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Reflection

* Objective:
  + For this programming assignment, I was supposed to practice with input and output, learn about nested if statements, and use decision-making in my program to create something more creative.
* Procedure:
  + First, I created an initial design so that I could get a general idea of my program and where I wanted to go with it. After looking at my feedback, I created a new final algorithm design that was more detailed and closer to what my code would be, and created an excel of test cases so that I could determine if my program was working correctly and outputted the values that I expected based on different inputs. As I was programming and encountered issues, I updated my final design algorithm to match, and made small changes as needed to make the program more human readable and match the test cases created earlier. As for the key concepts I explored, the main concepts would be nested if/elif/else statements and using decision making to affect both input options and outputs.
* Results:
  + My results matched what I expected, and I didn’t encounter any large errors that required big changes in my code. I used multiple test cases for each potential variable, including some extreme test cases, such as if the user inputs ‘-1’ for number of guinea pigs.
* Reflection:
  + The main challenge I encountered was converting my initial algorithm design into my final design, and something that was much more understandable, and capable of being converted to code. At first, I did not have a good specific idea for what I wanted my project to look like, but after my first draft, I was able to add much more necessary details. Because of this, I spent a lot of time thinking about my program and planning it out before I started. I was very careful as I went, updating my algorithm to match as needed, and after I believed I was finished I used all my test cases multiple times to check for errors. The key takeaway that I learned, was how important it is to be specific and think carefully about your program when you are writing it. I am much better at finding issues as I code, rather than before I start, so it was very helpful for me to think about my algorithm as if I was already coding but just in human readable language, rather than creating my algorithm as a separate entity. I definitely think I learned what I was supposed to for this lab, and it helped me to find new methods for staying organized in my programming. It was very nice working by myself, because it forced me to look at my own code with a critical lens and problem solve by myself, instead of relying on someone else to notice any problems for me with fresh eyes. It was nice having to do every part of the program by myself and see how each piece fit together, instead of only working on bits and pieces.