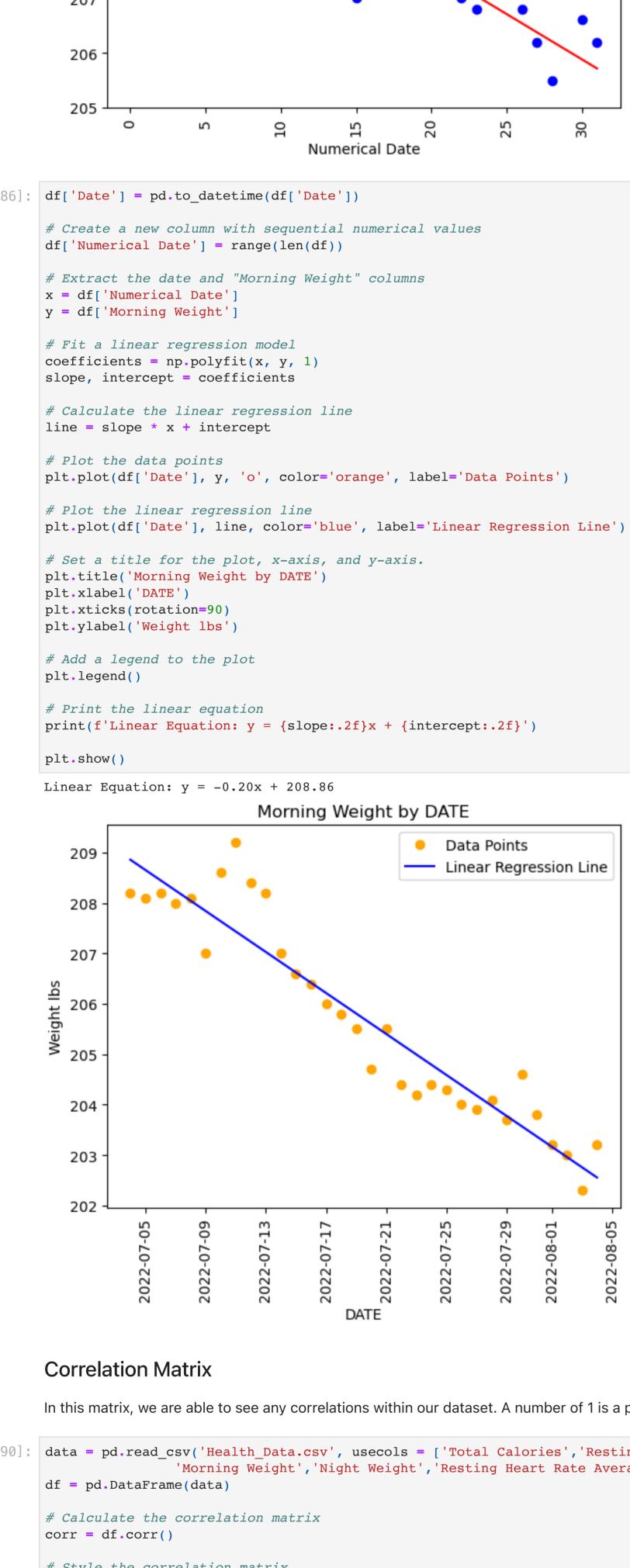
| | # data | f <i>rame f</i> d.read_ | or thi | ls proj | as plt ect Data.cs | v') | | | | | | | | | | | | | | | |
|------|---|--|--------------------------------------|--|--------------------------------------|-------------------|---------------------------|----------------------------|----------------------------|---------------------|--------------|-------------------|-------|------------|-------------------------------|-------------------------------|-------------------|--------------------------------|---------------------------------|--------------------------------|---------------|
| : | | Da | te Fat | s Carb | s Protei | n | Total lories | Resting Energy (cal) | Active Energy (cal) | Total CAL Burned | Calories | Morning Weight | _ | | Resting Heart Rate Average | Walking Heart Rate Average | | Blood Pressure SYS (moring) | Blood Pressure DIA (morning) | Blood_Pressure_SYS_Night Blood | d_Pressure_DI |
| | o Mon | day, July 20 day, July 20 | 5, _o | | | | 2055 | 2215 2167 | 652 388 | 2867 2555 | -812 -350 | | 208.5 | 133 115 | 73 | | 11410.0 4687.0 | NaN NaN | NaN NaN | NaN NaN | |
| | | Vednesda uly 6, 20 | ay, 5. | 3 239 | 9 5 | 9 | 1669 | 2175 | 728 | 2903 | -1234 | 208.2 | 210.0 | 172 | 77 | 113 | 8332.0 | NaN | NaN | NaN | |
| | | ırsday, Jı 7, 20 day, July 20 | | | | | 1903 2270 | 2097 2135 | 367 409 | 2464 2544 | -561 -274 | | 210.2 | 135 135 | 79 84 | 128 123 | 2871.0 2317.0 | NaN NaN | NaN NaN | NaN NaN | |
| | | 20 curday, Ju 9, 20 | | | | | 1930 | 2254 | 639 | 2893 | -963 | | | | 74 | | 6849.0 | NaN | NaN | NaN | |
| | 6 Sund | | | | | | 2270 | 2277 | 1221 | 3498 | -1228 | | 211.6 | 180 | 84 | | 15037.0 | NaN | NaN | NaN | |
| | 7 Mond 8 ^{Tu} | 20 esday, Jı 12, 20 | | | | | 2065 | 2188 2169 | 439 | 2627 2612 | -562 -572 | | 210.8 | 150 123 | 71 79 | | 2938.0 4745.0 | NaN NaN | NaN NaN | NaN NaN | |
| | | Vednesda ly 13, 20 | |) 230 |) 5 | 0 | 1570 | 2158 | 361 | 2519 | -949 | 208.2 | 210.2 | 133 | 60 | 109 | 2832.0 | NaN | NaN | NaN | |
| : | data1 : data2 : plt.hi: plt.hi: | = df['T = df['T st(data st(data | otal (otal (1, bir 2, bir | Calorie CAL Bur us=4, a us=4, a | s'] ned'] lpha=.8 lpha=.8 | , lab | pel="Cal | Burned Per | r Day") | | | | | | | | | | | | |
| | plt.yla plt.ti plt.le | abel("D cle("Ca gend(lo | ays", loried | size=1 Intak er rig | e VS Bu ht') | | | | | | | | | | | | | | | | |
| : | <matplo< td=""><td>otlib.l</td><td>egend.</td><td></td><td></td><td></td><td>7b3190> take VS</td><td>Burned</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></matplo<> | otlib.l | egend. | | | | 7b3190> take VS | Burned | | | | | | | | | | | | | |
| | 16 14 12 | | | | | | | | l Intake Pe l Burned Pe | - 1 | | | | | | | | | | | |
| | Days 6 | | | | | | | | | | | | | | | | | | | | |
| | 2 | - | | | | | | | | | | | | | | | | | | | |
| | | 1 | 000 | 150 | 00 | 2000 Ca | o 2 Ilories | | 3000 | 3500 | | | | | | | | | | | |
| | print(| "Mean | Calori | ed Dai | | ed: {1 | np.mean(| (data1)}") (data2)}") | | | | | | | | | | | | | |
| : | Mean Ca | loried "Mean | Daily Restir | Burne | d: 2669 t Rate: | .53125 | 5 mean(df[| ['Resting E f['Walking | | | | | | | | | | | | | |
| | Mean Re | sting | Heart | Rate: | | | ·mean(ar | .[warking | neare Ra | ie Average | ,))21 | ,) | | | | | | | | | |
| | | | | | as plt | | | | | | | | | | | | | | | | |
| | <pre>import import df['Da</pre> | pandas | as po | l | me(df[' | Date' | 1) | | | | | | | | | | | | | | |
| | # Crea | te a ne | w colu | ımn wit | | ential | l numerio | cal values | | | | | | | | | | | | | |
| | x = df | 'Numer | ical [| ate'] | ight co | olumns | | | | | | | | | | | | | | | |
| | | a linea | r regi | ression | model (x, y, | 1) | | | | | | | | | | | | | | | |
| | slope, | interd | ept = | coeffi | cients gression | | ıe | | | | | | | | | | | | | | |
| | line = # Plot | the da | ta poi | ints | | | | | | | | | | | | | | | | | |
| | # Plot | the li | near ı | regress | ion lir | ie. | | ='blue', la Regression | | a Points') |) | | | | | | | | | | |
| | # Set | the y-a | xis li | | ica , i | ubci | Binear | Regression | T IIIC) | | | | | | | | | | | | |
| | plt.ti | cle('Ni | ght We | eight b | y DATE' | | and y-axi | is. | | | | | | | | | | | | | |
| | plt.xlaplt.xt. | icks(ro | tatior | = 90) | e') | | | | | | | | | | | | | | | | |
| | # Add plt.le | gend() | | | | | | | | | | | | | | | | | | | |
| | # Prin print(: plt.sh | E'Linea | | | | ope:. | 2f}x + { | {intercept: | .2f}') | | | | | | | | | | | | |
| | Linear | | on: y | = -0.1 | 7x + 21 Nig l | | eight by | y DATE | | | | | | | | | | | | | |
| | 212 | | | •• | | | | Data Linea | Points r Regressi | on Line | | | | | | | | | | | |
| | 210 | | | • | •• | | | | | | | | | | | | | | | | |
| | <u>S</u> 209 | | | | \ | •• | | | | | | | | | | | | | | | |
| | Weight 802 | • | | | | | • | | • | | | | | | | | | | | | |
| | 207 | - | | | | | • • | | • | | | | | | | | | | | | |
| | 206 | - | | | | | | | • | • | | | | | | | | | | | |
| | 205 | | | 2 | 10 - | | - 51 | - 02 | 25 - | 90 - | | | | | | | | | | | |
| 1. [| der I Da | | | 3-1-1: | | | erical Da | | | | | | | | | | | | | | |
| | # Crea | te a ne | w colu | ımn wit | me(df[' <i>h seque</i> nge(ler | ential | l numerio | cal values | | | | | | | | | | | | | |
| | # Extr | act the | date | and "M Oate'] | | | nt" colum | nns | | | | | | | | | | | | | |
| | | a linea | r regi | ression | model (x, y, | 1) | | | | | | | | | | | | | | | |
| | slope, | interd | ept = | coeffi | cients gression | | ıe | | | | | | | | | | | | | | |
| | # Plot | the da | ta poi | ints | ept | or-lo | orango! | labol='Da | ta Doints | 1 \ | | | | | | | | | | | |
| | # Plot | the li | near ı | regress | ion lir | ie | | label='Dat | | | | | | | | | | | | | |
| | | cle('Mo | rning | | t, x-ax | | and y-axi | is. | | | | | | | | | | | | | |
| | plt.xt. plt.yl | icks(ro abel('W | tatior <mark>eight</mark> | lbs') | | | | | | | | | | | | | | | | | |
| | # Add plt.led | gend() | | | | | | | | | | | | | | | | | | | |
| | # Prin print(: plt.sh | E'Linea | | | | ope:. | 2f}x + { | {intercept: | .2f}') | | | | | | | | | | | | |
| | | | on: y | = -0.2 | 0x + 20 Morn | | | by DATE | | | | | | | | | | | | | |
| | 209 | - | | • | | | | | Points r Regressi | on Line | | | | | | | | | | | |
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| | 207 S | | | • | * | • | | | | | | | | | | | | | | | |
| | Weight lbs | | | | | | • | | | | | | | | | | | | | | |
| | | | | | | | • • | | • | | | | | | | | | | | | |
| | 201 | 7 | | | | | | | | - 1 | | | | | | | | | | | |
| | 204 | | | | | | | | | • | | | | | | | | | | | |



Out[90]:

Resting Energy (cal)

Active Energy (cal)

Total CAL Burned

Morning Weight

Resting Heart Rate Average

Walking Heart Rate Average

In [88]: import matplotlib.pyplot as plt

fats = np.mean(df['Fats']) carbs = np.mean(df['Carbs'])

myexplode = [0.2, 0, 0]

plt.show()

Carbs

In [89]: date = df['Date']

steps = df['Steps']

Create a bar chart

plt.xlabel('Date')

plt.ylabel('Steps')

Show the plot

plt.show()

14000

12000

10000

8000

6000

4000

2000

In []:

In []:

Mean Steps Walked per day: 5513.90

plt.xticks(rotation=90)

mean_steps = np.mean(steps)

protein = np.mean(df['Protein'])

y = np.array([protein, carbs, fats]) mylabels = ["Protein", "Carbs", "Fats"]

Mean Protein Intake per day: 68.78 grams Mean Carbs Intake per day: 221.16 grams Mean Fats Intake per day: 57.31 grams

plt.bar(date, steps, color='Orange')

Calculate and print the mean steps

plt.title('Steps walked per day')

Set a title for the plot, x-axis, and y-axis.

print(f"Mean Steps Walked per day: {mean_steps:.2f}")

Steps walked per day

Date

import numpy as np

Night Weight

Steps

0.290

0.426

0.416

0.549

0.613

0.409

0.380

plt.pie(y, labels = mylabels, explode = myexplode, shadow = True)

print(f"Mean Protein Intake per day: {np.mean(df['Protein']):.2f} grams")

Protein

Fats

print(f"Mean Carbs Intake per day: {np.mean(df['Carbs']):.2f} grams") print(f"Mean Fats Intake per day: {np.mean(df['Fats']):.2f} grams")

MACROS: Fats, Carbs and Protein

1.000

0.724

0.829

0.131

0.179

0.423

0.371

0.577

0.724

1.000

0.986

0.130

0.150

0.555

0.666

0.871

The main source of protein I am consuming is Soy, milk and eggs since I am vegetarian I need to find my source of protein from foods that are not meat.

In this matrix, we are able to see any correlations within our dataset. A number of 1 is a perfect correlation, therefore anything closer to 1 means there is a strong correlation between the data. In [90]: data = pd.read_csv('Health_Data.csv', usecols = ['Total Calories','Resting Energy (cal)','Active Energy (cal)','Total CAL Burned', 'Morning Weight','Night Weight','Resting Heart Rate Average','Walking Heart Rate Average','Steps']) # Style the correlation matrix styled_corr = corr.style.format(precision=3).background_gradient(cmap="RdBu", vmin=-1, vmax=1) styled_corr Total Calories Resting Energy (cal) Active Energy (cal) Total CAL Burned Morning Weight Night Weight Resting Heart Rate Average Walking Heart Rate Average Steps **Total Calories** 0.290 0.426 0.416 0.549 0.409 0.380 1.000 0.613

0.829

0.986

1.000

0.137

0.165

0.553

0.630

0.840

should be consuming at least 50% more (1.2+ grams per Kilogram). Since we break down muscle fibers when working out, your body needs a higher intake of protein to recover and get them bigger.

0.179

0.150

0.165

0.906

1.000

0.338

-0.038

The Recommended Dietary Allowance (RDA) for protein is a modest 0.8 grams of protein per kilogram of body weight or 0.36 grams of protein per pound of body weight. According to Harvard Health, if your goal is to gain msucle then you

0.131

0.130

0.137

1.000

0.906

0.259

-0.005

0.423

0.555

0.553

0.538

1.000

0.640

0.371 0.577

0.666 0.871

0.630 0.840

0.259 -0.005

0.338 -0.038

0.640 0.469

1.000 0.461

0.461 1.000