

Tip #1: Know your dataset:

Before beginning to write up your project familiarize yourself with the dataset. Some datasets will come with readme's that outline what the data set shows you. However you should take a look at how the data is structured and how information is structured.

Tip #2: Think about how one variable may be related to another:

While exploring your dataset make sure you familiarize with the different variables and ask yourself

“Is there reason to believe that variable A is causing change in variable B?”

“Is there reason to believe that variable A has a relation with variable B?”

Tip #3: Coming up with a hypothesis:

Once you've examined the data write down any trends you think you see in the data and write down any assumptions you have on the data based on previous experience. These all have the potential to be great hypotheses for the final project.

Tip #4: Justify your use of tests:

Before using a test make sure that all the appropriate conditions check out for that test. For example if you were to perform an ANOVA test you would want to check that:

Each sample is an independent random sample

The distribution of the response variable follows a normal distribution

The population variances are equal across responses for the group levels. This can be evaluated by using the following *rule of thumb*: if the largest sample standard deviation divided by the smallest sample standard deviation is **not** greater than **two**, then assume that the population variances are equal.

Make sure to explain that these conditions check out to the reader

Tip #5: Interpret all of your results:

Did you compute a P-value? Explain what this P-value tells us. Did you use a visualization? Explain what we see in the visualization. The more explanation you provide the easier it will be for someone to understand.