py_SmartRecipe Write-Up

This project, like all the others, is derived from the plan of creating a weekly meal plan for a person, based on preferences. That is a pretty broad requirement, hence, the program will be explained from the program's perspective.

py_SmartRecipe is a console-based program that is meant for someone with specific dietary needs, whether that be total calories consumed, down to the grams of protein, fat, or carbohydrate, or the type of food, pescatarian, vegan, our program's intent is to find the perfect meal plan for anyone, no matter their picky preferences, or dietary goals. So in retrospect, our program is meant to be the perfect program for anyone's needs, whether they be moral decisions based on where the food is coming from, or science-based to gain muscle at the gym, this program hits all the marks for everyone.

The way this program functions is again, on the console. How we created the end-user experience starts obviously in the way everything has been written: firstly, we have two databases, both in the form of a csv file. One of our databases is named ingredients.csv, the other recipeDataBase.csv. The ingredients one uses is as it sounds: to hold ingredients. Line by line, it is holding the name of an ingredient, along with a 0 or 1: meant to be a representation of whether the person using the program has the ingredient or not. Our Recipes database has again, what it's named after: the recipes. It has the recipes, the amount of calories per recipe, grams of fat, protein, and carbohydrates, and lastly it holds any dietary flags the recipe may qualify for, like vegan or pescatarian. We then use these files and manipulate them to perfectly curate a meal plan for the user. Very simply, the user is expected to fill out a chart with any ingredients they have that are already listed in our ingredient csv file. If they have it, it is manipulated to a 1 instead of a 0 in that file. After they may fill out any diet preferences they may have, like previously mentioned. After they have done that, the magic happens. We have all put in the effort to manipulate these inputs from the user to filter out recipes from our database that fit the user's dietary needs. We then randomize these filtered recipes into a 21 meal plan, perfect for a week of course! Hence, these users will be able to witness a weekly meal plan, separated daily sunday-saturday. At the end of this, they also are given a shopping list that highlights all the ingredients the user needs, from ones they don't already have, to make this week's plan happen. Lastly, users are also given a visual: a pie chart totaling the different types of dietary preferences that have ultimately led up to their week's plan.

Through our rigorous messaging and collaboration, we three have put our ideas together to make what we think is the best meal plan creating program yet. Our program is fit for everyone, no matter their preferences, is quick and efficient, provides visuals, and even a shopping list totaling every single ingredient that our user still needs to buy.

With our program, we are sure a user will be able to make choices on what they’re eating based on their specific preferences and needs, no matter wha