Assignment 1
Finding Your Story – Reference Guide

Assignment 1

Turning data into a story is hard. People understand that stories are powerful, but don't have the scaffolding they need to turn their data into one. This activity introduces a set of "story types" that can be found in data and uses a structured exercise to help you find something of interest. It builds student's ability to identify stories within formal and informal data sets.

Starting to understand a dataset can be daunting. One approach to helping you is to begin to think about the various stories we might be able to tell about the data. There are five types of stories that we can use to guide this process:

- **Interaction** stories – there may be interesting patterns that emerge when you look for the connections in things. Under what conditions to things hold true or not.
- **Comparison** stories – find interesting patterns in the data based on the differences or similarities in things
- **Change** stories – discover changes over time that are interesting
- **Personal** stories – make a personal connection to the data that people can relate to
- **Factoid** stories – find one thing interesting about the data such as extreme values

Directions

1. Each student should work independently.
2. Download the sample dataset for Assignment 1.
3. Using the **Finding Your Story** printed sheet found on the following pages, conduct an exploratory data analysis of the data by importing the dataset into Python.
4. Complete each of the five story types and answer the questions below based on their story type.
5. Document your analysis journey using a Jupyter Notebook, create a summary of your findings that help tie the five story types together into a cohesive narrative. Use visuals to help craft your story. Upload your Jupyter Notebook to submit your assignment. (Not: the naming convention should be `lastname_firstname.ipynb` where `lastname` and `firstname` are replaced with your actual information.)

Finding Your Story: Questions

Finding a "Interaction" Story

When two aspects of your data seem related, you can tell a story about how they interact. The fancy name for this is "correlation". If one measure goes up, the other goes up too. If one goes down, the other goes down. If other cases, they might interact as opposites (when one goes up, the other goes down). You need to be careful not to guess about reasons for the interaction but noticing the relationship itself can be a good story that connects things people otherwise don't think about together.

The two pieces of the data that interact are _____ and _____.

The interaction is: _____.

We want to tell this story because _____.

Finding a "Comparison" Story

Comparing between sections of your data can a good way to find a story to tell. Often one part of your data tells one story, but another part tells a totally different story. Or maybe there is a smaller portion of your data that serves as an example of an overall pattern.

The data to compare are: _____ and _____.

Comparing these things shows that _____.

We want to tell this story because _____.

Finding a "Change" Story

People like to think about how things change over time. We experience and think about the world based on how we interact with it over time. Telling story about change over time appeals to people's interest in understanding what causes change, and they can often remember seeing the differences.

The data show a change in: _____.

The data changed from _____ to _____.

We want to tell this story because _____.

Finding a "Personal" Story
Some stories are interesting because they connect to real-life. Personalizing the story creates a connection to the real world meaning of the data and can be a powerful type of story for small audiences. Stories about someone's personal experiences can make the data seem more real.

The data say _____.

This connects to real people because _____.

We want to tell this story because _____.

Finding a "Factoid" Story

Sometimes in large sets of data you find the most interesting thing is the story of one piece of information. This could be an "outlier" (a data point not like the others), or it could be the data point that is most common. A detail about one piece of your data can fascinate and surprise people. It can also give them an easier way to start thinking about the whole set of data.

One factoid is that: _____

This stands out from the rest of the data because: _____

We want to tell this story because: _____