Statistical Analysis of Wine

By: Travis SEal ========================================================

**This is still a work in progress**

**Who knew wine was so interesting?**

What you will see below is an analysis of wine. I did not ask the question directly, but more stumbled upon it. Is there a relationship between the acidity of wine, and its density?

**Univariate Plots Section**

**Tip**: In this section, you will see wine analyzed in one variable.

## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 2.740 3.210 3.310 3.311 3.400 4.010



## `stat\_bin()` using `bins = 30`. Pick better value with `binwidth`.

## Warning: Removed 3 rows containing non-finite values (stat\_bin).

## Warning: Removed 1 rows containing missing values (geom\_bar).



## `stat\_bin()` using `bins = 30`. Pick better value with `binwidth`.

## Warning: Removed 3 rows containing non-finite values (stat\_bin).

## Warning: Removed 3 rows containing non-finite values (stat\_density).

## Warning: Removed 1 rows containing missing values (geom\_bar).



**Univariate Analysis**

**What is the structure of the dataset?**

**What is/are the main feature(s) of interest in your dataset?**

**What other features in the dataset do you think will help support your  
investigation into your feature(s) of interest?**

**Did you create any new variables from existing variables in the dataset?**

**Of the features you investigated, were there any unusual distributions?  
Did you perform any operations on the data to tidy, adjust, or change the form  
of the data? If so, why did you do this?**

**Bivariate Plots Section**

**Bivariate Analysis**

**Tip**: As before, summarize what you found in your bivariate explorations here. Use the questions below to guide your discussion.

**Talk about some of the relationships you observed in this part of the  
investigation. How did the feature(s) of interest vary with other features in  
the dataset?**

**Did you observe any interesting relationships between the other features  
(not the main feature(s) of interest)?**

**What was the strongest relationship you found?**

**Multivariate Plots Section**

**Tip**: Now it's time to put everything together. Based on what you found in the bivariate plots section, create a few multivariate plots to investigate more complex interactions between variables. Make sure that the plots that you create here are justified by the plots you explored in the previous section. If you plan on creating any mathematical models, this is the section where you will do that.

**Multivariate Analysis**

**Talk about some of the relationships you observed in this part of the  
investigation. Were there features that strengthened each other in terms of  
looking at your feature(s) of interest?**

**Were there any interesting or surprising interactions between features?**

**OPTIONAL: Did you create any models with your dataset? Discuss the  
strengths and limitations of your model.**

**Final Plots and Summary**

**Tip**: You've done a lot of exploration and have built up an understanding of the structure of and relationships between the variables in your dataset. Here, you will select three plots from all of your previous exploration to present here as a summary of some of your most interesting findings. Make sure that you have refined your selected plots for good titling, axis labels (with units), and good aesthetic choices (e.g. color, transparency). After each plot, make sure you justify why you chose each plot by describing what it shows.

**Plot One**

**Description One**

**Plot Two**

**Description Two**

**Plot Three**

**Description Three**

**Reflection**

**Tip**: Here's the final step! Reflect on the exploration you performed and the insights you found. What were some of the struggles that you went through? What went well? What was surprising? Make sure you include an insight into future work that could be done with the dataset.

**Tip**: Don't forget to remove this, and the other **Tip** sections before saving your final work and knitting the final report!