Pymaceuticals Asssement

The first observation to be made from the data is that Capomulin and Ramicane are more promising as treatment options, and this is demonstrated in both the summary statistics table, in which both have the lowest mean tumor volume and lowest variance between tumor volumes, and the boxplot in which their final tumor volumes are significantly lower than those of Infubinol and Ceftamine. Both Capomulin and Ramicane also have the most data points associated, which if each drug was assigned to an equal number of mice at the outset and if all timepoint readings are standardized across the drugs, would suggest that Capomulin and Ramicane had the best survival rate for their assigned mice.

The breakdown of sex of the mice is extremely even, so we should not see any biasing of treatment outcome due to the role of sex hormones. Additional analysis of sex versus completion of treatment would be useful to determine if any of the drugs had any adverse reactions for a specific sex.

In our plotting of weight of the mouse versus average tumor volume we see a distinct positive correlation, indicating that in general higher mouse weight is associated with higher tumor volume. However, this is looking only at the initial weight measurement in mouse metadata file versus the average across the duration of treatment. We have no measurements for mouse weight at the various timepoints and cannot visualize if the weight of the mouse is dropping with the volume of tumor in the successful treatments.