# ***WorkShop5***

## Contents

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## 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**.

# ***WorkShop5***

## Part One: Scatterplot

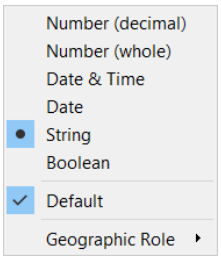
**A scatterplot is an essential visualization type for understanding the relationship between two measures.**

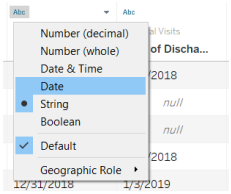
**Step1.** Download **Hospital Visits.xlsx** from blackboard.

**Step2.** Open Tableau Desktop, and then connect to Microsoft Excel file

**Step3.** Create new worksheet and named it "**Scatterplot**".

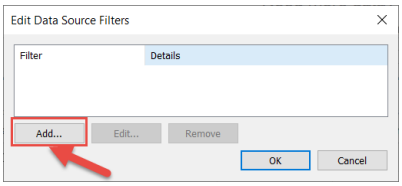
**Step4.** First Change the date type of dimensions "Date of Admit" and "Date of Discharge" from **String** data type to **Date** data type.



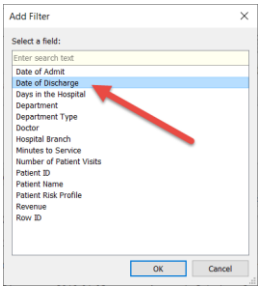




**Step5.** Create data filter to remove all the rows that contain null in the "Date of Discharge", Click on **Add**.


The, Add again

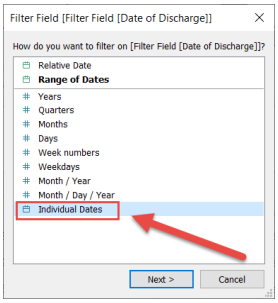



Select the "Date of Discharge", then ok.

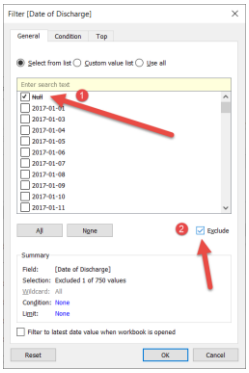


# *WorkShop5*

Select “Individual Dates”, then Next



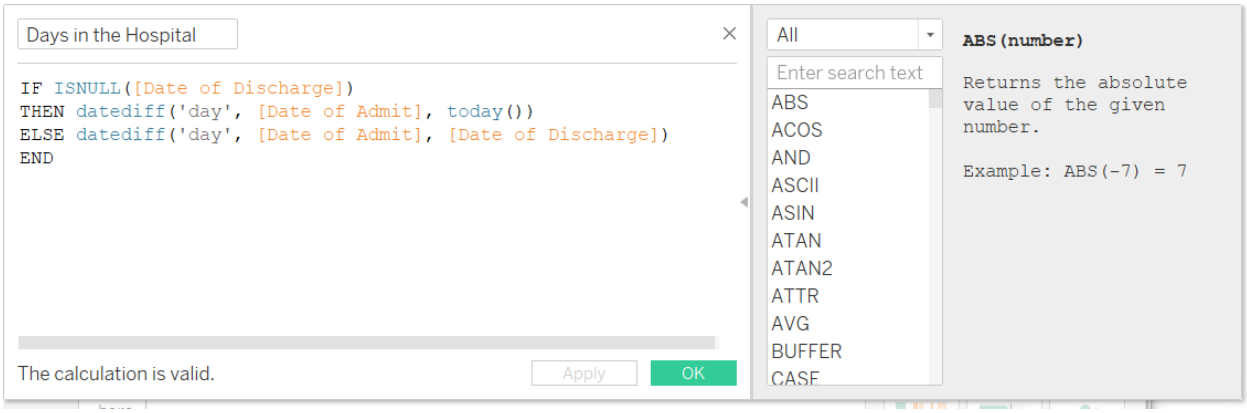

Exclude Null from your date.




Verify that you do not have any null in “Date of Discharge” column.

**Step6.** Create calculated Field and name it as “Days in the Hospital” as shown below

a. Check the newly create date field by going to Data source Tab.



# ***WorkShop5***

**Step7.** Create a scatterplot shows a relationship between the **average minutes to service** and **the average number of days spent in the hospital**, broken down by **department type** and **doctor**

Hints:

- The dimensions of **Department Type** and **Doctor** on the Marks card define the view level of detail.
- Use **Department Type** for color
- Use **Doctor** for detail.
- Use **"Sum (Number of Patient Visits)"** for Size
- Now, each mark in the view represents **the average minutes to service** and **average days in the hospital** for patients seen by a doctor in a department type and the Size of each circle indicates the total number of patients seen by that doctor.

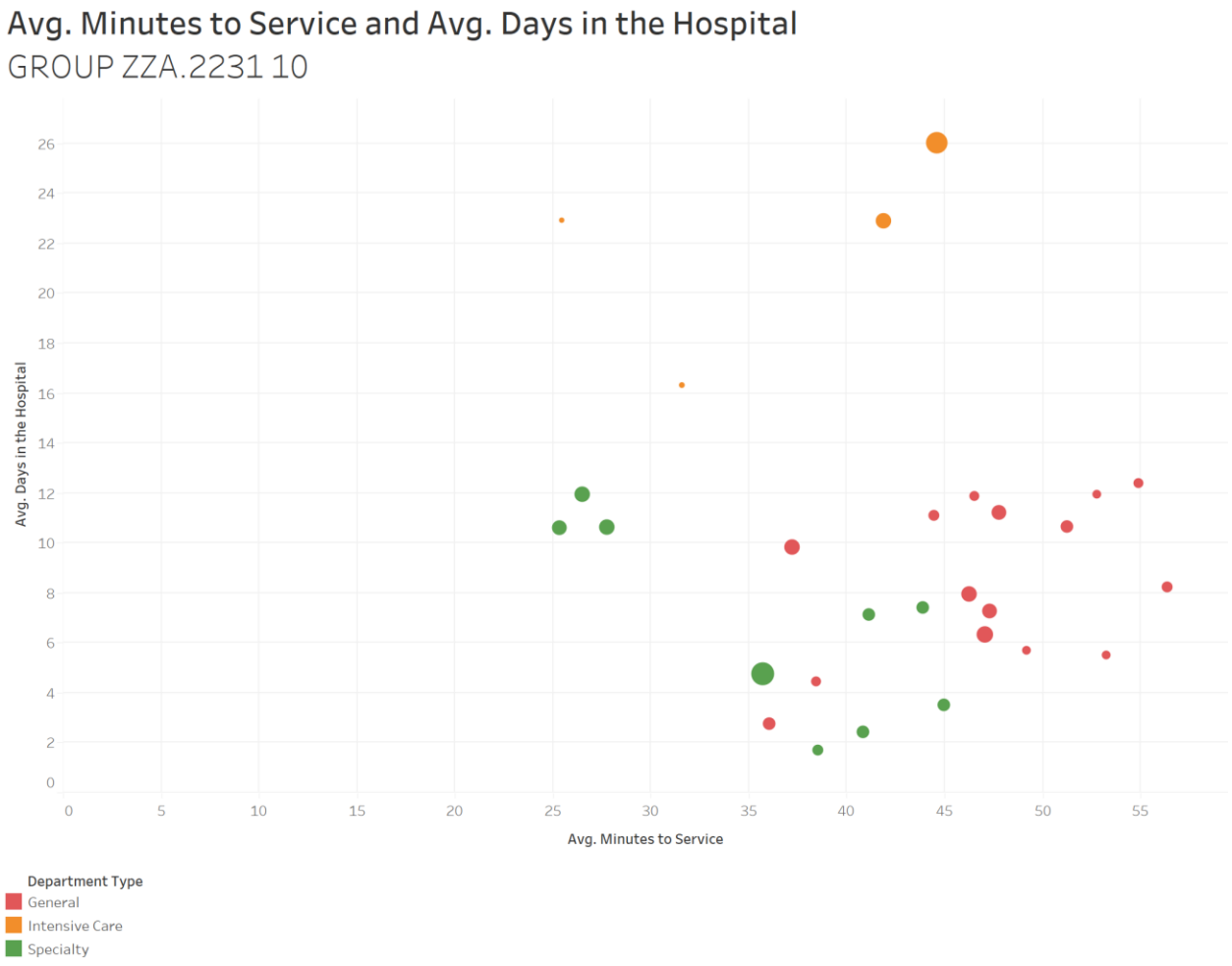
**Step8.** Add your **group member name** to the Title

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

**Step9.** Save your tableau file as **WS05_A.twbx**.

# ***WorkShop5***

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



# ***WorkShop5***

## Part Two: Watch Video about Maps in Tableau

Watch the video available at https://www.tableau.com/solutions/maps as an overview of maps in Tableau. In the next parts of this workshop, you will create some basic maps.

## Part Three: Proportional Symbol Map

**Step1.** Download the date source ""data-science-colleges.csv" from this link

https://github.com/ryanswanstrom/awesome-datascience-colleges

**Step2.** Open Tableau Desktop> Choose Open > File and select the downloaded "data-science-colleges.csv"

**Question 2.** Which data columns have the globe (geo-data) symbol?

Country, State, City

**Step3.** Go to worksheet "**Sheet1**" and change name to "**Proportional Symbol Map**". Note that there are two measures generated: **Latitude** and Longitude. These were not in the data source itself, and were generated for the geo-data available in the data source. Double click these two measures to build a map. **Note that Longitude will be located on Columns card and Latitude will be located on Rows card.**

**Step4.** Note under Dimensions, there is a hierarchy of geo-data created: Country, State, City. To see data at the city level, drag City from this hierarchy on to the Detail card. You will see a data point on the map, for the cities which have data science programs.

**Step5.** To get a more compact view, right click the data points in **Hawaii**, **Hilo**, and one data point in **Spain**, and choose Exclude. Also, **click on '48 unknown' message on the lower right side of the worksheet and choose 'Filter Data'**.

**Step6.** To use size to encode the number of programs in each city, drag 'Number of Records' measure on to the Size card. Now you have a '**Proportional Symbol Map**'.

**Step7.** Drag the 'Degree' dmension on to the Color card. On the legend, right click A (Associate) and C (Certificate) and choose Exclude. Now your map is color coding the **Bachelor**, **Masters**, and **Doctorate** programs.

**Step8.** Change title by adding your **group member name** to title

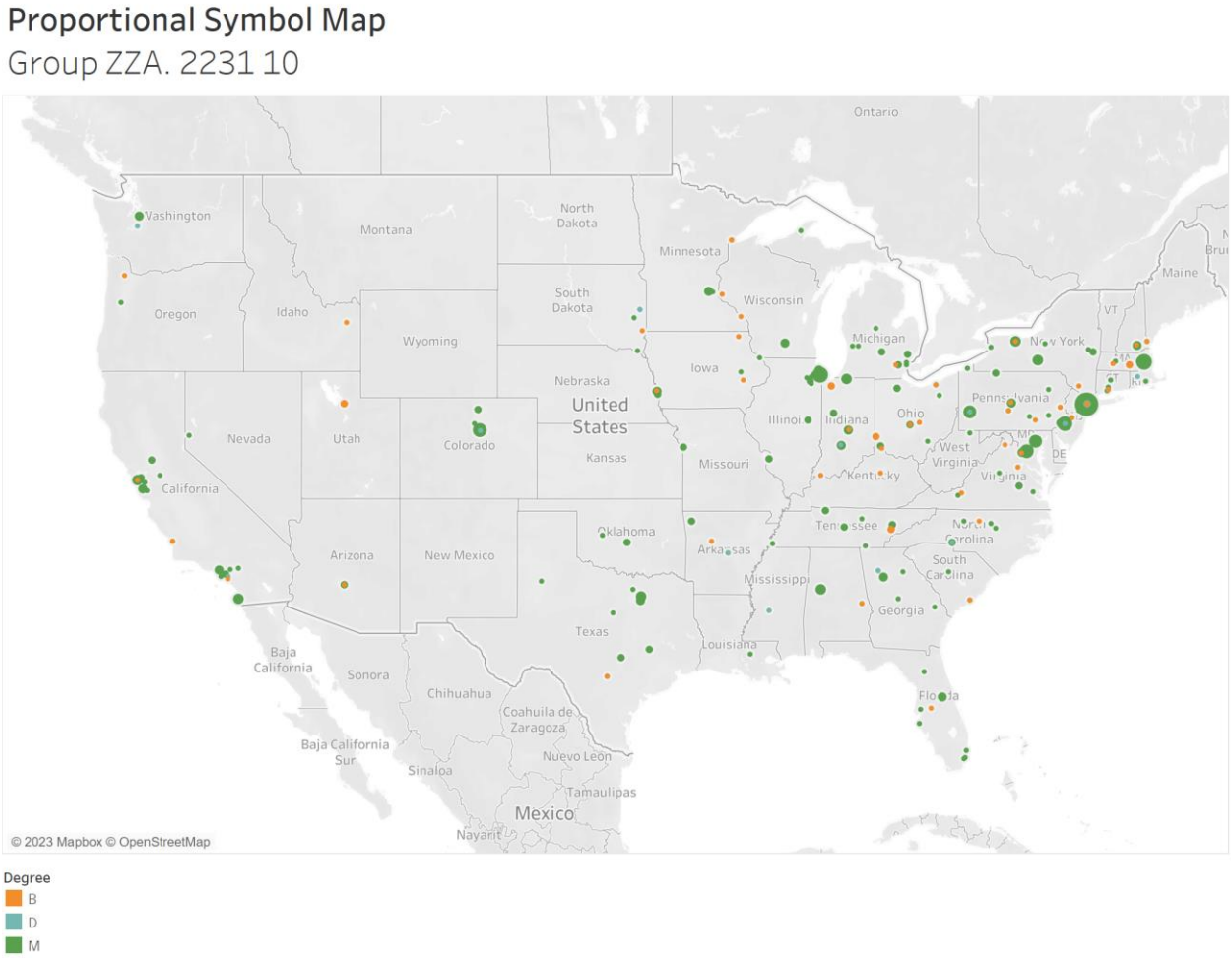
- Font size for First line in the title is 20 and type is Tableau Light
- Do not forget to hide the y-axis.

**Step9.** Save your tableau file as **WS05_B.twbx**.

**Step10.** Copy and Paste the created **Scatterplot** here. Replace the figure below.

# *WorkShop5*

**Question 3.** Copy and Paste the created **Chart** here. Replace the figure below.



# ***WorkShop5***

## 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 name/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 one |
| 2 | Roohalah Taraf | Part one |
| 3 | Rongzhao Yi | Part three |
| 4 | Conghan Zheng | Part three |

## ***Using Blackboard, submit the following files***

1. **Report as Pdf file**
2. **WS05_A.twbx**
3. **WS05_B.twbx**

Save your group work as

<**GroupName**>_ws5.???