Note: Using libraries not taught in class will be +1 point per library. Please note when this is a new library for you.

Organizational Structure of the Paper

The final paper should be broken up into something along the lines of the following sections. You may feel free to adapt this flexibly given your unique data set and set of problems and questions. But this is a general guide, particularly if you are lost.

1) Introduction

* What is the dataset you are using? +Describe the dataset in detail +Visualize summary information about the data
* Based on the data, what questions do you want to ask?

2) Methods

* Based on the data and question, what is the workflow you put together to answer your question? Feel free to write it out step-by-step
* How did you prepare and manupulate the data to get it ready for analysis?
* What are the different steps you need to take? Why are they they the right thing to do?
* What are the visualizations and analyses that would answer your questions?
* What are the underlying models you are going to use - what is your data generating process and your error generating process?
* What statistical tests will you use, if any?
* How will you validate your tests?

3) Results

*In this section, show the analyses and visualizations as well as code that generates them that answer your question.*For each analysis, be sure to walk through the entire process of model creation, evaluation of assumptions, and evaluation of any statistical tests. Feel free to show when and where you revise your models

4) Discussion

* What do your results say? Put it all together.
* Do your results suggest additional visualizations/analyses? Feel free to conduct them here.
* What final conclusion can you draw about your data set?