Matplotlib Homework – Observations and Insights

Jared Hazlett

1. Campomulin and Ramicane seem to have consistently lower tumor volume than Infubinol and Ceftamin. Further, Campomulin and Ramicane seem to have lower tumor volumes than all other cancer treatments. Based on the mean these are the treatments most likely to work.
   1. Mouse z578 had a continuing reduction of tumor volume over the course of the study. This is an individual example of evidence that points to drug treatment reducing cancer volume over time.
2. For Campomulin, specifically, the correlation between large tumors and large mice is .84. This strong correlation suggests tumor weight and volume are connected. We should then control for the weight of the mouse when randomizing mice for cancer trials. If not a successful regiment could randomly start with larger mice with larger tumors which could skew the results.
3. The number of rats for each drug was uneven. This can lead to concerns of sample size differences

Looking Forward

1. We may want to consider mapping a plot of each drug over time to show if tumor sizes increased or decreased. Then we could tell in comparison to the placebo if the drugs are effective or if the randomly selected mice happened to have smaller tumors
2. We may want to consider the weight of the mouse as a relevant factor when considering sample sizes. Larger mice tend to have larger tumors. This may skew the results if weight isn’t controlled.