Group Name: TBD

Project one: From Thicck to Thin

Proposal

Research Question: Can a python program generate a meal plan for weight loss based on a user input of personal data.

Outline: Use and API pull from a USDA API to generate macro stats for Food based on the amount and type of food. Create a height and Weight Age and Gender chart for caloric weight loss. Using the caloric weight loss chart generate a csv fame for balanced meal plans 40% protein 40% Carbs 20% Fat. Each meal must have a protein food and a Carb Food.

One: Find 20 protein(meat foods) that are Highest in protein and lowest in carbs from the USDA API CSV Data frame (best Meats)

Two: Find 20 Carbs lowest in fats/per ounce, based on USDA API CSV Data frame. (best carb)

Three Ask: user input for height Weight and Age

Four: From caloric weight loss chart generate the target caloric intake for weight loss from the user input data (target cal)

Five: Divide the “target cal” by five (target cal per Meal)

Six : randomly generate a meal with 1 “Best meats” 1 “Best Carbs” that fits the “target cal per Meal” automaticly adjusting the amount of protein as well as the target macro (apprx .(40% protein 40% Carbs 20% Fat))= (target macros)

Seven: Repeat step 6 for 5 meals using a different a new “Best meats”, and a new “Best Carbs” for each meal

Eight: create a csv data frame to display the new meal plan broken down per meal. With Columns for amount of food(oz), type of food, amount of protein(g), amount of carbs(g), amount of fats(g)

Nine: create a pie chart for the days brake down of food

Ten: Print chart for user and state using an f string instructions for the diet.

Note this is for one day: We need to create 7 days however each day food will be the same as is standard in a diet. A diet is not meant to taste good or be comfortable keep this in mind.

What type of coding and knowledge does this project need/ demonstrate?

1. API pull
2. Creating and manipulating Data frames
3. Creating charts
4. Using math formulas to generate specific data from two or more charts
5. Asking for and using user input data
6. Creating for loops, nested loops and a random number generator to pull the correct data and use that data correctly
7. Taking useful data from a large data set
8. Dropping useless data from a large data set

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