be able to answer the following questions:

- A. How do you add / remove Grand Totals?
- B. How do you turn on / off subtotals?
- C. How do you change the location of the subtotals?

Topic A: How do you add / remove Grand Totals?

The exercise below uses the **9a_Orders.xlsx** file.

A PivotTable can be displayed with or without grand totals for its rows and/or its columns. The options to turn them on or off are found on the ribbon's **PivotTable Tools, Design** tab.

					PIVOTTABL	E TOOLS		
F	ILE	HON	1E		ANALYZE	DESIGN]	
1.11				Row Hea	aders 🗌 Ba	inded Rows		
Sub	totals •	Grand Totals •	Report Blank Lavout ▼ Rows ▼	Report Blank Column Headers Banded Columns				
Off for Bows and Columns				ivotTable Style Options				
G	5		-		95.2			
			O <u>n</u> for Rows and C	olumns	В	с	1	
1								
2	Total	3	On for <u>Rows</u> Only	1	umn Labels 🚽	-		
з					998			
4	Row		On for <u>C</u> olumns Or	ly 1	L	Qtr2	Qtr	
5	ECa							

Figure 142

If you choose **Off for Rows and Columns** then no grand totals will be shown.

	A	В	С	D	E	F	G
1							
2	Total Sales	Column Labels 🗊					
3		⊟1998				□ 1999	
4	Row Labels	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2
5	□Can. & Mex						
6	Alvarez Equipaje de Juegos						\$1,995.20
7	El Mundo de Futbol		\$936.75				
8	luegos de Mexico		\$1,664.35				
-	Skate & Ski		-				10
29	Leisure Joods						
30	Sportsland						\$1,745.79
31	World of Leisure Sports	\$1,381.85					

If you choose **On for Rows Only** then grand totals they will appear on the **right side** of the PivotTable.

1	А	В	С	D	E	F	G	н
1								
2	Total Sales	Column Labels						
3		⊟1998				⊡ 1999		Grand Total
4	Row Labels	Otr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	
5	⊖Can. & Mex							
6	Alvarez Equipaje de Juegos						\$1,995.20	\$1,995.20
7	El Mundo de Futbol		\$936.75					\$936.75
8	Juegos de Mexico		\$1,664.35					\$1,664.35
9	Montreal Skate & Ski		\$3,757.15				\$2,864.48	\$6,621.63
10	⊡Central							
11	Champion Sports Equipment				\$3,801.58		\$3,934.45	\$7,736.03
12	Just for Fun Sports Shop						\$808.20	\$808.20
13	Sports and Fitness Supply Co.						\$1.454.82	\$1,454.82
	utfitters				\$2,059.70		-	\$2,790.24

Figure 144: PivotTable with Grand Total for rows. Column H was manually highlighted for emphasis.

If you choose **On for Columns Only** then grand totals will appear at the **bottom** of the PivotTable.

-24	A	В	с	D	E	F	G
1							
2	Total Sales	Column Labels 🗊					
з		⊡1998				□1999	
4	Row Labels	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2
5	□Can. & Mex						
6	Alvarez Equipaje de Juegos						\$1,995.20
7	El Mundo de Futbol		\$936.75				
8	luegos de Mexico		\$1,664.35				
	skate & Ski						10
29	Leisure Joods					,071.40	
30	Sportsland						\$1,745.79
31	World of Leisure Sports	\$1,381.85					
32	Grand Total	\$2,913.93	\$10,506.21	\$5,177.18	\$6,383.35	\$1,963.44	\$27,486.94

Figure 145: PivotTable with Grand Total for columns. Row 32 was manually highlighted for emphasis.

If you choose **On for Rows and Columns** then grand totals will appear at the **bottom** and at the **right** of the PivotTable.

-21	A	В	С	D	E	F	G	н
1						1		
2	Total Sales	Column Labels						
3	f	⊟ 1998		2 D		⊡1999		Grand Total
4	Row Labels	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	
5	□Can. & Mex							
6	Alvarez Equipaje de Juegos						\$1,995.20	\$1,995.20
7	El Mundo de Futbol		\$936.75					\$936.75
8	luegos de Mexico		\$1,664.35					\$1,664.35
-	I Skate & Ski		ea				49	\$6,621.63
28	Coastar, .y House		-			-		
29	Leisure Time Sporting Goods					\$1,071.40		\$1,071.40
30	Sportsland						\$1,745.79	\$1,745.79
31	World of Leisure Sports	\$1,381.85				0		\$1,381.85
32	Grand Total	\$2,913.93	\$10,506.21	\$5,177.18	\$6,383.35	\$1,963.44	\$27,486.94	\$54,431.05

Figure 146: PivotTable with both row and column Grand Totals. Row 32 and column H were manually highlighted for emphasis.

Topic B: How do you turn on /off subtotals?

The exercise below uses the **9b_Orders.xlsx** file.

In addition to displaying Grand Totals you can have an Excel PivotTable display subtotals. But, as shown in this example, you may want subtotals for some fields and not for others. Thankfully Excel allows you to decide which fields get subtotals.

In the figure shown below you will notice the PivotTable has four row fields, Region, Store Name, Product ID and Product Description. Notice that this PivotTable has subtotals for the Region, Store Name, and Product ID (the first three row fields).

You may also notice that the subtotals are shaded. You will learn how to shade your subtotals in chapter 10 Layouts and Styles.

A	В	С	D	E	
2 Region	Store Name	Product ID	Product Description	 Total Sales 	
3 Can. & Mex	■Alvarez Equipaje de Juegos	∃10-1437	shoes, soccer	\$1,446.50	-
4		10-1437 Total		\$1,446.50	Product ID subtotal
5		∃10-3827	shoes, baseball	\$978.10	
6		10-3827 Total		\$978.10	
			shoes, run	\$307.62	1
JO		14-8378 .			
707		■14-8429	bicycle, mens	\$1,282.26	1
708		14-8429 Total		\$1,282.26	1
709	Sportsland Total			\$6,269.83	Store Name subtota
710	B World of Leisure Sports		shoes, running	\$307.62	
711		10-8137 Total		\$307.62	
712		■12-8478	volleyball	\$88.20]
713		12-8478 Total		\$88.20	
714			golf clubs	\$773.15	
715		14-7328 Total		\$773.15	
716		■14-8417	badminton set	\$212.88]
717		14-8417 Total		\$212.88	1
718	World of Leisure Sports Total			\$1,381.85	
719 Southwest Tota				\$18,945.35	- Region subtotal
720 Grand Total				\$141,501.59	Grand Total

To turn off all the subtotals do the following:

- 1. Click anywhere within your PivotTable.
- 2. From the ribbon choose PivotTable Tools, Design, Subtotals, Do Not Show Subtotals.

	PIVOTTABLE TOOLS				
		AN	NALYZE	DESIGN	
				Row Head	lers
Subtotals •	Grand Totals ▼	Report Layout •	Blank Rows ▼	🗹 Column H	leaders
	o Not Sh	low Subtot	tals		tTable
		3			15

Figure 148

-2	A	В	с	D	E
1					
2	Region 💌	Store Name 💌	Product ID 💌	Product Description	Total Sales
3	□Can. & Mex	⊖Alvarez Equipaje de Juegos	⊡10-1437	shoes, soccer	\$1,446.50
4			⊡10-3827	shoes, baseball	\$978.10
5			⊡10-8137	shoes, running	\$307.62
6			⊡12-1687	ball, soccer	\$410.75
-				baseball	\$65.75
330			□14-8429	, mens	
331			□ 10-8137	shoes, running	\$307.62
332			□ 12-8478	volleyball	\$88.20
333			□14-7328	golf clubs	\$773.15
334			□14-8417	badminton set	\$212.88
335	Grand Total				\$141,501.59

Figure 149: The subtotals have been removed from the PivotTable.

Excel allows you to turn on subtotals for selected rows as shown below.

- 1. Click anywhere within your PivotTable.
- 2. In the PivotTables fields list, rows area, click on the field that should have a subtotal, and then click on **Field Settings...**.

In this example we clicked on the Region field.

PivotTable Fields	~ ×
Choose fields to add to report:	\$ -
 ✓ Region ✓ Store Name ✓ Store Name ✓ Ler # alues × Remove Field ✓ Field Settings Region 2 ✓ Store N 1 ✓ Product Description 	Σ VALUES Total Sales

3. Select one of the following options:

Automatic	Excel uses the Sum function if the value field is numeric. For alpha-numeric data it uses the Count function.
None	No subtotals are displayed
Custom	Allows you to choose one or more functions.

Figure 150

Field Settings
Source Name: Region Custom Name: Region Subtotals & Filters Layout & Print Subtotals Automatic Nong Custom Select one or more functions: Sum Count Average Max Min Product Filter Include new items in manual filter
OK Cancel

In this example we chose the Automatic option.



2	A	В	С	D	E
1					
2	Region 💌	Store Name 🗸	Product ID 🔻	Product Description	Total Sales
3	⊡Can. & Mex	⊖Alvarez Equipaje de Juegos	⊡10-1437	shoes, soccer	\$1,446.50
4			⊡10-3827	shoes, baseball	\$978.10
5			<u>E 10-8137</u>	shoes, running	\$307.62
٩				ball, sor	\$410.75
52			□13-286 >	-veh	1
53			⊡13-5434	poles, ski	\$477.40
54			□14-8479	skis, downhill	\$982.50
55	Can. & Mex Total				\$27,580.31
56	Central	Champion Sports Equipment	<u>□10-7381</u>	shoes, golf	\$510.65
1				hasts and	da 050 70

Figure 152

4. Repeat steps 2 and 3 to modify the subtotal for additional fields.

In this example we did automatic subtotals for both the **Region** and the **Store Name** fields.

-21	A	В	С	D	E
1					
2	Region 💌	Store Name 🗾	Product ID -	Product Description	Total Sales
-			T	helmet, bil	\$104.68
56			□13-5434		
57			□14-8479	skis, downhill	\$491.25
58		SportsCanada of Toronto Total	0		\$2,343.25
59			∃10-8121	boots, downhill ski	\$1,751.70
60			□11-2235	shin guards, hockey	\$423.60
61			□ 13-2869	stick, hockey	\$261.96
62			⊡13-5434	poles, ski	\$477.40
63			□14-8479	skis, downhill	\$982.50
64		The Calgary Sporting Goods Co. Total	di D		\$3,897.16
65	Can. & Mex Total				\$27,580.31
66	⊡Central	Champion Sports Equipment	⊡10-7381	shoes, golf	\$510.65
67			∃10-8122	boots, cross-country ski	\$1,952.76
68			∃10-8137	shoes, running	\$307.62
69			□ 10-9106	shoes, aerobic	\$251.58

Topic C: How do you change the location of the subtotals?

The exercise below uses the **9c1_Orders.xlsx** file.

The subtotals, for row fields, can appear at the top of the group or at the bottom of the group.

4	A	В	С	D	E
1					
2	Region 💌	Store Name 🗸	Product ID -	Product Description	Total Sales
-			at .	helmet, bil	\$104.68
56			□13-5434	- 11	
57			□14-8479	skis, downhill	\$491.25
58		SportsCanada of Toronto Total			\$2,343.25
59		⊟The Calgary Sporting Goods Co.	□10-8121	boots, downhill ski	\$1,751.70
60			□11-2235	shin guards, hockey	\$423.60
61			□13-2869	stick, hockey	\$261.96
62			□13-5434	poles, ski	\$477.40
63			□14-8479	skis, downhill	\$982.50
64		The Calgary Sporting Goods Co. Total	0		\$3,897.16
65	Can. & Mex Total				\$27,580.31
66	□Central	Champion Sports Equipment	□ 10-7381	shoes, golf	\$510.65
67			□10-8122	boots, cross-country ski	\$1,952.76
68			⊡10-8137	shoes, running	\$307.62
69			□ 10-9106	shoes, aerobic	\$251.58

Figure 154: PivotTable with subtotals at the bottom of the group

2	A	В	с	D	E
1					
2	Region -	Store Name	▼ Product ID ▼	Product Description	Total Sales
3	Can. & Mex				\$27,580.31
4		Alvarez Equipaje de Juegos			\$4,532.23
5			□ 10-1437	shoes, soccer	\$1,446.50
6	_	-	= 10-3827	shoes, baseball	\$978.10
-				shoes, ru	\$307.62
9			B12-316/		
60		The Calgary Sporting Goods Co.			\$3,897.16
61			□10-8121	boots, downhill ski	\$1,751.70
62			□11-2235	shin guards, hockey	\$423.60
63			□13-2869	stick, hockey	\$261.96
64			□13-5434	poles, ski	\$477.40
65			□14-8479	skis, downhill	\$982.50
66	Central				\$35,537.60
67		Champion Sports Equipment			\$9,253.64
68			⊟10-7381	shoes, golf	\$510.65
69			□10-8122	boots, cross-country ski	\$1,952.76
-			-	shoes, ru	\$307.62

Figure 155: PivotTable with subtotals at the top of the group

Excel provides two methods for changing the location of the subtotals. The first uses options on the ribbon, the second uses options in the field settings dialog box.

To change the location of the subtotals using the ribbon do the following:

- 1. Click anywhere within your PivotTable.
- 2. From the ribbon choose PivotTable Tools, Design, Subtotals, and then choose either the Show all Subtotals at Bottom of Group or the Show all Subtotals at Top of Group option.

	PIVOTT	ABLE TOOLS
	ANALYZI	E DESIGN
		Row Headers
Subtotals Gran	d Report Blank s Layout Rows	Column Headers
Do Not	Show Subtotals	tTable S
Show a	II Subtotals at <u>B</u> ottor	m of Group
Show a	II Subtotals at <u>T</u> op of	Group
Include	e Filtered Items in To	tals

Figure 156

4	A	В	С	D	E
1	Region	Store Name	Product ID	Product Description	 Total Sales
3	□Can. & Mex	□ Alvarez Equipaje de Juegos	■10-1437	shoes, soccer	\$1,446.50
4			10-1437 Total		\$1,446.50
5			■10-3827	shoes, baseball	\$978.10
6			10-3827 Total		\$978.10
7			∃10-8137	shoes, running	\$307.62
8			10-8137 Total		\$307.62
9			■12-1687	ball, soccer	\$410.75
10			12-1687 Total		\$410.75
11			■12-3167	baseball	\$65.75
12			12-3167 Total	-	\$65.75
13			■12-3964	glove, baseball	\$1,049.16
14			12-3964 Total		\$1,049.16
15			■12-8521	softball	\$46.05
16			12-8521 Total		\$46.05
17			■13-3251	bat, baseball	\$228.30
18			13-3251 Total		\$228.30
19		Alvarez Equipaje de Juegos Total			\$4,532.23
20		Canadian Sports Ltd.	10-1437	shoes, soccer	\$394.50
ø			tal		\$394.50

Figure 157

Notice that this method shows **ALL** subtotals at the bottom or top of the group, meaning the subtotals you turned off earlier are now turned back on.

To change the location of the subtotals using the field settings dialog box do the following.

The exercise below uses the **9c2_Orders.xlsx** file.

- 1. Click anywhere within your PivotTable.
- In the PivotTables fields list, rows area, click on the field that should have a subtotal in a new location, and then click on Field Settings.... In this example we clicked on the Region field.



Figure 158

2. In the Field Settings dialog box click on the Layout & Print tab.

Field Settings	? −X −			
Source Name: Region				
Custom Name: Region]			
Subtotals & Filters Layout & Print				
Layout				
Show item labels in outline form				
Display labels from the next field in the same column (co	mpact form)			
Display subtotals at the top of each group				
Show item labels in tabular form				
vpeat item la				



3. To display subtotals at the *top* of the group select the **Show item labels in outline form** and check the **Display subtotals at the top of each group**.

Lay	out
0	Show item labels in outline form
	Display labels from the next field in the same column (compact form)
	Display subtotals at the top of each group
0	Show item labels in tabular form

Figure 160

To display subtotals at the *bottom* of the group either select the **Show item labels in outline form** and *uncheck* the **Display subtotals at the top of each group**....

Layout	
0	Show item labels in outline form
	Display labels from the next field in the same column (compact form)
	Display subtotals at the top of each group
0	Show item labels in tabular form

Figure 161

.... or select the Show item labels in tabular format.

Layout
Show item labels in outline form
Display labels from the next field in the same column (compact form)
Display subtotals at the top of each group
Show item labels in tabular form

Figure 162

- 4. Click **OK**.
- 5. Repeat steps 2 through 5 for the desired fields.
In this example we chose the **Show item labels in outline form** and checked the **Display subtotals at the top of each group** for both the **Region** and the **Store Name** fields.

4	A	В		С	D	E	
1	Region	Store Name		Product ID *	Product Description	Total Sales	
3	Can. & Mex	Store Hume		FIGULETIC	rioudee bescription	\$27,580.31	Culatatala
1		⊖Alvarez Equipaje de Juegos				\$4,532.23	
5			- 6	₿10-1437	shoes, soccer	\$1,446.50	now
5			1	□10-3827	shoes, baseball	\$978.10	
				⊡10-8137	shoes, running	\$307.62	appear at
3			1	□12-1687	ball, soccer	\$410.75	the top of
,				B12-3167	baseball	\$65.75	the top of
0				□ 12-3964	glove, baseball	\$1,049.16	the group.
1				□12-8521	softball	\$46.05	
2			1	⊟13-3251	bat, baseball	\$228.30	L,
3		⊖ Canadian Sports Ltd.				\$2,067.40	
4		-		⊡10-1437	shoes, soccer	\$394.50	
1					skates, b	\$985.00	

Figure 163: Subtotals at the top of the group.

10: Layouts and Styles

Complete this unit and you'll be able to answer the following questions:

- A. What are the three layout options?
- B. How do you repeat item labels?
- C. How do you not repeat item labels?
- D. How do you use styles?
- E. What are the style options, and how do you use them?
- F. How do you show/hide field headers?
- G. How do you show/hide the expand and collapse buttons?
- H. How do you hide the field list?

Topic A: What are the three layout options?

The exercise below uses the **10ab_Movies.xlsx** file.

The data in an Excel PivotTable can be laid out in any of the following three layouts: Compact Form, Outline Form, or Tabular Form.

Compact Form

This layout display all the rows in the same column, and places subtotals at the top of the group.

- 20	A	В
3	Row Labels 🛛 🖓	Movies
4		16
5	⊟PG	2
6	1984	1
7	1985	1
8	⊟R	14
9	1984	4
10	1985	10

Figure 164

Outline Form

This layout display each row field in its own column, and places the subtotals at the top of the group.

- 24	А	В		С		D
3	Category 🔻	Rating	۲	Year	Τ.	Movies
4						16
5		⊟PG				2
6				19	84	1
7				19	85	1
8		⊟R				14
9				19	84	4
10				19	85	10

Tabular Form

This layout display each row field in its own column, and places the subtotals at the bottom of the group.

4	A	В		С	_	D
3	Category 🔻	Rating	•	Year	Ψ.	Movies
4		⊟PG		19	84	1
5				19	85	1
6		PG Total				2
7		⊟R		19	84	4
8				19	85	10
9		R Total				14
10	Action Total					16

Figure 166

To change the layout format do the following:

- 1. Click anywhere within your PivotTable.
- 2. From the ribbon choose **PivotTable Tools, Design, Report Layout** and then choose one of the following options.
 - Show in Compact Form
 - Show in Outline Form
 - Show in Tabular Form



Topic B: How do you repeat item labels?

The exercise below uses the **10ab_Movies.xlsx** file.

As shown below you have the option to repeat items labels in a PivotTable. Notice how the values "Action", "PG", and "R" are repeated on each row.

- 2	A		В	С	D
1					
2					
3	Category	~	Ratin	Year 🖓	Movies
4					16
5	Action		⊟PG		2
6	Action		PG	1984	1
7	Action		PG	1985	1
8	Action		⊡R		14
9	Action		R	1984	4
10	Action		R	1985	10

Figure 168

To repeat the item labels do the following:

- 1. Click anywhere within your PivotTable.
- 2. From the ribbon choose **PivotTable Tools**, **Design**, **Report Layout**, and then choose **Repeat All Item Labels**.

		PIVOTTABLE TOOLS	
	AN	ALYZE DESIGN	
		Row Headers	Banded Rows
Subtotals Grand Totals	Report Blank Layout • Rows •	Column Headers	Banded Columns
Layou	Show in	<u>C</u> ompact Form	yle Options
	Show in	Outline Form	1
	Show in	<u>T</u> abular Form	
	<u>R</u> epeat A	All Item Labels	

You can also repeat item labels for individual fields by doing the following:

- 1. Click anywhere within your PivotTable.
- In the PivotTables fields list, rows area, click on the field that should have a subtotal in a new location, and then click on Field Settings.... In this example we clicked on the Region field.

PivotTable Fields		▼ X
Choose fields to add to report:	[\$ ▼
 ✓ Region ✓ Store Name ✓ Ler # dlues ✓ Remove Field ✓ Field Settings Region 2 ✓ Store N 1 ✓ Product Description 	Σ VALUES Total Sales	

Figure 170

- 3. In the Field Settings dialog box click on the Layout & Print tab.
- 4. Check the Repeat item labels option and then click **OK**.

Field Settings
Source Name: Category Custom Name: Category Subtotals & Filters Layout & Print Layout © Show item labels in outline form © Display labels from the next field in the same column (compact form) © Display subgotals at the top of each group © Show item labels in tabular form © Bepeat item labels ort blank line after each item label Story items with no data
Print
OK Cancel
Figure 171

5. Repeat steps 2 through 4 for each additional field as needed.

Topic C: How do you not repeat item labels?

You can also turn off the repeating labels. The first method is from the ribbon. Choose **PivotTable Tools**, **Design**, **Report Layout**, and then choose **Do Not Repeat Item Labels**.

		Row Headers	Banded Rows
Subtotals Grand	Report Blank	Column Headers	Banded Columns
Layou	Show in	<u>C</u> ompact Form	yle Options
A 3	Show in	Outline Form	
	Show in	<u>T</u> abular Form	
	<u>R</u> epeat A	All Item Labels	
	Do <u>N</u> ot F	Repeat Item Labels	

Figure 172

You can also turn off repeating item labels by unchecking the **Repeat item labels** option in the Field Settings dialog box.

Field Settings
Source Name: Category Custom Name: Category Subtotals & Filters Layout & Print Layout Show item labels in outline form Display labels from the next field in the same column (compact form) Display subtotals at the top of each group Show item labels in tabular form Repeat item labels ref blank line after each item label items with no data Print Insert gage break after each item
OK Cancel

Figure 173

Topic D: How do you use styles?

The exercise below uses the **10d_Movies.xlsx** file.

You can add color and other formatting features to a PivotTable using the PivotTable styles feature.

To apply a PivotTable style do the following:

- 1. Click anywhere within your PivotTable.
- 2. From the ribbon choose PivotTable Tools, Design and then click the PivotTable Styles More button shown below.

		PIVOTTABL	E TOOLS
	· · ·	ANALYZE	DESIGN
irs			
.e !	PivotTable Styles	3	
		More Choose a visu PivotTable.	ual style for the

3. Drag the mouse over the various styles and notice that the effect on the PivotTable.



Figure 175

4. When you find a style that you like click on it with the mouse.

Figure 174

Topic E: What are the style options, and how do you use them?

Excel has four style options that appear on the PivotTable Tools, Design tab of the ribbon. They are explained below.

Row Headers

When checked, the row's headers are emphasized, often with a bold font and/or different background.

Total Sales	Column Labels .		
Row Labels	Argentina	Brazil	Canada
Alice Mutton		\$1,583.01	\$3,127.41
Aniseed Syrup			\$138.60
Boston Crab Meat	\$189.19	\$2,144.84	\$291.06
Camembert Pierrot		\$3,460.25	\$2,659.14
Carnarvon Tigers		\$6,558.75	\$643.50
Chai		\$734.18	\$659.34
Chang		\$1,655.28	

Figure 176: Styled PivotTable with row headers checked

Total Sales	Column Labels		
Row Labels	 Argentina 	Brazil	Canada
Alice Mutton		\$1,583.01	\$3,127.41
Aniseed Syrup			\$138.60
Boston Crab Meat	\$189.19	\$2,144.84	\$291.06
Camembert Pierrot		\$3,460.25	\$2,659.14
Carnarvon Tigers		\$6,558.75	\$643.50
Chai		\$734.18	\$659.34
Chang		\$1,655.28	

Figure 177: Styled PivotTable with row headers not checked

Column Headers

Total Sales		Column Label		
Row Labels	-	Argentina	Brazil	Canada
Alice Mutton			\$1,583.01	\$3,127.41
Aniseed Syrup				\$138.60
Boston Crab Meat		\$189.19	\$2,144.84	\$291.06

Figure 178: Styled PivotTable with column headers checked. Notice the top row has bold text.

Total Sales	Column Labels 🗸		
Row Labels	Argentina	Brazil	Canada
Alice Mutton		\$1,583.01	\$3,127.41
Aniseed Syrup			\$138.60
Boston Crab Meat	\$189.19	\$2,144.84	\$291.06

Figure 179: Styled PivotTable with column headers not checked. Notice the top row is not bolded.

Banded Rows

Total Sales		Column Labels 🗸		
Row Labels	-	Argentina	Brazil	Canada
Alice Mutton			\$1,583.01	\$3,127.41
Aniseed Syrup				\$138.60
Boston Crab Meat		\$189.19	\$2,144.84	\$291.06
Camembert Pierrot			\$3,460.25	\$2,659.14
Carnarvon Tigers			\$6,558.75	\$643.50
Chai			\$734.18	\$659.34
Chang			\$1,655.28	

Figure 180: Styled PivotTable with banded rows checked. Notice every other row has a darker background.

Banded Columns

Total Sales	Column Labels 🖨						
Row Labels	 Argentina 	Brazil	Canada	Mexico	USA	Venezuela	Grand Total
Alice Mutton		\$1,583.01	\$3,127.41	\$1,652.51	\$8,509.64		\$14,872.57
Aniseed Syrup			\$138.60		\$138.60	\$134.64	\$411.84
Boston Crab Meat	\$189.19	\$2,144.84	\$291.06	\$848.63	\$2,356.40	\$1,657.66	\$7,487.77
Camembert Pierrot		\$3,460.25	\$2,659.14	\$1,346.40	\$4,133.45	\$1,090.58	\$12,689.82
Carnarvon Tigers		\$6,558.75	\$643.50	\$1,485.00	\$7,907.63	\$1,546.88	\$18,141.75
Chai		\$734.18	\$659.34	\$848.23	\$2,904.66	\$1,639.44	\$6,785.86
Chang		\$1,655.28		\$489.06	\$4,420.35	\$1,087.22	\$7,651.91

Figure 181: Styled PivotTable with banded columns checked. Notice every other column has a darker background.

Topic F: How do you show/hide field headers?

The exercise below uses the 10f_Employees.xlsx file.

The field headers are the labels that appear above the row labels and above the column labels.

Total Salary	Dept ,				
Office	Acct	Manf	Mktg	Sales	Grand Total
Chicago				\$16,115	\$16,115
Dallas			\$23,780		\$23,780
DC		\$9,500			\$9,500
NY	\$14,513		\$2,684	\$3,184	\$20,381
SFO			\$2,200	\$22,767	\$24,967
Grand Total	\$14,513	\$9,500	\$28,664	\$42,066	\$94,743

Figure 182

These headers can easily be turned on and off by doing the following:

- 1. Click anywhere within your PivotTable.
- 2. From the ribbon choose **PivotTable Tools**, **Analyze**, and then toggle the **Field Headers** option.

				0	0	/		
			- /8				Ŧ.	-
'ove	<i>∐_Jx</i> Fields, Items,	J <i>X</i> OLAP	Relationships	PivotChart	Recommended	Field	+/-	Field
Гаble	& Sets •	Tools -	•		PivotTables	List	Buttons	Heaters
	C	alculatio	ns		Tools		Show	5

Figure 183

Г			<u></u>	10	10	
	Total Salary)			
(Acct	Manf	Mktg	Sales	Grand Total
	Chicago				\$16,115	\$16,115
	Dallas			\$23,780		\$23,780
	DC		\$9,500			\$9,500
	NY	\$14,513		\$2,684	\$3,184	\$20,381
	SFO			\$2,200	\$22,767	\$24,967
	Grand Total	\$14,513	\$9,500	\$28,664	\$42,066	\$94,743

Figure 184: PivotTable with headers turned off.

Topic G: How do you show/hide the expand and collapse buttons?

The example below uses the **10gh_Employees.xlsx** file.

The expand and collapse buttons, shown below, can be useful for hiding (collapsing) or showing (expanding) the details of your PivotTable.

	Total Salary		
	Office 🖵	Dept 🗊	Total
	Chicago	Sales	\$16,115
	Chicago Tota	al	\$16,115
	■ Dallas	Mktg	\$23,780
	Dallas Total		\$23,780
Collapse	 DC	Manf	\$9,500
button	DC Total		\$9,500
Expand button	 H NY		\$20,381
	■ SFO	Mktg	\$2,200
		Sales	\$22,767
	SFO Total		\$24,967
	Grand Total		\$94,743

But there may be times when you want to hide them. You can toggle their visibility from the ribbon by clicking the **PivotTable Tools**, **Analyze**, **Buttons** icon.



Figure 185

Topic H: How do you hide the field list?

The example below uses the **10gh_Employees.xlsx** file.

The field list that appears on the right side of the screen whenever you click inside a PivotTable can also be toggled on and off. To do so from the ribbon click the **PivotTable Tools**, **Analyze**, **Field List** icon.



Figure 186

	5. ⊘.	6.57.	0 🖸 🕫 🗸 🔪	PIVOTTABLE TOOLS	_~ (7)	? • - • ×
PivotTable Nar PivotTable1	HOME INSERT me: Active Field: Total Salary Field Settin A	PAGE LAYOU Drill Dr Drill Dr 95 Down Up ctive Field	JT FORMULAS DATA → Group Selection HI	ANALYZE DESIGN JX Jf _X = s, Items, OLAP Relationshi c Sets • Tools • Calculations	ps PivotChart Recommended PivotTables Tools	Field +/- Field List Buttons Headers Show
A3	• : X 4	f _x To	otal Salary			~
	Α	В	c \		PivotTable Fields	- ×
1)		Choose fields to add to report:	φ.
2		ſ	Clicking the		Last Name	
3 To	tal Salary				First Name	
4 Of	fice 🗔	Dept	Field List icor	ן אין	✓ Dept ✓ Salary	
5 🖂 🤇	Chicago	Sales	toggles the		☐ HireDate	
6 Ch	icago Tota	al	visibility of the	e 📔	MORE TABLES	
7 🗆 🛛	Dallas	Mktg	Field List.	\rightarrow		
8 Da	llas Total	L				
9 🗆 🛛	C	Manf	\$9,500		Drag fields between areas below:	
10 DC	C Total		\$9,500		▼ FILTERS	III COLUMNS
11 ⊞1	NY		\$20,381			
12 🖽	SFO	Mktg	\$2,200			
13		Sales	\$22,767		I ROWS	Σ VALUES
14 SF	O Total		\$24,967		Office	Total Salary 💌
15 Gr	and Total		\$94,743			
16						LINCOM
\leftarrow \rightarrow	Pivot Emp	ployees	•		U Defer Layout Update	UPDATE

11: Calculated Fields and Items

Complete this unit and you'll be able to answer the following questions:

- A. What is a calculated field?
- B. How do you create a calculated field?
- C. What is a calculated item?
- D. How do you create a calculated item?

Topic A: What is a calculated field?

The example below uses the **11a_Employees.xlsx** file.

When you first create your PivotTable the column headings in the source data become the field list for the PivotTable. In addition to those fields you can create your own calculated fields based on a calculation.

For example the PivotTable below shows the additional earnings each employee will receive if they received a 5% raise. The "Raise" field is not in the original data. Instead it is based on a calculation of 5% of the salary field.

PivotTable Fi	ields	* X
Choose fields to add t	o report:	\$ ·
Last Name MI First Name Dept Salary HireDate Office Raise MORE TABLES	Calcula field ba on Sala 0.05.	ated ased ary *
	reas below:	
Drag fields between a	III COLUMN	VS
Trag fields between a FILTERS ROWS		45
Trag fields between a FILTERS ROWS Office	III COLUMI Σ VALUES Increased E	NS arnings
Drag fields between a T FILTERS T ROWS Office Last Name	Σ VALUES	NS arnings 🔹

Figure 188: PivotTable field list including the calculated field named "Raise."

1	A	B	С	D	E	F	G
1	Last Name	MI	First Name	Dept	Salary	HireDate	Office
2	Deibler	M	Karl	Manf	\$ 1,700.00	3/14/1983	DC
3	Peters	E	Anne	Manf	\$ 1,450.00	3/14/1983	DC
4	Carlson	1	Mary	Sales	\$ 1,575.00	6/23/1983	SFO
5	Callaghan	N	Ronald	Mktg	\$ 2,450.00	1/15/1984	Dallas
-		M		ML	950.00	11	Dallas

Figure 189: Source Data – Notice there is no Raise field.

1	A		В		С		D	
1	1	Dr	op Report Filt	er Fi	elds Here		-	
2								1
3	Increased E	Earnings				1		1
4	Office	•	Last Name	•	First Name	1.	Total \	10
5	Chicago		Adolhoim		John	1	\$ 148	.65
6		This v	alue is the	su	m of the		\$ 136	.15
7		Raise per person. \$ 161.15						
8			per peree				\$ 173	.65
-			Voinstein		TV /	-	196	15

Unlike regular PivotTable fields, calculated fields can only be placed in the Values section of a PivotTable. They cannot be used in the Rows, Columns, or Filters section.



Figure 191

Calculated fields have limitations. For example a calculated field cannot:

- Reference cells, tables, nor named ranges. It can only reference other fields within the PivotTable.
- Reference the PivotTable's Subtotals and Grand Totals.
- Perform text calculations. For example you cannot create a calculated field to combine the employee's last and first name.
- Perform calculations that use the SumProduct function.

Topic B: How do you create a calculated field?

The exercise below uses the 11b_Employees.xlsx file.

You can add a new calculated field by doing the following:

- 1. Click anywhere within your PivotTable.
- 2. From the ribbon choose **PivotTable Tools**, **Analyze**, **Fields**, **Items & Sets**, **Calculated Field**....



Figure 192

- Enter the calculated field's desired name in the Name box.
 The name must not match any of the existing field names.
- 4. Enter the calculated field's formula in the **Formula** box.

Insert Calcu	ulated Field	8 2
<u>N</u> ame: For <u>m</u> ula:	Raise = Salary * 0.05	
Eields: Last Nam MI First Nam Dept Salary HireDate Office	e Insert Figld	OK Close

- 5. Click **OK**.
- 6. If needed add the new calculated field to the values area.
- 7. Optional: Modify the calculated field's settings in the settings dialog box as you would with any other field.

Value Field Settings
Sum of Raise
Value Field Settings
Source Name: Raise
Custom Name: Increased Earnings
Summarize Values By Show Values As
Summarize value field by
Choose the type of calculation that you want to use to summarize data from the selected field
Sum
Count
Average
Min
Product
Number Format OK Cancel

Figure 194

If you need to modify or delete a calculated field, do the following:

- 1. Click anywhere within your PivotTable.
- From the ribbon choose PivotTable Tools, Analyze,
 Fields, Items & Sets, Calculated Field....





3. In the Insert Calculated Field dialog box click the drop down next to the name box, and choose your calculated field.

Insert Calculated Field	? <mark>- X -</mark>
Name: Field1 Formula: Raise	Add 1 Delete
MI First Name Dept Salary HireDate Office Raise	
	OK Close

- 4. Do one of the following:
 - Click **Delete** to delete the calculated field, then click Close.
 - Change the formula and click **OK**.

Topic C: What is a calculated item?

A calculated item is similar to grouping multiple items together. For example suppose you want to group the following movie ratings together for the movie database.

Ratings	Rating Group
G and PG	Family Friendly
PG-13 and NR	Questionable
R and NC-17	Not acceptable

Count of Title	Column Labels 🗔			
Row Labels 🔹	Family Friendly	Questionable	Not acceptable	Grand Total
Action	72	21	218	311
Adventure	130	11	36	177
Animated	56	2	6	64
Biography	55	17	49	121
	52			52

Figure 197

You could easily do this with the manual grouping feature we learned about in chapter 6. But, you could also do it with a calculated item.

Topic D: How do you create a calculated item?

The exercise below uses the 11b_Movies.xlsx file.

To create a calculated item do the following:

1. Click on a cell in the column or row heading that has the field you want grouped.

In this example we clicked on cell B4 because we want to create a grouping based on the existing ratings.

From the ribbon choose PivotTable Tools, Analyze,
 Fields, Items & Sets, Calculated Item....

	PIVOTT	PIVOTTABLE TOOLS			0
Acrobat	ANALYZ	ZE DESIGN			
2		fx.	fx		.
Select Mov • PivotTa	e Field able &	s, Items, Sets ▼	OLAP Tools ~	Relationships	PivotChart
Actions	Calculated Field			l	
		Calcula	ted <u>I</u> tem	····N	
		Solve O	rder	10	
	E.	∏ List Formulas			
		Create Set Based on <u>R</u> ow Items			
		Create Set Based on <u>C</u> olumn Items			ems
		Manag	e Sets		

Figure 198

Notice in the resulting Insert Calculated Item dialog box that the system has selected the field you selected in step 1.

- Enter the calculated item's desired name in the Name box.
 The name must not match any of the existing field names.
- 4. Enter the calculated item's formula in the Formula box.You can either type the formula, or you can double click on the

You can either type the formula, or you can double click on the desired items and type the arithmetic operator.

In this example we created a calculated field for Family Friendly movies based on the rating being either "G" or "PG."

Insert Calc	Insert Calculated Item in "Rating"				
<u>N</u> ame: For <u>m</u> ula:	Family Friendly = G + PG		Add Delete		
Fields: MovieNu Title Year Category Rating Color	mber	Items: G NC-17 NR PG PG-13 R	Insert Item Close		

Figure 199

5. Optional: Click **Add** and then repeat steps 3 and 4 to add additional calculated items.

Insert Calco	ulated Item in "Rating"		? <mark>- X -</mark> (
<u>N</u> ame:	Questionable		Add
For <u>m</u> ula:	='PG-13' + NR	Delete	
Fields: MovieNut Title Year Category Rating Color	mber	Items: G NC-17 PG PG-13 R Family Friendly OK	Insert Item Close

Figure 200: Notice that items with dashes like PG-13 are enclosed in single quotes in the formula.

Insert Calco	ulated Item in "Rating"		<u>ି</u> ଥ ଅ
<u>N</u> ame: For <u>m</u> ula:	Not acceptable = R + 'NC-17'	v	Add Delete
<u>F</u> ields: MovieNut Title Year Category Rating Color	mber	Items: G NC-17 NR PG PG-13 R Family Friendly Questionable OK	Insert I <u>t</u> em

Figure 201

- 6. Click **OK**.
- 7. As needed filter the field to avoid redundant data.

₽↓	Sort A to Z
₹↓	Sort Z to A
	More Sort Options
₹	Clear Filter From "Rating"
	Label Filters
	Value Filters
	Search 🔎
~	G (Select All) G NC-17 NR PG PG-13 R V Family Friendly Questionable Not acceptable
	OK Cancel