You are to make a number of small visualizations using Tableau, that will give you an idea of what the capabilities of a professional information visualization package are. The focus of this assignment is the creation of visualization, however, not becoming an expert at Tableau. To this end, Julia's class session will focus on making sure you can get your dataset into Tableau, and that you know how to do the basic operations needed for this assignment in Tableau. While this assignment is not due until I return to class (19th), I strongly suggest you begin work on it prior to Julia's class session with you on the 12th. This way you can be sure to ask and have answered any questions you may have in doing the assignment. You are welcome to work on the assignment during Julia's class session.

When you make your visualizations be sure to add the necessary elements to make it a properly done one (i.e. Include title, annotations, sorting, coloring/highlighting, etc. as you see fit to best communicate your message).

For your output, please post your resulting worksheets and dashboards to Tableau Public web space. You'll need to make a tableau public login. Once you have saved them, you just need to post the URL for your work on the Tableau Public webspace on your assignment wiki page. For example (a not pretty one, just a test example posted by me is)
http://public.tableausoftware.com/views/Book4_18/Dashboard1?:embed=yes&:toolbar=yes

Assignment 12

1. Sales Representative and Calls Performance
a) Make a visualization showing the total number of incoming and outgoing calls for each sales representative (rep).
b) Make a visualization showing which sales reps have the largest number of outgoing calls completed.
c) Make a visualization showing which sales reps handled the most calls (incoming and outgoing) at the time block starting at 2pm.
Make a dash board (**DASHBOARD A**) containing all three of these visualizations
2. Company Sales Branches
Your CEO wants to have one chart that allows her to easily comprehend how many calls each branch of the company has, broken out by the type of call (call purpose). You are to make four visualizations to show your manager (one of which you'll end up showing the CEO). Put the following four visualizations in a dashboard (**DASHBOARD B**) to show your manager. Describe which of the four you think is best and why and include it as an annotation on that visualization.
   a) One focused on call purpose (a Bar chart organized by Call Purpose, with 3 groups)
   b) One organized by Branch (Bar Chart, 2 groups)
   c) Call purpose Stacked Bar chart (Stacked Bar combining two branches into same stacked bar)
   d) Branch focused Stacked Bar Chart (Stacked Bar combining three call purposes into same stacked bar)

3. Call Analysis

Make **DASHBOARD C** for the answers to (a)-(c).

a) Make a visualization showing the average wait time (combination of incoming wait and during call wait) for each of the two branches.

b) Make a visualization showing the average wait time (combination of incoming wait and during call wait) for each of the three call purposes.

c) Make a visualization showing call volume over each of the time periods (hours) using a line graph to show change over time. Break out by branch, and show two lines, one for each of north and south branches.

d) **DASHBOARD D**: Display the number of calls each sales rep makes. Build a quick filter that controls which of these results are displayed based on the value of SUM(Waiting Minutes). Make the filter 10 (minutes) wide (you can set exact values by clicking on numbers). Now drag the filter (via mouse down in middle of bar) through the range of waiting minute values. Create a dashboard to record all the times that you can find where there are ONLY TWO sales reps matching the filter condition and shown in the visualization (e.g. Cam and Xander both have 24 calls when Waiting Minutes is between 65 and 75).

e) **DASHBOARD E**: Use the grouping function to put the sales representatives into "shift" sections (subgroup under Branch). The groupings are shown below

Branch	Shift	Rep ID (group)
South	morning	Alice, Randy, Sandy
North	morning	Amanda, Andy, Brent,
South	afternoon	Eric, George, Helga
North	afternoon	Joe, Lilly, Todd, Xander
South	evening	Josh, Karl, Kate, Sharon, Susan
South	evening	Cam, Duke

    i)   Make a visualization that shows the number of calls for each group (branch/shift)

    ii)   Make a visualization that shows the average call wait, incoming wait, and busy times for each of these six groups (2 branches by 3 shifts). Use color to distinguish shifts from each other.

    Put your answers to these in Dashboard E.

4. Performance Evaluation

Put your answer in **DASHBOARD F**.

TB posted by Friday.

5. Non-Chart visualization

DASHBOARD G.

TB posted by Friday.