Matplotlib Analysis

* When reviewing the various data of the Pymaceautical’s Matplotlib, we over saw various data with various drug regimens. We also looked that the various tumor sizes and looked at the gender of each mouse. This data analysis oversaw the drug regimens of the mice with various tumor sizes and to find the best drug regimen based upon the treatment rate but also by the size of the tumor after the different drug regimens were used.
* When looking at the data we did see a more positive rate that was more effective with the drug regimen with Capomulin and Ramicane. We saw that the drugs were more effective, and they had a better rate of decreasing the tumors within a short span of time.
* We oversaw the various linear regression models to find the correlations between eh average tumor size and the mouses weight. We had to find if the mouses weight played a factor into the average tumor size and whether the drug regimen Capomulin used played a role in shrinking the tumor or if with more weight gain there was a chance of the tumor size also increasing. In this analysis, we did find that the mice that used Capomulin drug did have an increase in tumor size as they gained weight.
* In another analysis take, we created a line plot of a mouse that was using the Capomulin drug regimen for treatment. We used “m601” for the analysis and we saw how the sizes of the tumor changed over a time period of treatment and within a certain amount of days such as 30 days, we saw that the tumor did indeed shrink and had an effective treatment plan with this mouses tumor.
* We also looked at the gender distribution of the mice and found that we used more male mice than female, but we did not find whether the treatment rate was more effective on females versus male mice. Although we used 51% of male mice, we were able to see a more effective approach on the distribution.

References

*Boxplot demo — Matplotlib 3.3.2 documentation*. (n.d.). Matplotlib: Python plotting — Matplotlib 3.3.2 documentation. <https://matplotlib.org/gallery/pyplots/boxplot_demo_pyplot.html#sphx-glr-gallery-pyplots-boxplot-demo-pyplot-py>

*Boxplots in matplotlib: Markers and outliers*. (n.d.). Stack Overflow. <https://stackoverflow.com/questions/17725927/boxplots-in-matplotlib-markers-and-outliers>

*How to add some statistics to the plot in Python*. (n.d.). Stack Overflow. <https://stackoverflow.com/questions/34243737/how-to-add-some-statistics-to-the-plot-in-python>

*How to plot value counts for each subset in matplotlib/seaborn?* (n.d.). Stack Overflow. <https://stackoverflow.com/questions/63940682/how-to-plot-value-counts-for-each-subset-in-matplotlib-seaborn>

*Scipy.stats.linregress — SciPy v1.5.2 reference guide*. (n.d.). Numpy and Scipy Documentation — Numpy and Scipy documentation. <https://docs.scipy.org/doc/scipy/reference/generated/scipy.stats.linregress.html>