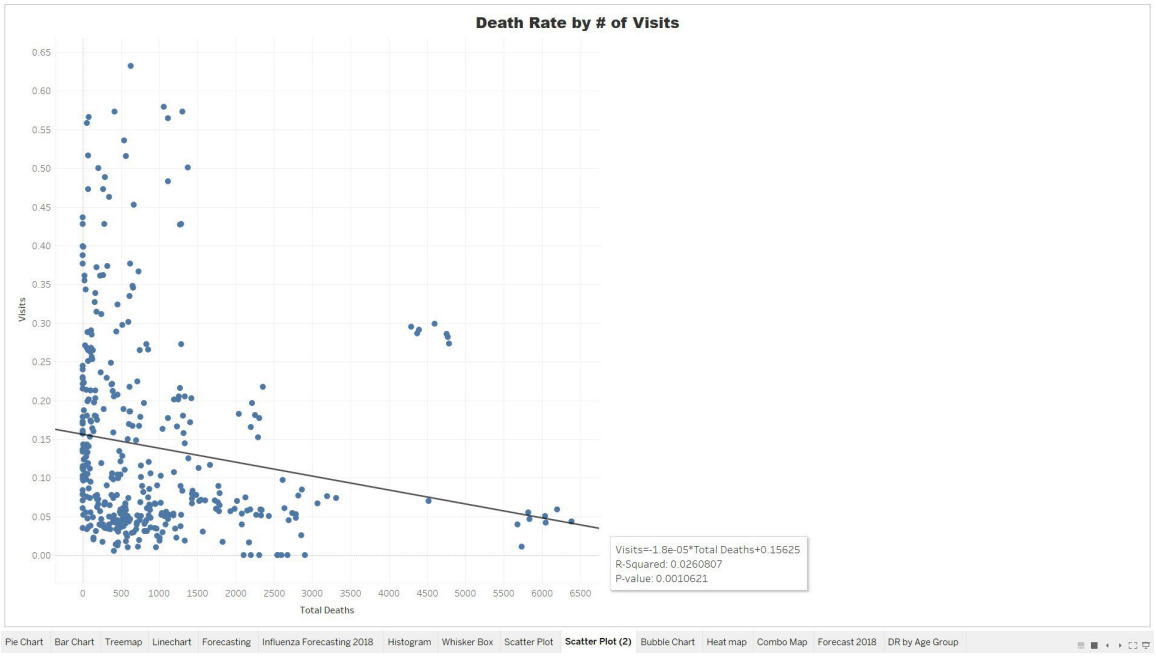
# Task 2.6: Scatterplots & Bubble Charts

1. Refer back to the task in Exercise 1.8: Conducting Statistical Analyses where you examined correlations. Use those same variables to create a scatterplot in Tableau.

2. Add a trend line to the scatterplot you just created.




3. Compare Tableau's r-squared value to the correlation coefficient you calculated in Exercise 1.8. After converting the r-squared value to the Pearson's correlation coefficient by taking the square root, they should be the same. If not, check your calculations from Exercise 1.8 and possibly consult with your tutor if you can't determine why the difference is occurring.

   Pearson correlation coefficient: 0.161
   With a correlation coefficient of .161 there is a strong correlation.

4. Take a moment to reflect on whether the chart provides any additional insight that the calculated correlation coefficient didn't.

   - Are all the data values tightly clustered around the trend line or are there a few extreme values? The data is loosely clustered around the trendline.

5. Duplicate your scatterplot onto a new Tableau sheet. (This is where you'll create your bubble chart.)

6. Remove the trend line from the chart on your new sheet.

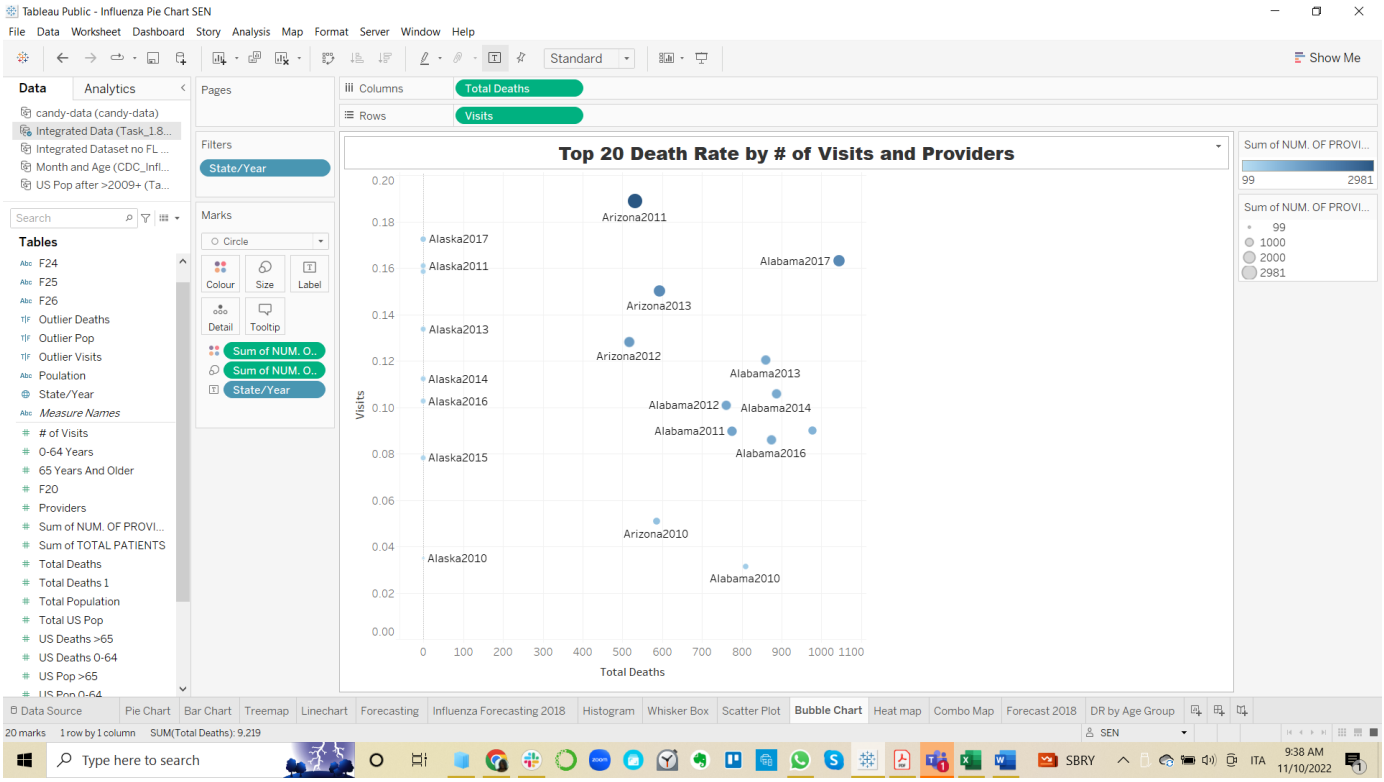
7. Add a third numeric variable to your scatterplot to create a bubble chart.

8. Add a categorical variable to the scatterplot using color as the visualization method.

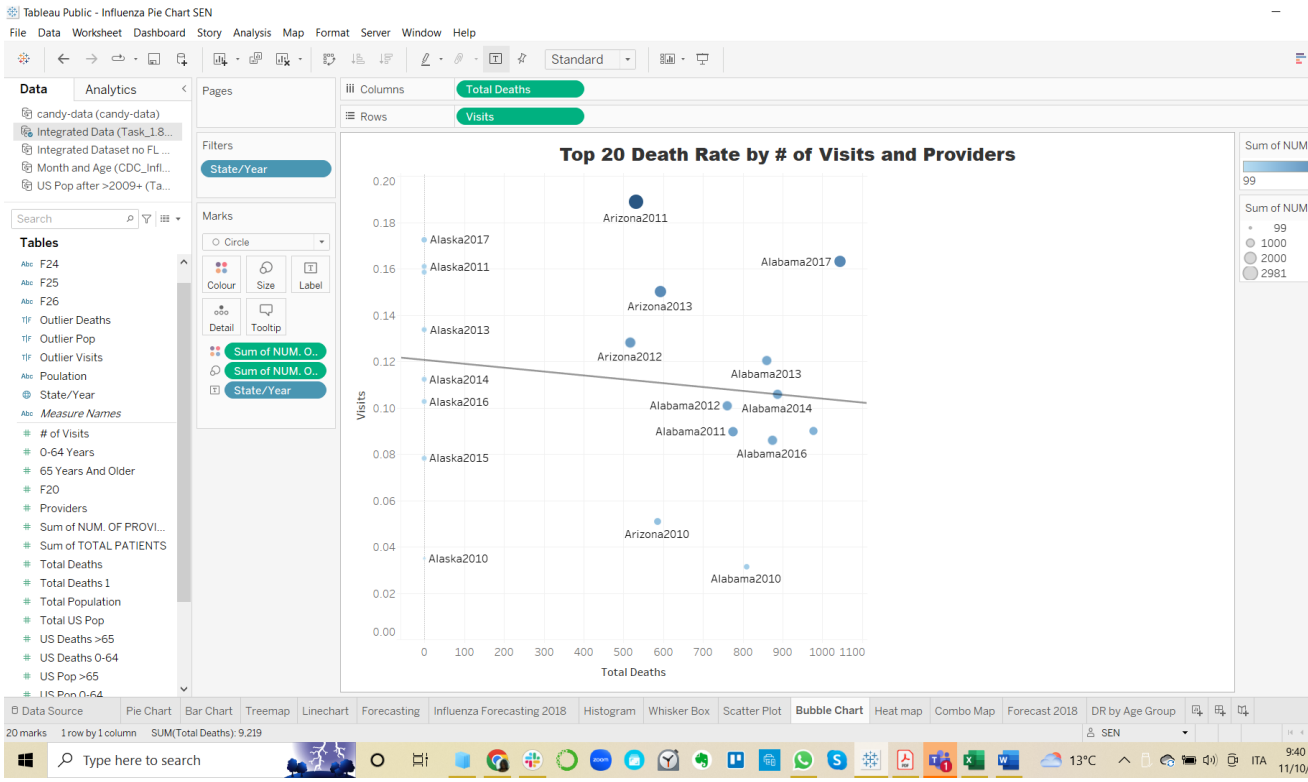
9. Assess your scatterplot and bubble chart using the style guide you created in

# Task 2.6: Scatterplots & Bubble Charts

Exercise 2.2. Adjust the colors, number of categories, labels, and titles to align with visualization best practices.




10. Copy your final charts into a Word document.




11. Include your written answers to steps 3 and 4 in the Word document together with your charts.

# Task 2.6: Scatterplots & Bubble Charts

12. Compare Tableau's r-squared value to the correlation coefficient you calculated in Exercise 1.8. After converting the r-squared value to the Pearson's correlation coefficient by taking the square root, they should be the same. If not, check your calculations from Exercise 1.8 and possibly consult with your tutor if you can't determine why the difference is occurring.

    Pearson correlation coefficient: $-1.67_{e05}$
    With a correlation coefficient of 1 there is a strong correlation.

13. Take a moment to reflect on whether the chart provides any additional insight that the calculated correlation coefficient didn't.

    - Are all the data values tightly clustered around the trend line or are there a few extreme values? The data is loosely clustered around the trendline.

14. Export your final text document as a PDF and submit it here for your tutor to review. Link Here

# Task 2.6: Scatterplots & Bubble Charts

15. Publish your workbook to Tableau Public in order to save your progress and submit the link here along with your PDF.

| QUESTIONS | ASSESSMENT |
|---|---|
| 1. Are the title and text descriptive enough? (i.e., do you understand what the visualization is trying to convey just by looking at the title and text?) | Yes |
| 2. Are there text labels? | Yes |
| 3. Does the text portray any redundant information that could be gotten rid of? | No |
| 4. Do colors, shapes, and size scales come with legends? | Yes |
| 5. What does the color scheme signify? | The number of influenza deaths in different states |
| 6. Are there more than five colors? | Yes |
| 7. Does the color scheme make sense? Are colors analogous, complementary, monochromatic, or intuitive? | Yes, complimentary. |
| 8. If color is used to draw attention to important information, is the darkest color representing the most important information? | No |
| 9. Are different sizes used? If so, is there a meaning behind the sizes? | Yes, the different age groups. |
| 10. Does the visualization teach you something? | Yes |
| 11. Is the visualization accessible? | Yes |
| 12. Is there (enough) whitespace? | Yes |
| 13. Are there groupings in the data that can be portrayed through color, size, or position? | Yes, the age groups are grouped according to the colors. |