

**HW2---BUAI 434---Due by Midnight on Tuesday October 4<sup>th</sup>**

(This HW cannot be done in group. You should do it alone.)

Use the file named HW2.twbx available on CANVAS for the following exercises. For each Exercise, create a new worksheet/dashboard in the file HW2.twbx and name it "Exercise X-Y" for exercise number X part Y. Upload on CANVAS:

1- your final twbx file. and

2- An MS Word file. Export the Image of each of the Worksheet in the MS Word file. Use Worksheet/Export/Image in Tableau to do that.

**Exercise 1:** Produce the following display.

A world map that shows shipping cost of each country by color. Use Normal Style for map layer. Show country name and total shipping costs on the map.

## Exercise 1



**Exercise 2:** Create a crosstab (regular table), a heatmap, and a highlight map (save them under the worksheet names Exercise 2-Crosstab, Exercise 2-heatmap , Exercise 2-highlight map) showing percentage median discounts provided to customers in the months of 2013 (across the top) sliced by Region and Order Priority (respectively) in Rows.

### Exercise 2-crosstab

Region1	Order Priority1	Order Date											
		Janu..	Febr..	March	April	May	June	July	Augu..	Septe..	Octo..	Nove..	Dece..
AsiaPac	Critical	6.00%	5.50%	4.50%	4.50%	8.00%	4.00%	5.00%	6.00%	4.00%	4.00%	5.00%	6.00%
	High	5.00%	5.00%	5.00%	5.00%	6.00%	7.00%	2.00%	6.00%	5.00%	3.00%	6.00%	6.50%
	Low	5.50%	4.00%	5.00%	4.50%	3.00%	5.00%	4.00%	3.00%	5.00%	5.00%	6.00%	6.50%
	Medium	7.00%	4.00%	5.00%	4.00%	4.00%	5.00%	2.50%	7.00%	5.00%	7.00%	5.00%	6.00%
	Not Specified	5.00%	5.00%	5.00%	6.00%	3.50%	5.00%	3.50%	7.00%	5.00%	5.00%	4.00%	6.00%
EMEA	High	2.00%	5.00%	7.00%	4.00%	6.00%	1.00%	4.50%	3.00%	5.00%	6.00%	2.00%	1.00%
	Not Specified	1.00%	2.00%	2.50%	3.00%	3.00%	6.00%	4.50%	3.50%	5.00%	5.00%	5.00%	6.00%
	Critical	5.00%	1.50%	4.50%	5.00%	4.00%	5.50%	7.00%	5.00%	4.50%	6.00%	5.00%	5.00%
	Low	5.00%	6.00%	6.00%	7.50%	4.00%	4.50%	2.00%	3.00%	4.00%	6.00%	9.00%	4.00%
	Medium	8.00%	7.50%	6.00%	6.00%	4.50%	4.00%	4.00%	5.50%	4.00%	5.00%	4.50%	5.00%
Latam	Medium	4.00%	8.00%	1.00%	2.50%	4.00%	4.00%	5.50%	3.00%	3.00%	3.00%	4.00%	2.00%
	Critical	8.00%	3.00%	4.00%	3.00%	4.00%	6.00%	4.00%	5.50%	6.00%	6.00%	3.00%	4.00%
	High	5.00%	5.00%	5.00%	8.00%	7.00%	3.50%	3.00%	4.00%	3.00%	2.00%	3.50%	6.00%
	Low	3.00%	3.00%	4.00%	3.50%	8.00%	3.00%	4.00%	6.50%	7.00%	6.00%	6.50%	3.50%
	Not Specified	6.00%	2.50%	9.00%	1.00%	6.00%	7.00%	4.50%	5.00%	6.00%	5.00%	6.00%	6.00%
North America	Critical	7.00%	3.00%	5.00%	5.00%	5.00%	5.00%	4.00%	5.00%	5.00%	4.50%	5.00%	6.00%
	High	4.00%	5.00%	5.00%	4.50%	6.00%	4.00%	5.00%	5.00%	4.50%	5.00%	4.00%	6.00%
	Low	5.00%	4.00%	5.00%	7.00%	4.00%	4.00%	4.00%	3.00%	5.00%	5.50%	6.00%	4.50%
	Medium	5.00%	5.00%	5.50%	4.50%	5.00%	5.00%	4.00%	5.00%	5.00%	6.00%	4.00%	5.00%
	Not Specified	6.00%	3.50%	5.00%	6.00%	5.00%	6.00%	4.00%	5.00%	5.00%	5.00%	5.00%	4.00%

Median of Discount broken down by Order Date Month vs. Region1 and Order Priority1. The data is filtered on Order Date Year, which keeps 2013.

### Exercise 2-heatmap

Region1	Order Priority1	Order Date												Median Discount
		Janua..	Febru..	March	April	May	June	July	August	Septe..	Octob..	Nove..	Dece..	
AsiaPac	Critical	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	1.00%
	High	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	2.00%
	Low	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	4.00%
	Medium	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	6.00%
	Not Specified	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	8.00%
EMEA	Critical	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	9.00%
	High	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	1.00%
	Low	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	2.00%
	Medium	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	4.00%
	Not Specified	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	6.00%
Latam	Critical	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	8.00%
	High	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	9.00%
	Low	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	1.00%
	Medium	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	2.00%
	Not Specified	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	4.00%
North America	Critical	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	6.00%
	High	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	8.00%
	Low	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	9.00%
	Medium	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	1.00%
	Not Specified	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	2.00%

Median of Discount (size) broken down by Order Date Month vs. Region1 and Order Priority1. The data is filtered on Order Date Year, which keeps 2013.

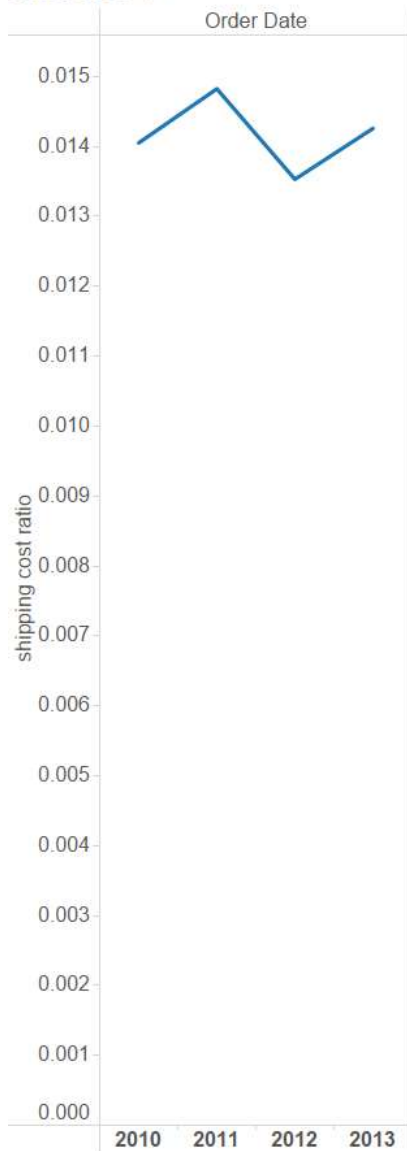
## Exercise 2-highlight

Region1	Order Priority1	Order Date											
		Janu..	Febr..	March	April	May	June	July	Augu..	Septe..	Octo..	Nove..	Dece..
AsiaPac	Critical	6.00%	5.50%	4.50%	4.50%	8.00%	4.00%	5.00%	6.00%	4.00%	4.00%	5.00%	6.00%
	High	5.00%	5.00%	5.00%	5.00%	6.00%	7.00%	2.00%	6.00%	5.00%	3.00%	6.00%	6.50%
	Low	5.50%	4.00%	5.00%	4.50%	3.00%	5.00%	4.00%	3.00%	5.00%	5.00%	6.00%	6.50%
	Medium	7.00%	4.00%	5.00%	4.00%	4.00%	5.00%	2.50%	7.00%	5.00%	7.00%	5.00%	6.00%
	Not Specified	5.00%	5.00%	5.00%	6.00%	3.50%	5.00%	3.50%	7.00%	5.00%	5.00%	4.00%	6.00%
EMEA	Critical	5.00%	1.50%	4.50%	5.00%	4.00%	5.50%	7.00%	5.00%	4.50%	6.00%	5.00%	5.00%
	High	2.00%	5.00%	7.00%	4.00%	6.00%	1.00%	4.50%	3.00%	5.00%	6.00%	2.00%	1.00%
	Low	5.00%	6.00%	6.00%	7.50%	4.00%	4.50%	2.00%	3.00%	4.00%	6.00%	9.00%	4.00%
	Medium	8.00%	7.50%	6.00%	6.00%	4.50%	4.00%	4.00%	5.50%	4.00%	5.00%	4.50%	5.00%
	Not Specified	1.00%	2.00%	2.50%	3.00%	3.00%	6.00%	4.50%	3.50%	5.00%	5.00%	5.00%	6.00%
Latam	Critical	8.00%	3.00%	4.00%	3.00%	4.00%	6.00%	4.00%	5.50%	6.00%	6.00%	3.00%	4.00%
	High	5.00%	5.00%	5.00%	8.00%	7.00%	3.50%	3.00%	4.00%	3.00%	2.00%	3.50%	6.00%
	Low	3.00%	3.00%	4.00%	3.50%	8.00%	3.00%	4.00%	6.50%	7.00%	6.00%	6.50%	3.50%
	Medium	4.00%	8.00%	1.00%	2.50%	4.00%	4.00%	5.50%	3.00%	3.00%	3.00%	4.00%	2.00%
	Not Specified	6.00%	2.50%	9.00%	1.00%	6.00%	7.00%	4.50%	5.00%	6.00%	5.00%	6.00%	6.00%
North America	Critical	7.00%	3.00%	5.00%	5.00%	5.00%	5.00%	4.00%	5.00%	5.00%	4.50%	5.00%	6.00%
	High	4.00%	5.00%	5.00%	4.50%	6.00%	4.00%	5.00%	5.00%	4.50%	5.00%	4.00%	6.00%
	Low	5.00%	4.00%	5.00%	7.00%	4.00%	4.00%	4.00%	3.00%	5.00%	5.50%	6.00%	4.50%
	Medium	5.00%	5.00%	5.50%	4.50%	5.00%	5.00%	4.00%	5.00%	5.00%	6.00%	4.00%	5.00%
	Not Specified	6.00%	3.50%	5.00%	6.00%	5.00%	6.00%	4.00%	5.00%	5.00%	5.00%	5.00%	4.00%

Median of Discount broken down by Order Date Month vs. Region1 and Order Priority1. The data is filtered on Order Date Year and Action (Country / Region1). The Order Date Year filter keeps 2013. The Action (Country / Region1) filter keeps 50 members.

**Exercise 3:** Create a line chart showing what percentage of total cost is due to shipping costs over time (years of Order Date). Use Calculation and Aggregation on Profit, Sales, and Shipping Cost to get the percentage.

### Exercise 3



The trend of shipping cost ratio for Order Date Year. The data is filtered on Action (Country / Region1), which keeps 50 members.

**Exercise 4:** Develop the following view.

### Exercise 4

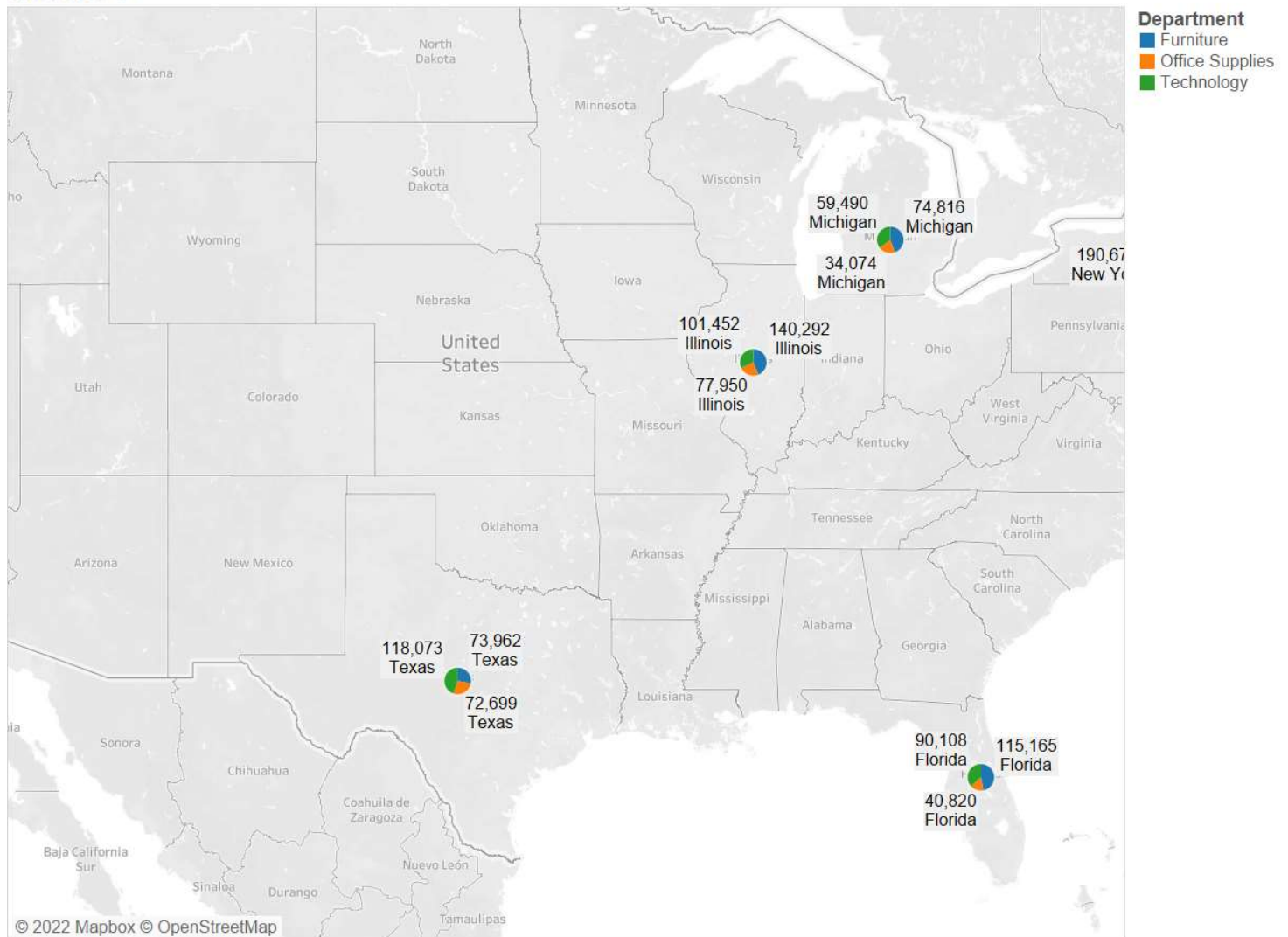
Region1	Quarter of Order..	Container						
		Jumbo Box	Jumbo Drum	Large Box	Medium Box	Small Box	Small Pack	Wrap Bag
AsiaPac	Q1	\$226,841	\$197,980	\$89,794	\$35,878	\$257,296	\$25,040	\$9,895
	Q2	\$221,846	\$221,903	\$115,651	\$33,333	\$424,618	\$42,839	\$20,308
	Q3	\$333,335	\$311,486	\$161,256	\$36,847	\$502,833	\$58,573	\$41,188
	Q4	\$394,480	\$563,812	\$212,338	\$83,507	\$615,697	\$80,488	\$51,864
EMEA	Q1	\$79,102	\$118,437	\$52,006	\$19,025	\$119,868	\$17,764	\$5,496
	Q2	\$144,619	\$136,013	\$59,217	\$9,020	\$187,677	\$24,612	\$13,010
	Q3	\$204,714	\$162,726	\$41,768	\$41,166	\$223,047	\$22,093	\$10,629
	Q4	\$337,991	\$265,803	\$145,559	\$37,361	\$316,783	\$33,370	\$22,013

Sum of Profit broken down by Container vs. Region1 and Order Date Quarter. The view is filtered on Region1, which keeps AsiaPac and EMEA.



**Exercise 5:** Develop a map view showing a pie chart on every US state that has a total profit exceeding \$120,000. The pie chart should present the distribution of total profit for different Departments. Enlarge the pie charts on the map to them visible and list the name of the state besides the pie chart. Hint: only 7 states qualify to get a pie chart.

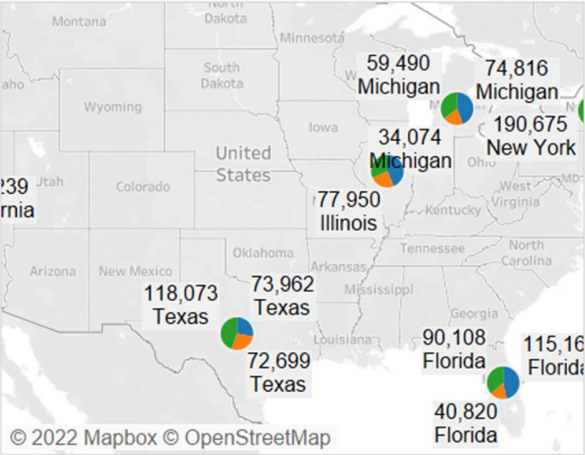
## Exercise 5



Map based on Longitude (generated) and Latitude (generated). Color shows details about Department. The marks are labeled by sum of Profit and State. The data is filtered on Action (MONTH(Order Date),Order Priority1,Region1), which keeps 60 members. The view is filtered on State, which has multiple members selected.

**Exercise 6:** Create a dashboard of your own choosing for the data given. The focus of the dashboard should be about presenting interesting data about Shipping Costs. The dashboard should have at least 3 graphical objects, one of which a map. Use a Filter, URL, and Highlight Action on the dashboard.

Exercise 5



Exercise 2-highlight

		Order Date				
Region1	Order Pr..	Janu..	Febr..	March	April	Ma
AsiaPac	Critical	6.00%	5.50%	4.50%	4.50%	8.
	High	5.00%	5.00%	5.00%	5.00%	6.
	Low	5.50%	4.00%	5.00%	4.50%	3.
	Medium	7.00%	4.00%	5.00%	4.00%	4.
	Not Spec..	5.00%	5.00%	5.00%	6.00%	3.
EMEA	Critical	5.00%	1.50%	4.50%	5.00%	4.
	High	2.00%	5.00%	7.00%	4.00%	6.
	Low	5.00%	6.00%	6.00%	7.50%	4.
	Medium	8.00%	7.50%	6.00%	6.00%	4.
	Not Spec..	1.00%	2.00%	2.50%	3.00%	3.
Latam	Critical	8.00%	3.00%	4.00%	3.00%	4.
	High	5.00%	5.00%	5.00%	8.00%	7.
	Low	3.00%	3.00%	4.00%	3.50%	8.
	Medium	4.00%	8.00%	1.00%	2.50%	4.

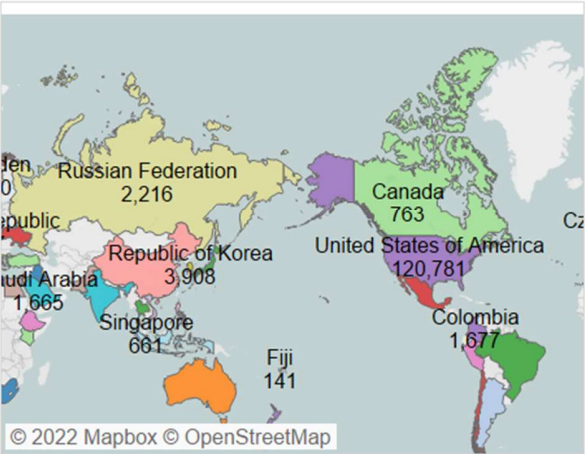
Depa..

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- Chile
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- Egy..
- Ethi..
- Fiji
- Fra..
- Ger..
- Gre..
- Ho..
- India
- Ind..
- Iraq
- Irel..
- Isra..
- Italy
- Jap..
- Ken..
- Me..
- Mor..
- Ne..
- Nig..
- Nor..
- Pak..

Exercise 1



Exercise 3

