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Reflection

**Concept:**

I ended up having to simplify my final project, and so the result was slightly different from what I had described in my initial proposal. I had to focus on the weights and endurances of the knockout and wild type mice, and I had to exclude traits like sex and age because I couldn't figure out how to organize that into a graph as well. Additionally, I ended up not including treadmill speed, but instead assumed that we were testing the mice endurance at a constant velocity. The overarching objective of the project remained the same: the program allows the user to input weight and endurance (time spent running before fatigue) for each mouse, and this data was used to generate two linear regression graphs: one for the knockout mice and one for the wild type mice. From this data, we can observe how the relationship between weight and endurance varies depending on whether the mouse possessed the functional gene (wild type) or lacked the gene (knockout).

**Robust to common user errors:**

My project idea itself was simple, and so instead a large portion of the 300 lines of code is dedicated to making it robust to common user errors. If the user accidentally types something other than KO or WT when inputting the mouse type, the program will simply re-prompt the user to enter again. After inputting the data for the first selected mouse type, the user is prompted to select the other mouse type, if the user accidentally re-enters the same mouse type that already had data inputted for it, then the user will be prompted to select the other mouse type. When

inputting the number of mice, endurances, or weights, if the user accidentally enters a letter, the user will be re-prompted to enter an integer.

**Challenges:**

I made the mistake of completing all my conditional loops before even creating the classes, which forced me to work backwards. Thus, my approach to this project could have been more efficient. Creating my linear regression plots was also harder than I expected. While I had no issues importing linregress from scipy.stats, I kept getting error statements when I tried to make it take in my variables.