Nutrition Facts for McDonald's Menu

This dataset provides a nutrition analysis of every menu item on the US McDonald's menu,including breakfast, beef burgers, chicken and fish sandwiches, fries, salads, soda, coffee and tea, milkshakes, and desserts.

In [3]: pip install ydata-profiling

```
Requirement already satisfied: ydata-profiling in c:\users\sharm\anaconda3\li
b\site-packages (4.10.0)
Requirement already satisfied: scipy<1.14,>=1.4.1 in c:\users\sharm\anaconda3
\lib\site-packages (from ydata-profiling) (1.11.4)
Requirement already satisfied: pandas!=1.4.0,<3,>1.1 in c:\users\sharm\anacon
da3\lib\site-packages (from ydata-profiling) (2.1.4)
Requirement already satisfied: matplotlib<3.10,>=3.5 in c:\users\sharm\anacon
da3\lib\site-packages (from ydata-profiling) (3.8.0)
Requirement already satisfied: pydantic>=2 in c:\users\sharm\anaconda3\lib\si
te-packages (from ydata-profiling) (2.9.1)
Requirement already satisfied: PyYAML<6.1,>=5.0.0 in c:\users\sharm\anaconda3
\lib\site-packages (from ydata-profiling) (6.0.1)
Requirement already satisfied: jinja2<3.2,>=2.11.1 in c:\users\sharm\anaconda
3\lib\site-packages (from ydata-profiling) (3.1.3)
Requirement already satisfied: visions<0.7.7,>=0.7.5 in c:\users\sharm\anacon
da3\lib\site-packages (from visions[type_image_path]<0.7.7,>=0.7.5->ydata-pro
filing) (0.7.6)
Requirement already satisfied: numpy<2.2,>=1.16.0 in c:\users\sharm\anaconda3
\lib\site-packages (from ydata-profiling) (1.26.4)
Requirement already satisfied: htmlmin==0.1.12 in c:\users\sharm\anaconda3\li
b\site-packages (from ydata-profiling) (0.1.12)
Requirement already satisfied: phik<0.13,>=0.11.1 in c:\users\sharm\anaconda3
\lib\site-packages (from ydata-profiling) (0.12.4)
Requirement already satisfied: requests<3,>=2.24.0 in c:\users\sharm\anaconda
3\lib\site-packages (from ydata-profiling) (2.31.0)
Requirement already satisfied: tqdm<5,>=4.48.2 in c:\users\sharm\anaconda3\li
b\site-packages (from ydata-profiling) (4.65.0)
Requirement already satisfied: seaborn<0.14,>=0.10.1 in c:\users\sharm\anacon
da3\lib\site-packages (from ydata-profiling) (0.12.2)
Requirement already satisfied: multimethod<2,>=1.4 in c:\users\sharm\anaconda
3\lib\site-packages (from ydata-profiling) (1.12)
Requirement already satisfied: statsmodels<1,>=0.13.2 in c:\users\sharm\anaco
nda3\lib\site-packages (from ydata-profiling) (0.14.0)
Requirement already satisfied: typequard<5,>=3 in c:\users\sharm\anaconda3\li
b\site-packages (from ydata-profiling) (4.3.0)
Requirement already satisfied: imagehash == 4.3.1 in c:\users\sharm\anaconda3\l
ib\site-packages (from ydata-profiling) (4.3.1)
Requirement already satisfied: wordcloud>=1.9.3 in c:\users\sharm\anaconda3\l
ib\site-packages (from ydata-profiling) (1.9.3)
Requirement already satisfied: dacite>=1.8 in c:\users\sharm\anaconda3\lib\si
te-packages (from ydata-profiling) (1.8.1)
Requirement already satisfied: numba<1,>=0.56.0 in c:\users\sharm\anaconda3\1
ib\site-packages (from ydata-profiling) (0.59.0)
Requirement already satisfied: PyWavelets in c:\users\sharm\anaconda3\lib\sit
e-packages (from imagehash==4.3.1->ydata-profiling) (1.5.0)
Requirement already satisfied: pillow in c:\users\sharm\anaconda3\lib\site-pa
ckages (from imagehash==4.3.1->ydata-profiling) (10.2.0)
Requirement already satisfied: MarkupSafe>=2.0 in c:\users\sharm\anaconda3\li
b\site-packages (from jinja2<3.2,>=2.11.1->ydata-profiling) (2.1.3)
Requirement already satisfied: contourpy>=1.0.1 in c:\users\sharm\anaconda3\l
ib\site-packages (from matplotlib<3.10,>=3.5->ydata-profiling) (1.2.0)
Requirement already satisfied: cycler>=0.10 in c:\users\sharm\anaconda3\lib\s
ite-packages (from matplotlib<3.10,>=3.5->ydata-profiling) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\sharm\anaconda3
\lib\site-packages (from matplotlib<3.10,>=3.5->ydata-profiling) (4.25.0)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\sharm\anaconda3
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\lib\site-packages (from matplotlib<3.10,>=3.5->ydata-profiling) (1.4.4)
Requirement already satisfied: packaging>=20.0 in c:\users\sharm\anaconda3\li
b\site-packages (from matplotlib<3.10,>=3.5->ydata-profiling) (23.1)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\sharm\anaconda3\l
ib\site-packages (from matplotlib<3.10,>=3.5->ydata-profiling) (3.0.9)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\sharm\anacond
a3\lib\site-packages (from matplotlib<3.10,>=3.5->ydata-profiling) (2.8.2)
Requirement already satisfied: llvmlite<0.43,>=0.42.0dev0 in c:\users\sharm\a
naconda3\lib\site-packages (from numba<1,>=0.56.0->ydata-profiling) (0.42.0)
Requirement already satisfied: pytz>=2020.1 in c:\users\sharm\anaconda3\lib\s
ite-packages (from pandas!=1.4.0,<3,>1.1->ydata-profiling) (2023.3.post1)
Requirement already satisfied: tzdata>=2022.1 in c:\users\sharm\anaconda3\lib
\site-packages (from pandas!=1.4.0,<3,>1.1->ydata-profiling) (2023.3)
Requirement already satisfied: joblib>=0.14.1 in c:\users\sharm\anaconda3\lib
\site-packages (from phik<0.13,>=0.11.1->ydata-profiling) (1.1.1)
Requirement already satisfied: annotated-types>=0.6.0 in c:\users\sharm\anaco
nda3\lib\site-packages (from pydantic>=2->ydata-profiling) (0.7.0)
Requirement already satisfied: pydantic-core==2.23.3 in c:\users\sharm\anacon
da3\lib\site-packages (from pydantic>=2->ydata-profiling) (2.23.3)
Requirement already satisfied: typing-extensions>=4.6.1 in c:\users\sharm\ana
conda3\lib\site-packages (from pydantic>=2->ydata-profiling) (4.12.2)
Requirement already satisfied: charset-normalizer<4,>=2 in c:\users\sharm\ana
conda3\lib\site-packages (from requests<3,>=2.24.0->ydata-profiling) (2.0.4)
Requirement already satisfied: idna<4,>=2.5 in c:\users\sharm\anaconda3\lib\s
ite-packages (from requests<3,>=2.24.0->ydata-profiling) (3.4)
Requirement already satisfied: urllib3<3,>=1.21.1 in c:\users\sharm\anaconda3
\lib\site-packages (from requests<3,>=2.24.0->ydata-profiling) (1.26.20)
Requirement already satisfied: certifi>=2017.4.17 in c:\users\sharm\anaconda3
\lib\site-packages (from requests<3,>=2.24.0->ydata-profiling) (2024.6.2)
Requirement already satisfied: patsy>=0.5.2 in c:\users\sharm\anaconda3\lib\s
ite-packages (from statsmodels<1,>=0.13.2->ydata-profiling) (0.5.3)
Requirement already satisfied: colorama in c:\users\sharm\anaconda3\lib\site-
packages (from tqdm<5,>=4.48.2->ydata-profiling) (0.4.6)
Requirement already satisfied: attrs>=19.3.0 in c:\users\sharm\anaconda3\lib
\site-packages (from visions<0.7.7,>=0.7.5->visions[type_image_path]<0.7.7,>=
0.7.5->ydata-profiling) (23.1.0)
Requirement already satisfied: networkx>=2.4 in c:\users\sharm\anaconda3\lib
\site-packages (from visions<0.7.7,>=0.7.5->visions[type_image_path]<0.7.7,>=
0.7.5->ydata-profiling) (3.1)
Requirement already satisfied: six in c:\users\sharm\anaconda3\lib\site-packa
qes (from patsy>=0.5.2->statsmodels<1,>=0.13.2->ydata-profiling) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
```

```
In [4]: import pandas as pd
    from ydata_profiling import ProfileReport
    import numpy as np
    import matplotlib.pyplot as plt
    import seaborn as sns
    import plotly.express as px
    sales = pd.read_csv("E:\chromedownload\menu.csv")
    sales
```

	Category	Item	Serving Size	Calories	Calories from Fat	Total Fat	Total Fat (% Daily Value)	Saturated Fat	Saturated Fat (% Dail) Value
0	Breakfast	Egg McMuffin	4.8 oz (136 g)	300	120	13.0	20	5.0	2
1	Breakfast	Egg White Delight	4.8 oz (135 g)	250	70	8.0	12	3.0	1!
2	Breakfast	Sausage McMuffin	3.9 oz (111 g)	370	200	23.0	35	8.0	4:
3	Breakfast	Sausage McMuffin with Egg	5.7 oz (161 g)	450	250	28.0	43	10.0	5:
4	Breakfast	Sausage McMuffin with Egg Whites	5.7 oz (161 g)	400	210	23.0	35	8.0	4:
255	Smoothies & Shakes	McFlurry with Oreo Cookies (Small)	10.1 oz (285 g)	510	150	17.0	26	9.0	4.
256	Smoothies & Shakes	McFlurry with Oreo Cookies (Medium)	13.4 oz (381 g)	690	200	23.0	35	12.0	51
257	Smoothies & Shakes	McFlurry with Oreo Cookies (Snack)	6.7 oz (190 g)	340	100	11.0	17	6.0	2!
258	Smoothies & Shakes	McFlurry with Reese's Peanut Butter Cups (Medium)	14.2 oz (403 g)	810	290	32.0	50	15.0	71
259	Smoothies & Shakes	McFlurry with Reese's Peanut Butter Cups (Snack)	7.1 oz (202 g)	410	150	16.0	25	8.0	31

```
260 rows × 24 columns
In [5]: profile=ProfileReport(sales)
        profile.to_file(output_file="sales.html")
       Summarize dataset: 0%|
                                       | 0/5 [00:00<?, ?it/s]
       Generate report structure: 0%|
                                            | 0/1 [00:00<?, ?it/s]
       Render HTML: 0%| | 0/1 [00:00<?, ?it/s]
       Export report to file: 0%|
                                           | 0/1 [00:00<?, ?it/s]
In [6]: sales.columns
Out[6]: Index(['Category', 'Item', 'Serving Size', 'Calories', 'Calories from Fat',
               'Total Fat', 'Total Fat (% Daily Value)', 'Saturated Fat',
               'Saturated Fat (% Daily Value)', 'Trans Fat', 'Cholesterol',
               'Cholesterol (% Daily Value)', 'Sodium', 'Sodium (% Daily Value)',
               'Carbohydrates', 'Carbohydrates (% Daily Value)', 'Dietary Fiber',
               'Dietary Fiber (% Daily Value)', 'Sugars', 'Protein',
               'Vitamin A (% Daily Value)', 'Vitamin C (% Daily Value)',
               'Calcium (% Daily Value)', 'Iron (% Daily Value)'],
              dtype='object')
        Data Cleaning
                                         0
        Item
                                         0
        Serving Size
        Calories
                                         0
        Calories from Fat
                                         0
```

```
In [8]: sales.isnull().sum()
Out[8]: Category
         Total Fat
                                           0
         Total Fat (% Daily Value)
                                           0
         Saturated Fat
                                           0
         Saturated Fat (% Daily Value)
                                           0
         Trans Fat
                                           0
         Cholesterol
                                           0
        Cholesterol (% Daily Value)
                                           0
         Sodium
                                           0
         Sodium (% Daily Value)
                                           0
         Carbohydrates
         Carbohydrates (% Daily Value)
                                           0
         Dietary Fiber
                                           0
         Dietary Fiber (% Daily Value)
                                           0
         Sugars
                                           0
         Protein
                                           0
         Vitamin A (% Daily Value)
                                           0
         Vitamin C (% Daily Value)
                                           0
         Calcium (% Daily Value)
                                           0
         Iron (% Daily Value)
                                           0
         dtype: int64
In [9]: sales.duplicated().sum()
```

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	count	mean	std	min	25%	50%	75%	max
Calories	260.0	368.269231	240.269886	0.0	210.000	340.0	500.00	1880.0
Calories from Fat	260.0	127.096154	127.875914	0.0	20.000	100.0	200.00	1060.0
Total Fat	260.0	14.165385	14.205998	0.0	2.375	11.0	22.25	118.0
Total Fat (% Daily Value)	260.0	21.815385	21.885199	0.0	3.750	17.0	35.00	182.0
Saturated Fat	260.0	6.007692	5.321873	0.0	1.000	5.0	10.00	20.0
Saturated Fat (% Daily Value)	260.0	29.965385	26.639209	0.0	4.750	24.0	48.00	102.0
Trans Fat	260.0	0.203846	0.429133	0.0	0.000	0.0	0.00	2.5
Cholesterol	260.0	54.942308	87.269257	0.0	5.000	35.0	65.00	575.0
Cholesterol (% Daily Value)	260.0	18.392308	29.091653	0.0	2.000	11.0	21.25	192.0
Sodium	260.0	495.750000	577.026323	0.0	107.500	190.0	865.00	3600.0
Sodium (% Daily Value)	260.0	20.676923	24.034954	0.0	4.750	8.0	36.25	150.0
Carbohydrates	260.0	47.346154	28.252232	0.0	30.000	44.0	60.00	141.0
Carbohydrates (% Daily Value)	260.0	15.780769	9.419544	0.0	10.000	15.0	20.00	47.0
Dietary Fiber	260.0	1.630769	1.567717	0.0	0.000	1.0	3.00	7.0
Dietary Fiber (% Daily Value)	260.0	6.530769	6.307057	0.0	0.000	5.0	10.00	28.0
Sugars	260.0	29.423077	28.679797	0.0	5.750	17.5	48.00	128.0
Protein	260.0	13.338462	11.426146	0.0	4.000	12.0	19.00	87.0
Vitamin A (% Daily Value)	260.0	13.426923	24.366381	0.0	2.000	8.0	15.00	170.0
Vitamin C (% Daily Value)	260.0	8.534615	26.345542	0.0	0.000	0.0	4.00	240.0
Calcium (% Daily Value)	260.0	20.973077	17.019953	0.0	6.000	20.0	30.00	70.0
Iron (% Daily Value)	260.0	7.734615	8.723263	0.0	0.000	4.0	15.00	40.0

```
Calories Calories from Fat Total Fat \
                           1.000000 0.904588 0.904409
Calories
Calories from Fat
                           0.904588
                                            1.000000 0.999663
                          0.904409
Total Fat
                                            0.999663 1.000000
                          0.904123
Total Fat (% Daily Value)
                                            0.999725 0.999765
                                            0.847008 0.846707
Saturated Fat
                          0.845564
Saturated Fat (% Daily Value) 0.847631
                                            0.849592 0.849293
Trans Fat
                           0.522441
                                            0.433686 0.431453
Cholesterol
                          0.596399
                                            0.682161 0.680547
Cholesterol (% Daily Value) 0.595208
                                            0.681607 0.680000
                           0.712309
                                            0.846624 0.846158
Sodium (% Daily Value) 0.713415
Carbohydrates 0.781539
                                            0.847276 0.846780
                                            0.461672 0.461213
Carbohydrates (% Daily Value) 0.781242
                                            0.461463 0.461005
                     0.538894
                                            0.581274 0.580837
Dietary Fiber
Dietary Fiber (% Daily Value) 0.540014
                                            0.575621 0.575206
Sugars
                          0.259598
                                           -0.115285 -0.115446
                           0.787847
Protein
                                            0.807913 0.807773
Vitamin A (% Daily Value) 0.108844
                                            0.056731 0.054434
Vitamin C (% Daily Value) -0.068747
                                           -0.087331 -0.089354
Calcium (% Daily Value)
                          0.428426
                                            0.161034 0.162860
Iron (% Daily Value)
                           0.643552
                                            0.735894 0.734685
                          Total Fat (% Daily Value) Saturated Fat \
                                           0.904123 0.845564
Calories
Calories from Fat
                                           0.999725
                                                       0.847008
Total Fat
                                           0.999765
                                                       0.846707
Total Fat (% Daily Value)
                                                       0.847379
                                           1.000000
                                          0.847379

0.849973

0.433016

0.620611

0.680940

0.631210

0.630334

0.584075
Saturated Fat
Saturated Fat (% Daily Value)
Trans Fat
Cholesterol
Cholesterol (% Daily Value)
Sodium
                                          0.847368
0.460516
0.460298
Sodium (% Daily Value)
                                                       0.585323
Carbohydrates
                                                       0.591261
Carbohydrates (% Daily Value)
                                                       0.591743
Dietary Fiber
                                          0.580592
                                                       0.351818
                                                       0.347152
Dietary Fiber (% Daily Value)
                                          0.575033
                                         -0.115761
0.807922
                                                       0.197734
Sugars
Protein
                                                       0.603028
                                           0.054038
Vitamin A (% Daily Value)
                                                        0.064972
Vitamin C (% Daily Value)
                                          -0.089353
                                                      -0.179672
Calcium (% Daily Value)
                                          0.162031
                                                        0.403311
                                           0.735478
Iron (% Daily Value)
                                                        0.578062
                         Saturated Fat (% Daily Value) Trans Fat \
                                               0.847631 0.522441
Calories
Calories from Fat
                                               0.849592 0.433686
Total Fat
                                               0.849293 0.431453
Total Fat (% Daily Value)
                                               0.849973 0.433016
                                               0.999279 0.620611
Saturated Fat
Saturated Fat (% Daily Value)
                                              1.000000 0.620210
                                               0.620210 1.000000
Trans Fat
Cholesterol
                                              0.633603 0.253935
Cholesterol (% Daily Value)
                                              0.632712 0.251502
```

```
0.588694 0.187580
Sodium
                                                       0.589958 0.188339
Sodium (% Daily Value)
Carbohydrates
                                                       0.591322 0.463250
Carbohydrates (% Daily Value)
                                                       0.591655 0.462891
                                                      0.356831 0.054918
Dietary Fiber
Dietary Fiber (% Daily Value)
                                                       0.351797 0.058301
                                                      0.195928 0.334756
Sugars
Protein
                                                      0.606581 0.388249
Vitamin A (% Daily Value)
                                                      0.065376 0.075833
Vitamin C (% Daily Value)
                                                      -0.178059 -0.076612
Calcium (% Daily Value)
                                                       0.401139 0.385331
Iron (% Daily Value)
                                                       0.580488 0.325476
                                Cholesterol Cholesterol (% Daily Value) \
Calories
                                  0.596399
                                                                  0.595208
Calories from Fat
                                   0.682161
                                                                  0.681607
Total Fat
                                   0.680547
                                                                  0.680000
Total Fat (% Daily Value) 0.680940
                                                                  0.680378
Saturated Fat
                                   0.631210
                                                                 0.630334
Saturated Fat (% Daily Value)
                                  0.633603
                                                                 0.632712
Trans Fat
                                                                 0.251502
                                   0.253935
Cholesterol
                                   1.000000
                                                                 0.999855
Cholesterol (% Daily Value)
                                                                  1.000000
                                  0.999855
                                   0.624362
                                                                 0.623320
Sodium (% Daily Value)
                                   0.624743
                                                                 0.623720
Carbohydrates
                                                                 0.269300
                                   0.270977
Carbohydrates (% Daily Value) 0.272662
                                                                 0.270992
Dietary Fiber
                                   0.435575
                                                                 0.434940
Dietary Fiber (% Daily Value)
                                  0.440266
                                                                 0.439814
Sugars
                                  -0.135518
                                                                -0.136459
Protein
                                   0.561561
                                                                 0.560957
Vitamin A (% Daily Value)
                                -0.082978
                                   0.080239
                                                                 0.080059
Vitamin C (% Daily Value)
                                                                -0.083315
Calcium (% Daily Value)
                                   0.132077
                                                                 0.132382
Iron (% Daily Value)
                                   0.655000
                                                                  0.653167
                                  Sodium ... Carbohydrates \
                               0.712309 ... 0.781539
Calories
Calories

Calories from Fat

O.846624

Total Fat

O.846158

Total Fat (% Daily Value)

Saturated Fat

O.584075

O.584075
                                                    0.461672
                                                    0.461213
                                                   0.461213
0.460516
0.591261
0.591322
0.463250
0.270977
Saturated Fat (% Daily Value) 0.588694 ...
Trans Fat 0.187580 ...
Cholesterol 0.624362 ...
Cholesterol (% Daily Value) 0.623320 ...
                                                    0.269300
                                                   0.200796
                                1.000000 ...
Sodium (% Daily Value)

Carbohydrates

Carbohydrates (% Daily Value)

Dietarv Fiber

0.200796 ...

0.201032 ...

0.694389 ...
                                                   0.202426
1.000000
0.999620
                                                    0.224577
                                                    0.228257
Dietary Fiber (% Daily Value) 0.689995 ...
                             -0.426536 ...
                                                    0.762362
Protein
                                0.869802 ...
                                                    0.352122
Vitamin A (% Daily Value) 0.083068 ... 0.083802
Vitamin C (% Daily Value) -0.030769 ... -0.034724
```

```
Calcium (% Daily Value) -0.024074 ... 0.589699
Iron (% Daily Value) 0.871593 ... 0.210241
```

iron (% Daily Value)	0.8/1593	0.210241	
	Carbohydrates	(% Daily Value)	Dietary Fiber
\			
Calories		0.781242	
Calories from Fat		0.461463	
Total Fat		0.461005	
Total Fat (% Daily Value)		0.460298	
Saturated Fat		0.591743	
Saturated Fat (% Daily Value)		0.591655	0.356831
Trans Fat		0.462891	
Cholesterol		0.272662	
Cholesterol (% Daily Value)		0.270992	
Sodium		0.201032	
Sodium (% Daily Value)		0.202663	0.693913
Carbohydrates		0.999620	
Carbohydrates (% Daily Value)		1.000000	0.224058
Dietary Fiber		0.224058	1.000000
Dietary Fiber (% Daily Value)		0.227285	0.986350
Sugars		0.762282	-0.295178
Protein		0.352178	0.641345
Vitamin A (% Daily Value)		0.083376	0.340518
Vitamin C (% Daily Value)		-0.035450	0.141935
Calcium (% Daily Value)		0.590263	0.028711
Iron (% Daily Value)		0.210643	0.740411
	Dietary Fiber	(% Daily Value)	-
Calories			0.259598
Calories from Fat			-0.115285
Total Fat			-0.115446
Total Fat (% Daily Value)			-0.115761
Saturated Fat			0.197734
Saturated Fat (% Daily Value)			0.195928
Trans Fat			0.334756
Cholesterol			-0.135518
Cholesterol (% Daily Value)			-0.136459
Sodium			-0.426536
Sodium (% Daily Value)			-0.424943
Carbohydrates			0.762362
Carbohydrates (% Daily Value)			0.762282
Dietary Fiber			-0.295178
Dietary Fiber (% Daily Value)			-0.287014
Sugars		-0.287014	
Protein			-0.179940
Vitamin A (% Daily Value)			0.048488
Vitamin C (% Daily Value)			-0.069847
Calcium (% Daily Value)			0.600093
Iron (% Daily Value)		0.737814	-0.364767
	Protein Vit	amin A (% Daily N	/alue) \
Calories		=	108844
	0.787847	()	
Calories from Fat	0.787847		
Calories from Fat Total Fat	0.807913	0.0)56731
Total Fat	0.807913 0.807773	0.0)56731)54434
	0.807913	0.0 0.0 0.0)56731

```
Saturated Fat (% Daily Value) 0.606581
                                                   0.065376
Trans Fat
                          0.388249
                                                  0.075833
Cholesterol
                          0.561561
                                                  0.080239
Cholesterol (% Daily Value) 0.560957
                                                  0.080059
                                                  0.083068
                          0.869802
Sodium (% Daily Value)
                         0.869870
                                                  0.083259
Carbohydrates
                          0.352122
                                                  0.083802
Carbohydrates (% Daily Value) 0.352178
                                                  0.083376
Dietary Fiber
                    0.641345
                                                  0.340518
Dietary Fiber (% Daily Value) 0.656648
                                                  0.361380
                         -0.179940
Sugars
                                                  0.048488
Protein
                          1.000000
                                                  0.214098
Vitamin A (% Daily Value) 0.214098
Vitamin C (% Daily Value) -0.045777
                                                   1.000000
                                                  0.069171
Calcium (% Daily Value)
                                                  0.179190
                          0.327971
Iron (% Daily Value)
                                                   0.137879
                          0.792719
                          Vitamin C (% Daily Value) \
Calories
                                         -0.068747
Calories from Fat
                                          -0.087331
Total Fat
                                         -0.089354
Total Fat (% Daily Value)
                                         -0.089353
Saturated Fat
                                         -0.179672
Saturated Fat (% Daily Value)
                                         -0.178059
Trans Fat
                                         -0.076612
Cholesterol
                                         -0.082978
Cholesterol (% Daily Value)
                                         -0.083315
Sodium
                                         -0.030769
Sodium (% Daily Value)
                                         -0.030945
Carbohydrates
                                         -0.034724
Carbohydrates (% Daily Value)
                                         -0.035450
Dietary Fiber
                                         0.141935
Dietary Fiber (% Daily Value)
                                         0.150019
Sugars
                                         -0.069847
Protein
                                         -0.045777
Vitamin A (% Daily Value)
                                         0.069171
Vitamin C (% Daily Value)
                                         1.000000
Calcium (% Daily Value)
                                         -0.215380
Iron (% Daily Value)
                                          0.001292
                          Calcium (% Daily Value) Iron (% Daily Value)
Calories
                                         0.428426
                                                      0.643552
Calories from Fat
                                         0.161034
                                                            0.735894
Total Fat
                                        0.162860
                                                           0.734685
Total Fat (% Daily Value)
                                        0.162031
                                                           0.735478
Saturated Fat
                                        0.403311
                                                           0.578062
Saturated Fat (% Daily Value)
                                        0.401139
                                                            0.580488
Trans Fat
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                                                           0.325476
Cholesterol
                                        0.132077
                                                           0.655000
Cholesterol (% Daily Value)
                                        0.132382
                                                           0.653167
Sodium
                                       -0.024074
                                                           0.871593
Sodium (% Daily Value)
                                       -0.022145
                                                            0.870742
Carbohydrates
                                       0.589699
                                                           0.210241
Carbohydrates (% Daily Value)
                                       0.590263
                                                           0.210643
Dietary Fiber
                                       0.028711
                                                           0.740411
Dietary Fiber (% Daily Value)
                                       0.052359
                                                           0.737814
```

Sugars	0.600093	-0.364767
Protein	0.327971	0.792719
Vitamin A (% Daily Value)	0.179190	0.137879
Vitamin C (% Daily Value)	-0.215380	0.001292
Calcium (% Daily Value)	1.000000	0.034149
Iron (% Daily Value)	0.034149	1.000000

[21 rows x 21 columns]

```
In [12]: mode_value = sales.mode()
    print("The mode is ", mode_value)
```

	Nan		n Buff Baco Bac Va Van	alo Ra n Chec on Clu Sweet Swee	v Fat l Apploanch Modar	e Sli cChic cChic e Bur (Medi (Sma	ces ken ken ger 	Τ 0	TT O	Nai Nai Nai Nai Nai	1 1 1 1 1	0. Na Na Na Na
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Carbohydr	ates	(% Da	aily V	alue)	Diet	ary F	'ibe:	<u> </u>				
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        259
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                                                         NaN
        [260 rows x 24 columns]
In [14]: #Items in each categories
         sales['Category'].value_counts()
Out[14]: Category
         Coffee & Tea
                                 95
          Breakfast
                                 42
          Smoothies & Shakes
                                 28
          Chicken & Fish
                                 27
                                 27
          Beverages
          Beef & Pork
                                 15
          Snacks & Sides
                                 13
          Desserts
          Salads
          Name: count, dtype: int64
In [15]: sales['Category'].nunique()
```

```
Out[15]: 9
In [16]: sales["Item"].nunique()
```

Out[16]: 260

Highest to Lowest Vatamin A content in Items

```
In [18]: d=sales.pivot_table("Vitamin A (% Daily Value)",index=["Item"])
    result=d.sort_values(("Vitamin A (% Daily Value)"),ascending=False)
    result
```

Out [18]: Vitamin A (% Daily Value)

Item	
Premium Southwest Salad with Crispy Chicken	170.0
Premium Southwest Salad with Grilled Chicken	170.0
Premium Bacon Ranch Salad (without Chicken)	170.0
Premium Southwest Salad (without Chicken)	160.0
Premium Bacon Ranch Salad with Grilled Chicken	110.0
Minute Maid 100% Apple Juice Box	0.0
Medium French Fries	0.0
Chicken McNuggets (40 piece)	0.0
Diet Dr Pepper (Child)	0.0
Chicken McNuggets (20 piece)	0.0

260 rows × 1 columns

Highest to Lowest Vatamin C content in Items

```
In [20]: d=sales.pivot_table("Vitamin C (% Daily Value)",index=["Item"])
    result=d.sort_values(("Vitamin C (% Daily Value)"),ascending=False)
    result
```

Vitamin C (% Daily Value)

Item	
Minute Maid Orange Juice (Large)	240.0
Minute Maid Orange Juice (Medium)	160.0
Apple Slices	160.0
Fruit & Maple Oatmeal without Brown Sugar	130.0
Fruit & Maple Oatmeal	130.0
Hotcakes and Sausage	0.0
Iced Caramel Mocha (Large)	0.0
Iced Caramel Mocha (Medium)	0.0
Iced Caramel Mocha (Small)	0.0
Vanilla Shake (Small)	0.0

260 rows × 1 columns

Highest to Lowest Calcium content in Items

```
In [22]: d=sales.pivot_table("Calcium (% Daily Value)",index=["Item"])
    result=d.sort_values(("Calcium (% Daily Value)"),ascending=False)
    result
```

Item	
Strawberry Shake (Large)	70.0
McFlurry with M&M's Candies (Medium)	70.0
Shamrock Shake (Large)	60.0
McFlurry with Reese's Peanut Butter Cups (Medium)	60.0
Vanilla Shake (Large)	60.0
Diet Coke (Child)	0.0
Diet Coke (Large)	0.0
Dr Pepper (Small)	0.0
Chicken McNuggets (4 piece)	0.0
Iced Tea (Child)	0.0

Highest to Lowest Iron content in Items

```
In [24]: d=sales.pivot_table("Iron (% Daily Value)",index=["Item"])
    result=d.sort_values(("Iron (% Daily Value)"),ascending=False)
    result
```

Item	
Big Breakfast with Hotcakes (Large Biscuit)	40.0
Big Breakfast with Hotcakes (Regular Biscuit)	40.0
Double Quarter Pounder with Cheese	35.0
Quarter Pounder with Bacon & Cheese	30.0
Quarter Pounder with Bacon Habanero Ranch	30.0
Iced Coffee with Sugar Free French Vanilla Syrup (Large)	0.0
Hot Caramel Sundae	0.0
Hazelnut Latte (Small)	0.0
Hazelnut Latte (Medium)	0.0
Vanilla Shake (Small)	0.0

Cholesterol content highest to lowest

```
In [26]: a=sales.pivot_table("Cholesterol",index=["Item"])
    result=a.sort_values(("Cholesterol"),ascending=False)
    result
```

Out [26]	51:	Cholesterol

Item	
Big Breakfast with Hotcakes (Regular Biscuit)	575.0
Big Breakfast with Hotcakes (Large Biscuit)	575.0
Big Breakfast (Large Biscuit)	555.0
Big Breakfast (Regular Biscuit)	555.0
Steak & Egg McMuffin	300.0
Diet Coke (Large)	0.0
Diet Coke (Child)	0.0
Iced Tea (Child)	0.0
Coffee (Small)	0.0
Minute Maid Orange Juice (Small)	0.0

Sodium content highest to lowest

```
In [28]: b=sales.pivot_table("Sodium",index=["Item"])
    result=b.sort_values(("Sodium"),ascending=False)
    result
```

Out[28]: Sodium

Item	
Chicken McNuggets (40 piece)	3600.0
Big Breakfast with Hotcakes and Egg Whites (Large Biscuit)	2290.0
Big Breakfast with Hotcakes (Large Biscuit)	2260.0
Big Breakfast with Hotcakes and Egg Whites (Regular Biscuit)	2170.0
Big Breakfast with Hotcakes (Regular Biscuit)	2150.0
Coca-Cola Classic (Child)	0.0
Dasani Water Bottle	0.0
Minute Maid Orange Juice (Medium)	0.0
Apple Slices	0.0
Minute Maid Orange Juice (Small)	0.0

260 rows × 1 columns

Carbohydrates content highest to lowest

```
In [30]: c=sales.pivot_table("Carbohydrates",index=["Item"])
    result=c.sort_values(("Carbohydrates"),ascending=True)
    result
```

Item	
Iced Tea (Child)	0.0
Coffee (Large)	0.0
Diet Dr Pepper (Small)	0.0
Diet Dr Pepper (Medium)	0.0
Diet Dr Pepper (Large)	0.0

Shamrock Shake (Large)	135.0
Vanilla Shake (Large)	135.0
McFlurry with M&M's Candies (Medium)	139.0
Strawberry Shake (Large)	140.0
Chocolate Shake (Large)	141.0

Protein content highest to lowest

```
In [32]: d=sales.pivot_table("Protein",index=["Item"])
    result=d.sort_values(("Protein"),ascending=False)
    result
```

Carbohydrates

Out[32]:		Protein

Item	
Chicken McNuggets (40 piece)	87.0
Double Quarter Pounder with Cheese	48.0
Chicken McNuggets (20 piece)	44.0
Bacon Clubhouse Grilled Chicken Sandwich	40.0
Premium Grilled Chicken Club Sandwich	40.0
Coffee (Medium)	0.0
Coffee (Large)	0.0
Coca-Cola Classic (Small)	0.0
Coca-Cola Classic (Medium)	0.0
Diet Coke (Large)	0.0

In [33]: d=sales.pivot_table("Calories",index=["Item"])
 result=d.sort_values(("Calories"),ascending=False)
 result

Outſ	331.	Calories
Out	J J 0	Calulies

Item	
Chicken McNuggets (40 piece)	1880.0
Big Breakfast with Hotcakes (Large Biscuit)	1150.0
Big Breakfast with Hotcakes (Regular Biscuit)	1090.0
Big Breakfast with Hotcakes and Egg Whites (Large Biscuit)	1050.0
Big Breakfast with Hotcakes and Egg Whites (Regular Biscuit)	990.0
Diet Coke (Large)	0.0
Coffee (Large)	0.0
Diet Coke (Child)	0.0
Coffee (Medium)	0.0
Diet Dr Pepper (Small)	0.0

Percentage of calories coming from fat, carbs, and protein

```
In [68]: sales['Fat_Calories'] = sales['Total Fat'] * 9
         sales['Carb_Calories'] = sales['Carbohydrates'] * 4
         sales['Protein_Calories'] = sales['Protein'] * 4
         sales['Fat Percentage'] = (sales['Fat Calories'] / sales['Calories']) * 100
         sales['Carb_Percentage'] = (sales['Carb_Calories'] / sales['Calories']) * 10
         sales['Protein_Percentage'] = (sales['Protein_Calories'] / sales['Calories']
         print(sales[['Item', 'Fat_Percentage', 'Carb_Percentage', 'Protein_Percentage']
                                                       Item Fat Percentage \
       0
                                                Egg McMuffin 39.000000
                                           Egg White Delight
                                                                 28.800000
       1
                                            Sausage McMuffin
        2
                                                                 55.945946
        3
                                   Sausage McMuffin with Egg
                                                                 56.000000
                            Sausage McMuffin with Egg Whites
        4
                                                                 51.750000
                          McFlurry with Oreo Cookies (Small)
       255
                                                                 30.000000
                         McFlurry with Oreo Cookies (Medium)
       256
                                                                 30.000000
                          McFlurry with Oreo Cookies (Snack)
                                                                 29.117647
       257
       258 McFlurry with Reese's Peanut Butter Cups (Medium)
                                                                 35.555556
       259
            McFlurry with Reese's Peanut Butter Cups (Snack)
                                                                 35.121951
            Carb Percentage Protein Percentage
       0
                 41.333333
                                   22.666667
                 48.000000
       1
                                    28.800000
                 31.351351
                                    15.135135
       2
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                                    18.666667
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                62.745098
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                 61.449275
       256
                 62.352941
       257
                                     9.411765
       258
                 56.296296
                                    10.370370
       259
                 55.609756
                                     9.756098
       [260 rows x 4 columns]
        What is the average caloric content across all menu items?
In [75]: | average_caloric_content=sales["Calories"].mean()
```

```
print ("The average caloric content across all the menu items is", average_cal
```

The average caloric content across all the menu items is 368.2692307692308

Which menu items have the highest and lowest calorie counts

```
In [73]: max calories = sales.loc[sales['Calories'].idxmax()]
         min_calories = sales.loc[sales['Calories'].idxmin()]
         print("Item with Highest Calories is ")
         print (max_calories)
```

```
print("Item with Lowest Calories is")
print(min_calories)
```

Item with Highest Calories is	
Category	Chicken & Fish
Item	Chicken McNuggets (40 piece)
Serving Size	22.8 oz (646 g)
Calories	1880
Calories from Fat	1060
Total Fat	118.0
Total Fat (% Daily Value)	182
Saturated Fat	20.0
Saturated Fat (% Daily Value)	101
Trans Fat	1.0
Cholesterol	265
Cholesterol (% Daily Value)	89
Sodium	3600
Sodium (% Daily Value)	150
Carbohydrates	118
Carbohydrates (% Daily Value)	39
Dietary Fiber	6
Dietary Fiber (% Daily Value)	24
Sugars	1
Protein	87
Vitamin A (% Daily Value)	0
Vitamin C (% Daily Value)	15
Calcium (% Daily Value)	8
Iron (% Daily Value)	25
Fat_Calories	1062.0
Carb_Calories	472
Protein_Calories	348
Fat_Percentage	56.489362
Carb_Percentage	25.106383
Protein_Percentage	18.510638
Name: 82, dtype: object	
Item with Lowest Calories is	
Category	Beverages
Item	Diet Coke (Small)
Serving Size	16 fl oz cup
Calories	0
Calories from Fat	0
Total Fat	0.0
Total Fat (% Daily Value)	0
Saturated Fat	0.0
Saturated Fat (% Daily Value)	0
Trans Fat	0.0
Cholesterol	0
Cholesterol (% Daily Value)	0
Sodium	10
Sodium (% Daily Value)	0
Carbohydrates	0
Carbohydrates (% Daily Value)	0
Dietary Fiber	0
Dietary Fiber (% Daily Value)	0
Sugars	0
Protein	0
Vitamin A (% Daily Value)	0
Vitamin C (% Daily Value)	0
Calcium (% Daily Value)	0

```
Iron (% Daily Value) 0
Fat_Calories 0.0
Carb_Calories 0
Protein_Calories 0
Fat_Percentage NaN
Carb_Percentage NaN
Protein_Percentage NaN
Name: 114, dtype: object
```

Which items provide more than 500 calories per serving

```
In [71]: high_calorie_items= sales[sales["Calories"]>500]
    print(high_calorie_items)
```

```
Category
7
                           Bacon, Egg & Cheese Biscuit (Large Biscuit)
             Breakfast
12
            Breakfast
                             Sausage Biscuit with Egg (Regular Biscuit)
13
            Breakfast
                               Sausage Biscuit with Egg (Large Biscuit)
            Breakfast Sausage Biscuit with Egg Whites (Large Biscuit)
15
                                  Steak & Egg Biscuit (Regular Biscuit)
18
             Breakfast
. .
252 Smoothies & Shakes
                                   McFlurry with M&M's Candies (Small)
253 Smoothies & Shakes
                                  McFlurry with M&M's Candies (Medium)
255 Smoothies & Shakes
                                    McFlurry with Oreo Cookies (Small)
                                   McFlurry with Oreo Cookies (Medium)
256 Smoothies & Shakes
258 Smoothies & Shakes McFlurry with Reese's Peanut Butter Cups (Medium)
       Serving Size Calories Calories from Fat Total Fat \
7
    5.8 oz (164 g) 520
                                          270
                                                30.0
                                           290
12
    5.7 oz (163 g)
                         510
                                                     33.0
    6.2 oz (177 g)
13
                         570
                                           330
                                                     37.0
     6.4 oz (181 g)
                         520
                                           280
                                                     32.0
18
    7.1 oz (201 g)
                         540
                                           290
                                                    32.0
               . . .
                         . . .
                                           . . .
                                                     . . .
252 10.9 oz (310 g)
                        650
                                           210
                                                    23.0
253 16.2 oz (460 g)
                        930
                                           290
                                                    33.0
255 10.1 oz (285 g)
                        510
                                           150
                                                    17.0
256 13.4 oz (381 g)
                        690
                                          200
                                                    23.0
258 14.2 oz (403 g)
                                           290
                        810
                                                    32.0
    Total Fat (% Daily Value) Saturated Fat Saturated Fat (% Daily Value)
7
                          47
                                      14.0
                                                                      68
12
                                      14.0
                                                                      71
                          50
13
                          57
                                      15.0
                                                                      74
15
                          49
                                      13.0
                                                                     65
                          49
18
                                      16.0
                                                                     78
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252
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                                      14.0
                                                                      72
253
                          50
                                      20.0
                                                                    102
255
                         26
                                       9.0
                                                                     44
256
                         35
                                      12.0
                                                                      58
258
                         50
                                      15.0
                                                                     76
    Trans Fat ... Vitamin A (% Daily Value) Vitamin C (% Daily Value) \
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18
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252
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          1.0 ...
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                                                                   0
253
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255
          0.5 ...
                                        20
256
         1.0 ...
                                                                   0
258
         1.0 ...
    Calcium (% Daily Value) Iron (% Daily Value) Fat_Calories \
7
                        20
                                            20
                                                      270.0
```

10

20

297.0

12

```
13
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                                                               333.0
15
                            8
                                                   15
                                                               288.0
                            20
                                                   25
18
                                                               288.0
252
                            45
                                                   8
                                                               207.0
253
                            70
                                                   10
                                                               297.0
255
                            40
                                                    8
                                                               153.0
256
                            50
                                                   10
                                                               207.0
                                                    6
258
                            60
                                                               288.0
     Carb_Calories Protein_Calories Fat_Percentage Carb_Percentage \
7
                                              51.923077
                                                                33.076923
                172
12
                144
                                    72
                                              58.235294
                                                                28.235294
13
                168
                                    72
                                              58.421053
                                                                29.473684
                                    72
15
                160
                                              55.384615
                                                                30.769231
18
                152
                                   100
                                              53.333333
                                                                28.148148
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252
                384
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                                              31.846154
                                                                59.076923
253
                556
                                    80
                                              31.935484
                                                                59.784946
255
                320
                                    48
                                              30.000000
                                                                62.745098
                                    60
256
                424
                                              30.000000
                                                                61.449275
258
                456
                                   84
                                              35.555556
                                                                56.296296
     Protein_Percentage
7
              14.615385
12
              14.117647
13
              12.631579
15
              13.846154
18
              18.518519
. .
                     . . .
               8.000000
252
253
               8.602151
255
               9.411765
256
               8.695652
258
              10.370370
[63 rows x 30 columns]
```

What is the average sugar content in the beverages offered at McDonald's

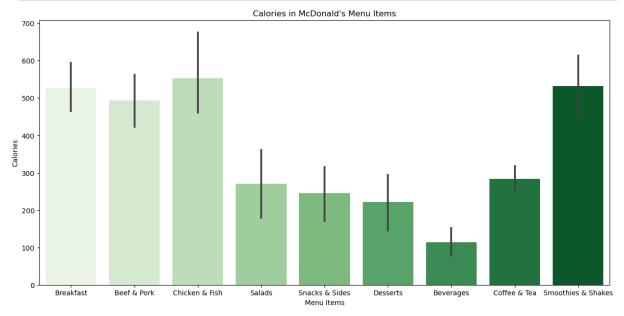
```
In [77]: average_sugar_content=sales["Sugars"].mean()
    print("The average sugar content across all the menu items is", average_sugar
    The average sugar content across all the menu items is 29.423076923076923
In [79]: %matplotlib inline
```

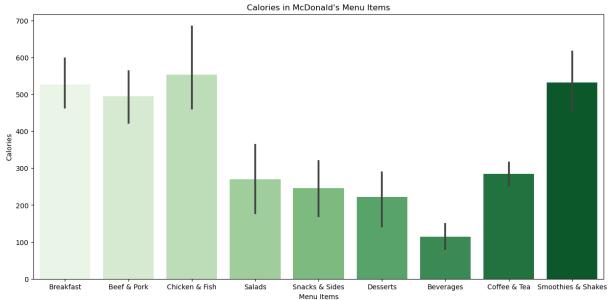
Graphically repesentation

What are the calorie counts of different McDonald's menu categories (e.g., burgers, salads, beverages)?

```
In [83]: plt.figure(figsize=(15,7))
    sns.barplot(x="Category",y="Calories", data=sales,palette="Greens")
    plt.title('Calories in McDonald\'s Menu Items')
```

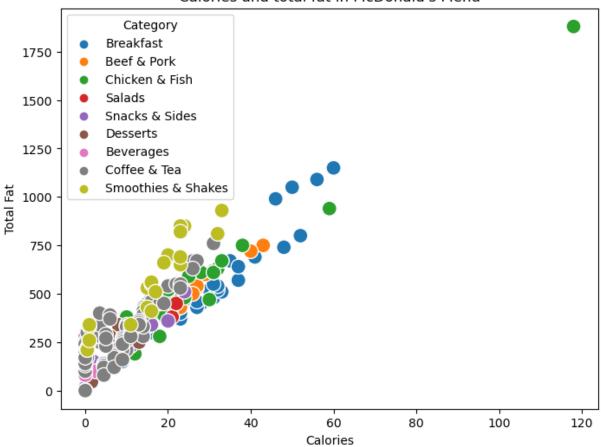
```
plt.xlabel('Menu Items')
plt.ylabel('Calories')
plt.show()
```





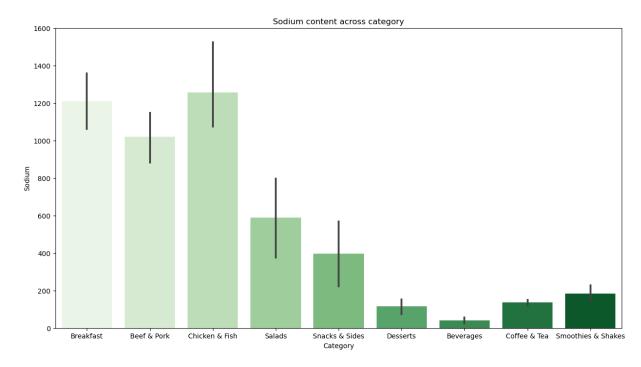
What is the relationship between Calories and Total Fat across McDonald's menu items?

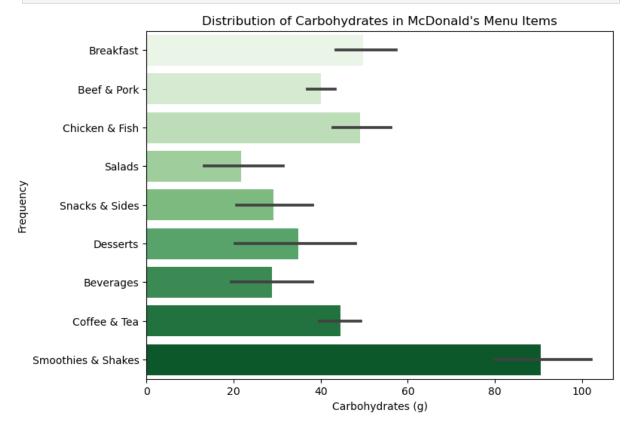
Calories and total fat in McDonald's Menu



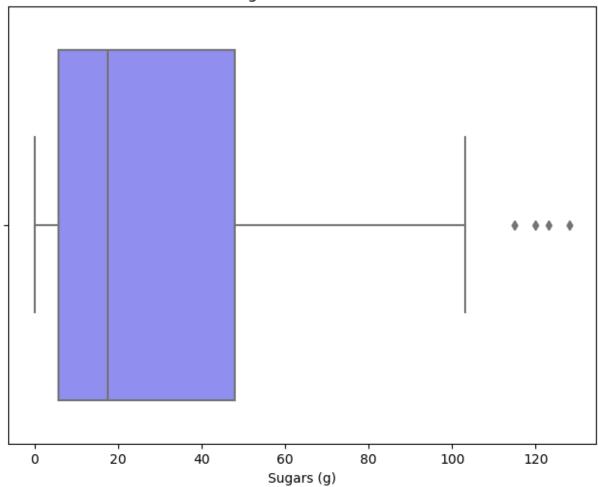
How does the Sodium content vary across different Menu Categorty?

```
In [89]: plt.figure(figsize=(15,8))
    sns.barplot(x="Category", y="Sodium", data=sales, palette="Greens")
    plt.title("Sodium content across category")
    plt.xlabel("Category")
    plt.ylabel("Sodium")
    plt.show()
```



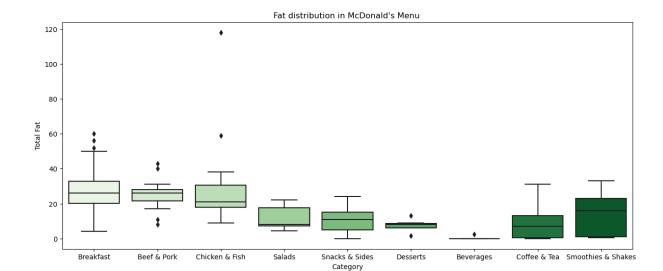


Distribution of Sugars in McDonald's Menu Items



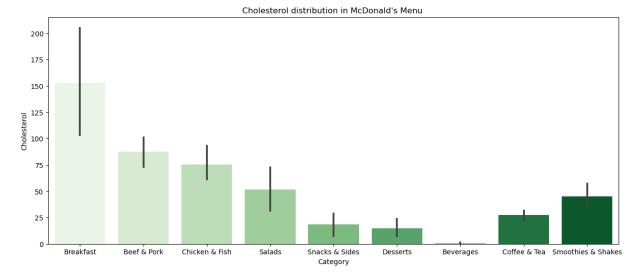
Distribution of Total Fat across different categories of McDonald's menu

```
In [186... plt.figure(figsize=(15, 6))
    sns.boxplot(x='Category', y="Total Fat", data=sales,palette="Greens")
    plt.title('Fat distribution in McDonald\'s Menu ')
    plt.xlabel('Category')
    plt.ylabel('Total Fat')
    plt.show()
```



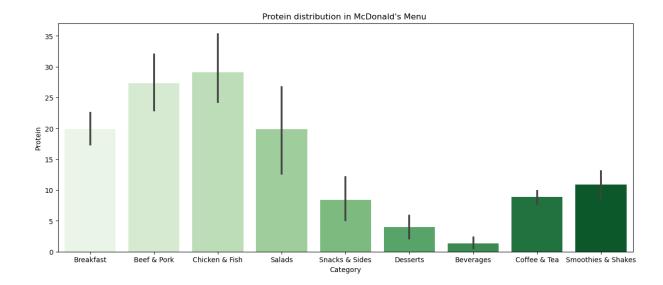
Distribution of Cholesterol across different categories of McDonald's menu

```
In [188... plt.figure(figsize=(15, 6))
    sns.barplot(x='Category', y="Cholesterol", data=sales,palette="Greens")
    plt.title('Cholesterol distribution in McDonald\'s Menu ')
    plt.xlabel('Category')
    plt.ylabel('Cholesterol')
    plt.show()
```



Distribution of protein across different categories of McDonald's menu

```
In [191... plt.figure(figsize=(15, 6))
    sns.barplot(x='Category', y="Protein", data=sales,palette="Greens")
    plt.title('Protein distribution in McDonald\'s Menu ')
    plt.xlabel('Category')
    plt.ylabel('Protein')
    plt.show()
```



This notebook contains the analysis of nutritional data for McDonald's menu items. The objectives were to identify the healthiest items

In [1]: pip install -U notebook-as-pdf

Collecting notebook-as-pdfNote: you may need to restart the kernel to use upd ated packages.

```
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Requirement already satisfied: nbconvert in c:\users\sharm\anaconda3\lib\site
-packages (from notebook-as-pdf) (7.10.0)
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rt->notebook-as-pdf) (2.8.2)
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notebook-as-pdf
 Attempting uninstall: urllib3
   Found existing installation: urllib3 2.0.7
   Uninstalling urllib3-2.0.7:
    Successfully uninstalled urllib3-2.0.7
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