Seneca | SCHOOL OF SOFTWARE DESIGN & DATA SCIENCE

WorkShop7

Contents

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WorkShop7

Instructions:

- The workshop can be completed in **group of four (recommended)**.
- All members should work together to complete the workshop and they will receive the same mark.
- This workshop is worth 2.5% of the total course grade and will be evaluated through your written submission.
- Please submit the submission file(s) through Blackboard.
- **Only one person must submit for the group and only the last submission will be marked**.

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Part One: Create Calculated Fields

Step1. Download **WalmartRetailSales.xlsx** from blackboard.
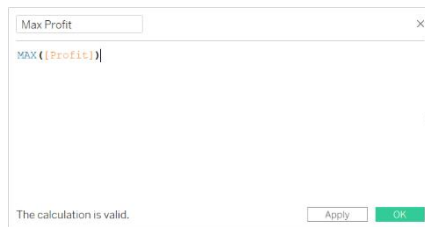**Step2.** Open Tableau Desktop, and then connect to Microsoft Excel file
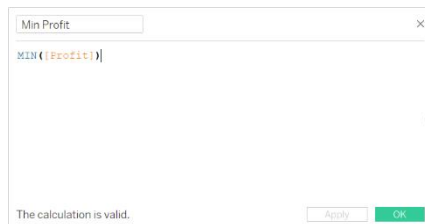**Step3.** Create the following calculated fields:

Order to Ship Time (Days)

Make sure that Order Date and Ship Date have Date data type


```
rder to Ship Time (Days)                              ×
DATEDIFF('day',[Order Date],[Ship Date])

The calculation is valid.                    Apply    OK
```

Max Profit


```
Max Profit                                            ×
MAX([Profit])

The calculation is valid.                    Apply    OK
```

Min Profit


```
Min Profit                                            ×
MIN([Profit])

The calculation is valid.                    Apply    OK
```

Order ID new


```
Order ID new                                          ×
LEFT([State],1)+'-'+LEFT([Region],1)+'-'+STR([Order ID])

The calculation is valid.                    Apply    OK
```

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Profit Categories

Profit Categories   ×

IF [Profit]<0 THEN 'Negative Profit'
ELSEIF [Profit]>=0 AND [Profit] < 500 THEN 'Moderate Profot'
ELSEIF [Profit]>=500 THEN 'High Profit'
END

The calculation is valid.   Apply   OK

Sales (w/o Category)

Sales (w/o Category)   ×

{ EXCLUDE [Product Category] : SUM([Sales]) }

The calculation is valid.   Apply   OK

Step4. Now, filter your date to remove all transactions that contain negative days value in Order to Ship Time (Days)

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WorkShop7

Part Two: Horizontal Bar Chart: Apply Pre-Attentive Attributes to your Bar Chart

Step5. Create New Sheet, name it as "**BarChart**"

Step6. Create **horizontal bar chart** to show **State vs. Average Order to Ship Time (Days).**

Step7. Select between 10 and 15 **State** of your choice to compare with the **New York** and **Pensylvania** data.

Step8. **All formatting, such as color for visual cues and simplistic design principles must be complete**

Step9. *Pick a Title for your Chart* and add your **group member name** to the Title

    a. Font size for First line in the title is 20 and type is Tableau Light

    b. **You have a choice to modify the axis's titles**

Step10. Save your tableau file as **WS07.twbx**.

Hint:

➢ **Pay attention to data-to-ink ratio**
➢ **Add any annotation or labeling that can help you.**

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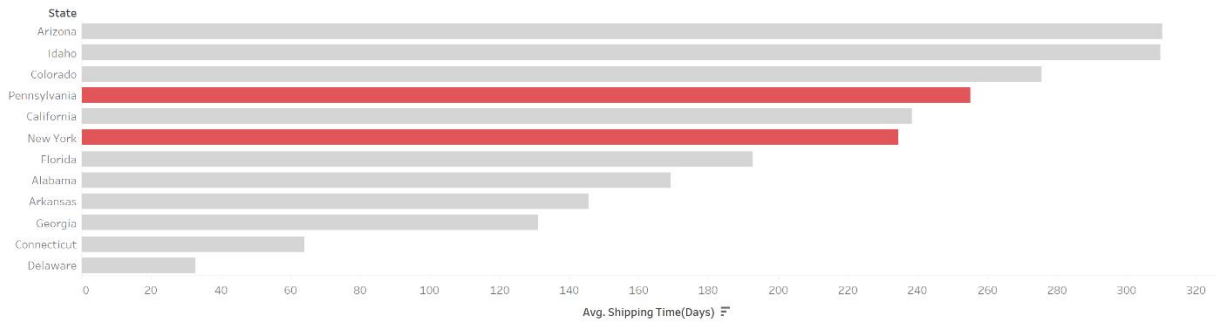DESIGN & DATA SCIENCE

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Question 1. Copy and Paste the created **Bar Chart** here. Replace the figure below.

This is a draft line Chart

Average Shipping Time in Different State of America
Group ZZA. 2231 10

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Part Three: Creating a Pie Chart Map (with Dual Axis Map): Apply Pre-Attentive Attributes to your Map

Since maps use the horizontal and vertical position to encode geographic locations, you have fewer options to encode data values than with other chart types. However, there are ways to add more information to maps. One popular option is the pie chart map. This is a variant of the symbol map that allows you to show proportions of a nongeographic dimension.

Step1. Create New Sheet, name it as "**PieChartMap**"

Step2. Start by creating a simple symbol map: double-click **State**. Then double-click the Sales measure to add it to Size.

Step3. In the mark type menu on the Marks card, **change the type to Pie.** Finally, move **Product Category** to Color. Then, *adjust the size to suitable value*
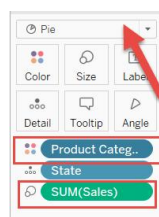
Step4. Add the calculated field **"Sales (w/o Category)"**to the Filters card and select **Attribute** in the Filter Field dialog box. *Right-click the new filter to open its context menu and select Show Filter*.

Step5. Drag another instance of the field **Latitude (Generated)** from the Data pane to the Rows shelf. Now, you will see two maps

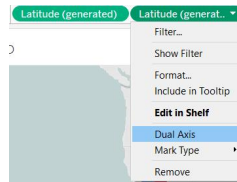**Step6.** Select the second **Latitude (Generated)**, this will allow you to modify second Map

Step7. Remove SUM(Sales) and **Product Category** from mark card, Then, in the mark type menu on the Marks card, reset the **type to Automatic**.

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Step8. Add Profit to color. Then, select Dual Axis.

Hint: In a dual axis chart, you can change which of the two charts is on top and which is underneath by switching the position of the two measures used to construct the chart (in this case, the Latitude (Generated) measure on the Rows shelf). Typically, you will want the marks of the symbol map to lie on top of those of the filled map. Therefore, the field for the symbol map should be on the right. **Do not forget to adjust the color.**

Step9. Select between 10 and 15 **State** of your choice to compare with the **New York** and **Pensylvania** data.

Step10. **All formatting, such as color for visual cues and simplistic design principles must be complete**

Step11. *Pick a Title for your Chart* and add your **group member name** to the Title
   a.   Font size for First line in the title is 20 and type is Tableau Light
   b.   **You have a choice to modify the axis's titles**

Step12. Save your tableau file as **WS07.twbx**.

Hint:

➢   **Pay attention to data-to-ink ratio**
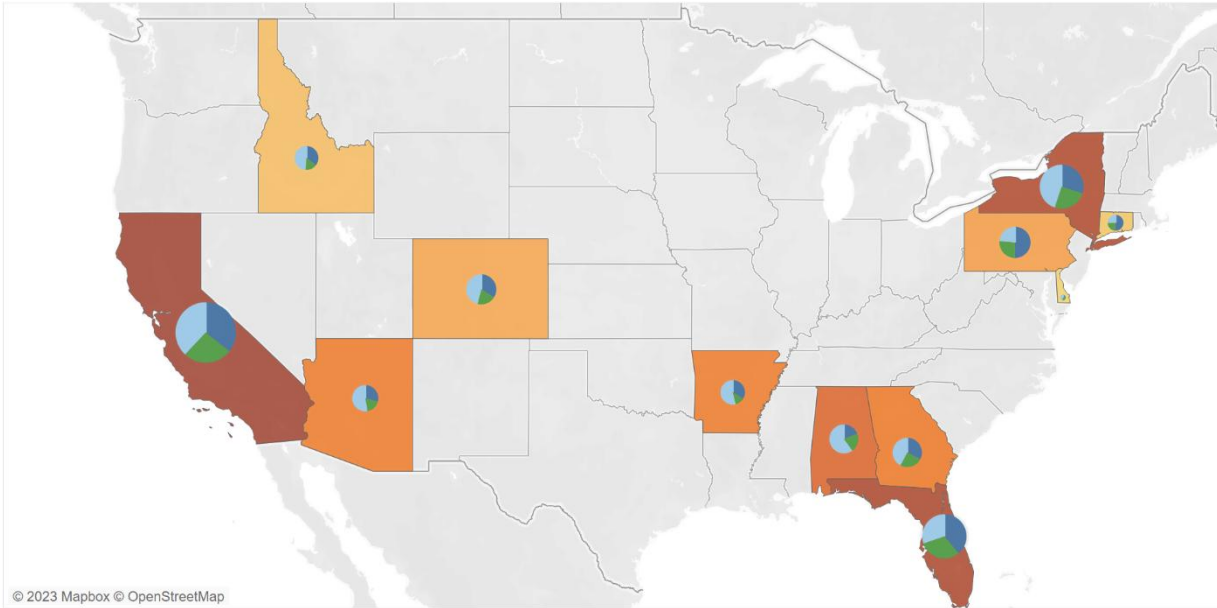➢   **Add any annotation or labeling that can help you.**

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Question 2. Copy and Paste the created **PieChartMap** here. Replace the figure below.

This is a draft Bar chart.

Walmart Sales and Profit Map in America
Group ZZA. 2231 10

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Deliverables:

SENECA'S ACADEMIC HONESTY POLICY
As a Seneca student, you must conduct yourself in an honest and trustworthy manner in all aspects of your academic career. A dishonest attempt to obtain an academic advantage is considered an offense and will not be tolerated by the College.

Add this declaration to your submission file:

I/WE, ------------ (mention your names), declare that the attached assignment is our own work in accordance with the **Seneca Academic Honesty Policy**. I/We do not copy any part of this assignment, manually or electronically, from any other source including web sites, unless specified as references. I do not distribute my work to other students.

	Name	Task(s)
1	Sepehr Salehi	Part two
2	Roohalah Taraf	Part two
3	Rongzhao Yi	Part three
4	Conghan Zheng	Part three

Using Blackboard, submit the following files

1. **Report as Pdf file**
2. **WS07.twbx**

Save your group work as

<ZZA. 2231 10>_ws7.pdf