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Homework 5 Pymaceuticals

Three observed trends:

1. It seems clear that the drugs Capomulin and Ramicane had lower average tumor volume, lower average metastatic spread, and higher average survival rates than the placebo and the rest of the drugs.
2. From the graphs of tumor volume, metastatic spread, and mice survival rates, we see the standard error bars of Capomulin and Ramicane do not overlap with those of the placebo by the end of the 45-day treatment duration. Though they do overlap in the beginning period, the mice should have been made as similar to each other as possible at the start of the experiment in order for any causal inferences to be valid. Assuming this is the case, we can see that at first, Capomulin and Ramicane were not significantly different from the placebo and the rest of the drugs. But by the end of the experiment, we indeed see great significant difference. The standard errors between the two drugs however seem insignificant at each time period for the three graphs.
3. No drugs resulted in any decrease in average metastatic spread, although Capomulin and Ramicane had on average significantly lower numbers of metastatic sites by the end of the treatment duration than the placebo and the rest of the drugs with the exception of Stelasyn. Perhaps this is an area that future research should focus on.