

CS1100: Excel Lab 5

Creating Pivot Tables

To complete this assignment you must submit an electronic copy to Blackboard by the due date. Download the Excel starter file and save a copy of it. In this lab, you are asked to create pivot tables to help summarize and visualize data.

Knowledge Needed

- Excel Pivot Tables and Charts
- Calculated Fields and Items
- Number formatting, PivotTable styles
- Excel help and online documentation

Problem 0

Create two named ranges for the range of data in the sheet called Main Data Source (Hint: click on a cell in the data and press CTRL+A to select the whole range). The two names should refer to the same data range. Name them **Problems1to4** and **Problem5**. Use the named range, **Problems1to4**, to create your pivot tables in Problems 1 to 4. Use the named range, **Problem5**, for the pivot table in Problem 5. This step is done to keep the source data independent and prevent a conflict with Calculated Items.

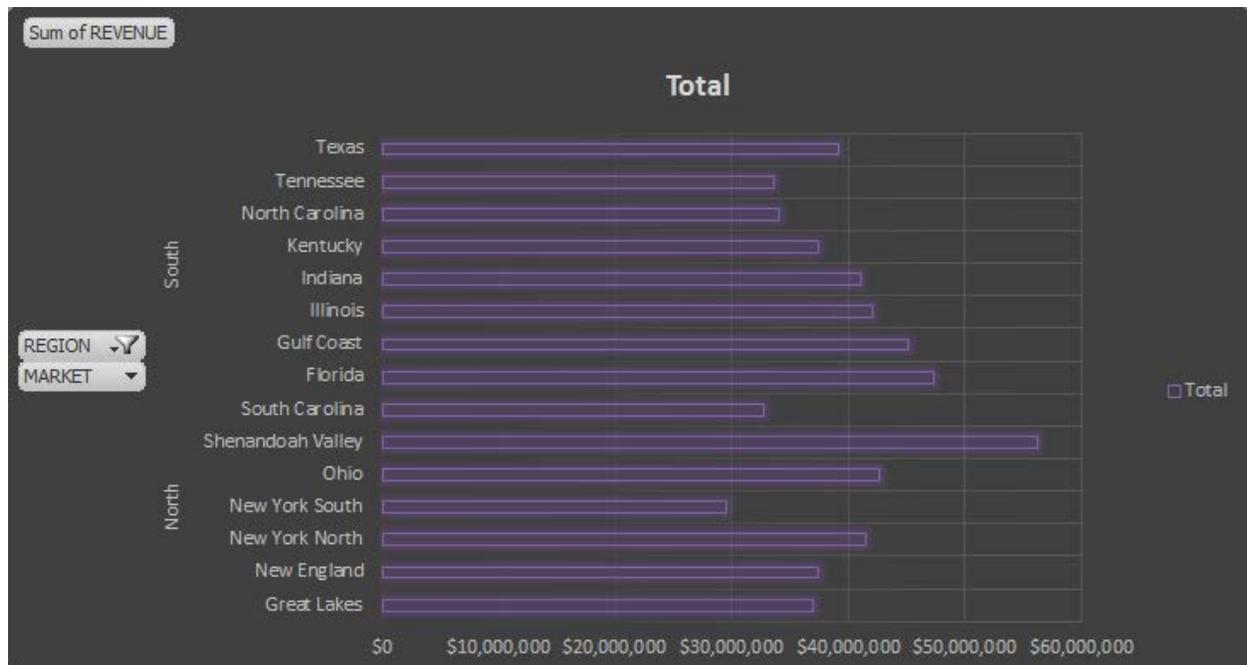
Problem 1

Create a pivot table to show the average REVENUE per MARKET split by LINE OF BUSINESS from the Excel Worksheet called Main Data Source. Separate the values by region. Format REVENUE as Currency. Show a subtotal for each MARKET as shown. Choose the Tabular Form in Report Layout (PivotTable Tools → Design Tab → Report Layout → Tabular Form). Label the worksheet as Problem 1. Here is a portion of what the table should look like:

Average of REVENL		REGION			
MARKET	LINE OF BUSINESS	North	South	West	Grand Total
California	Copier Sale			\$23,930.86	\$23,930.86
	Parts			\$6,833.88	\$6,833.88
	Printer Sale			\$21,253.53	\$21,253.53
	Service Plan			\$53,513.26	\$53,513.26
California Total				\$25,065.77	\$25,065.77
Central	Copier Sale			\$20,873.32	\$20,873.32
	Parts			\$3,070.43	\$3,070.43
	Printer Sale			\$20,321.49	\$20,321.49
	Service Plan			\$23,492.28	\$23,492.28
Central Total				\$14,923.60	\$14,923.60
Colorado	Copier Sale			\$34,984.17	\$34,984.17
	Parts			\$3,023.25	\$3,023.25
	Printer Sale			\$26,039.37	\$26,039.37
	Service Plan			\$30,346.00	\$30,346.00
Colorado Total				\$18,436.85	\$18,436.85
Florida	Copier Sale		\$26,275.12		\$26,275.12
	Parts		\$5,387.25		\$5,387.25
	Printer Sale		\$33,495.24		\$33,495.24
	Service Plan		\$43,118.22		\$43,118.22
Florida Total			\$23,622.18		\$23,622.18
Great Lakes	Copier Sale	\$16,079.31			\$16,079.31
	Parts	\$4,910.20			\$4,910.20

Problem 2

Create a pivot bar chart to show the total REVENUE by REGION and then by MARKET. Use a filter so that the chart only shows the South and North regions. Label the worksheet as Problem 2. Your chart should look like this:



Problem 3

Create a pivot table that shows the total REVENUE by REGION and then by MARKET. Create a Calculated Field called **bonus** to calculate a bonus for each Market. The bonus is 1% of REVENUE that is above \$40,000,000.00, and .5% (half of one percent) for REVENUE that is \$40,000,000 and under. Create another Calculated Field called Total that sums the REVENUE and bonus. Do not show Subtotals. Format the REVENUE and bonus as Currency. Label the worksheet as Problem 3. Choose one of the PivotTable Styles so your table appears as shown below:

REGION	MARKET	Sum of REVENUE	Sum of Bonus	Sum of Total
North	Great Lakes	\$36,992,638.00	\$184,963	\$37,177,601
	New England	\$37,341,224.00	\$186,706	\$37,527,930
	New York North	\$41,493,673.00	\$414,937	\$41,908,610
	New York South	\$29,482,893.00	\$147,414	\$29,630,307
	Ohio	\$42,703,718.00	\$427,037	\$43,130,755
	Shenandoah Valley	\$56,233,581.00	\$562,336	\$56,795,917
	South Carolina	\$32,744,890.00	\$163,724	\$32,908,614
South	Florida	\$47,362,461.00	\$473,625	\$47,836,086
	Gulf Coast	\$45,159,185.00	\$451,592	\$45,610,777
	Illinois	\$42,101,421.00	\$421,014	\$42,522,435
	Indiana	\$41,043,454.00	\$410,435	\$41,453,889
	Kentucky	\$37,363,632.00	\$186,818	\$37,550,450
	North Carolina	\$34,082,354.00	\$170,412	\$34,252,766
	Tennessee	\$33,564,381.00	\$167,822	\$33,732,203
	Texas	\$39,143,422.00	\$195,717	\$39,339,139
West	California	\$61,636,732.00	\$616,367	\$62,253,099
	Central	\$30,503,842.00	\$152,519	\$30,656,361
	Colorado	\$26,217,201.00	\$131,086	\$26,348,287
	North West	\$28,923,143.00	\$144,616	\$29,067,759
	Southwest	\$29,325,287.00	\$146,626	\$29,471,913
	Topeka	\$39,975,907.00	\$199,880	\$40,175,787
Grand Total		\$813,395,039.00	\$8,133,950	\$821,528,989

Problem 4

Create a pivot table to show the REVENUE by REGION for each LINE OF BUSINESS. Do a Count of the same field to show how many times each product was sold. Insert two Slicers: one for REGION and one for LINE OF BUSINESS. Filter LINE OF BUSINESS so that only values for Copiers and Printers are visible. Label the worksheet as Problem 4.

Note: Slicers may not be available on the Mac so you may have to do this part on a PC.

Your table should look like this:

	Total REVENUE	Count
North	\$46,514,935.00	1937
Copier Sale	\$25,893,618.00	962
Printer Sale	\$20,621,317.00	975
South	\$64,864,734.00	2252
Copier Sale	\$36,711,470.00	1124
Printer Sale	\$28,153,264.00	1128
West	\$43,570,798.00	1888
Copier Sale	\$23,976,601.00	928
Printer Sale	\$19,594,197.00	960

REGION

North

South

West

LINE OF BUSINESS

Copier Sale

Parts

Printer Sale

Service Plan

Problem 5

A contract is given to another company, “ABC Service”, to handle all service issues. The cost of the contract to “ABC Service” is 35% of the revenue generated from selling service plans. Create a pivot table to show the REVENUE by REGION for each LINE OF BUSINESS. Create a Calculated Item called **Adjusted Service** that adjusts the revenue from Service Plan by subtracting 35% from it. Add a slicer so the revenue from the Service Plan is not shown and the Adjusted Service is shown instead. Label the worksheet as Problem 5.

Note: Slicers may not be available on the Mac so you may have to do this part on a PC.

Your table should look like this:

Row Labels	Sum of REVENUE	
North	\$206,497,538.15	
Copier Sale	\$25,893,618.00	
Parts	\$29,063,171.00	
Printer Sale	\$20,621,317.00	
Adjusted Service	\$130,919,432.15	
South	\$241,507,702.55	
Copier Sale	\$36,711,470.00	
Parts	\$31,205,269.00	
Printer Sale	\$28,153,264.00	
Adjusted Service	\$145,437,699.55	
West	\$164,312,670.65	
Copier Sale	\$23,976,601.00	
Parts	\$23,670,053.00	
Printer Sale	\$19,594,197.00	
Adjusted Service	\$97,071,819.65	
Grand Total	\$612,317,911.35	

LINE OF BUSINESS
Adjusted Service
Copier Sale
Parts
Printer Sale
Service Plan

Label the worksheets for your Pivot Tables and Chart in your Excel file as Problem 1, Problem 2, Problem 3, Problem 4, and Problem 5. Add your name to cell A32 in your sheet for Problem 5.

Rubric

- 50 points – tables and charts show correct data (10 pts each problem)
- 20 points – data is arranged as shown in the figures (4 pts each problem)
- 10 points – tables and charts are formatted correctly. (i.e. shading, colors, currency formatting) (2 pts each problem)
- 15 points – calculated fields and items are correct (problem 3 and 5, 5 pts each instance)
- 5 points – slicers are correct (problem 4 and 5)
- Deduct 5 points if student name is not added to worksheet for Problem 5
- [Note: slight differences in results due to differences between Excel 2010 and Excel 2013 are acceptable]