

~ Food Menu using WHO Recommendations ~

Here is the detail how Script works:

Run the following command from your command prompt or inside the python shell

(Make sure you are in the project directory from command line)

1- **sudo pip install -r requirements.txt**

2- **python buildmenu.py**

Prompts the user to select from the **Main Menu**

Main Menu has 3 options:

Press - 1 - to input a food name

Press - 2 - to run function

Press - 3 - to abort

Please enter your choice>>>

If user selects -1-

part - 1 -

1 – Prompt the user to input a food name

2 – Searches the input word in whole database

3 – if matched words are found, it shows the filtered result in a list form otherwise informs to user that “No Result Found” and asks the user if he wants to try again

4 – User can select the item number from the list to be added in the Menu

5 – If user selects an item from the list, asks the user to confirm the chosen food

6 – If user confirms the food name, Food name along with the Nutrient values is added to the Menu

7 – Prompts user if he wants to see the menu, in either choice, a CSV is generated of Menu in Menu.csv

8 – Asks if user wants to try again, if yes is entered, takes the user to Main Menu to choose between

choices 1, 2 and 3.

If user selects - 2 -

Algorithm part

1- First checks if Menu is empty or not.

2- If Menu is found empty, prompts the user to give some starting point.

3- Once the Menu has some data to process, it does following steps:

i- Converts the values of Nutrients by the formula provided

(Quantity = Value x Grams per serving / 100)

ii- Calculates the Quantity to target Value ratio of each nutrient in the Menu

iii- selects the Nutrient having largest value of Quantity to target Value ratio

iv - Converts the values of all the Nutrients in the database by the formula provided

(Quantity = Value x Grams per serving / 100)

v- Calculates the Quantity to target Value ratio for whole database

vi- Searches the whole database for the Food such that selected nutrient(step-iii) has Lowest value of ratio.

vii- If One item is found, adds the Food item to the temporary menu

viii- If Many items with same value of ratio are found, Checks for each entry one by one

ix- For Many items, it randomly pick an item

x- Searches in temporary Menu if any nutrient sums to over 110% of the targeted value

xi- If Food item violates the Tolerance rule (step- ix) removes the item from temporary menu

xii- If Tolerance Rule is satisfied, keeps the Food Item with all Nutrients value in the temporary menu

xiii- In case of multiple items, once an item has been served, it removes that item from the list and verifies the Tolerance Rule on each of the remaining items one by one and repeats step-x

xiv - Once all the items have been processed, pushes the data of temporary Menu to the Original Menu in Menu.csv

4 - Asks the user to try again

If user selects - 3 -

Exits the script

Clarification:

1 – Empty values in the database are assumed to be **0.0**

2 – Assumes in **step-iii** that only one Nutrient will have largest value

3 –

In Algorithm Part , **step- viii**, Currently system only checks for the limited minimum values

for example, in **step-iii**, if selected item is Almonds, **highest ratio** comes to be

{'nutrient': 'Vitamin E ', '**ratio**': **2.4433933333333333**, 'food_name': 'ALMONDS'}

In **step -vi** , while searching the whole database,

minimum ratio comes to be '**0.0**' for almost **41 Food items**.

So system only checks the Food item satisfying Tolerance Rule among these **41 food items**.

If no Item is found valid, Nothing is added to the Menu.