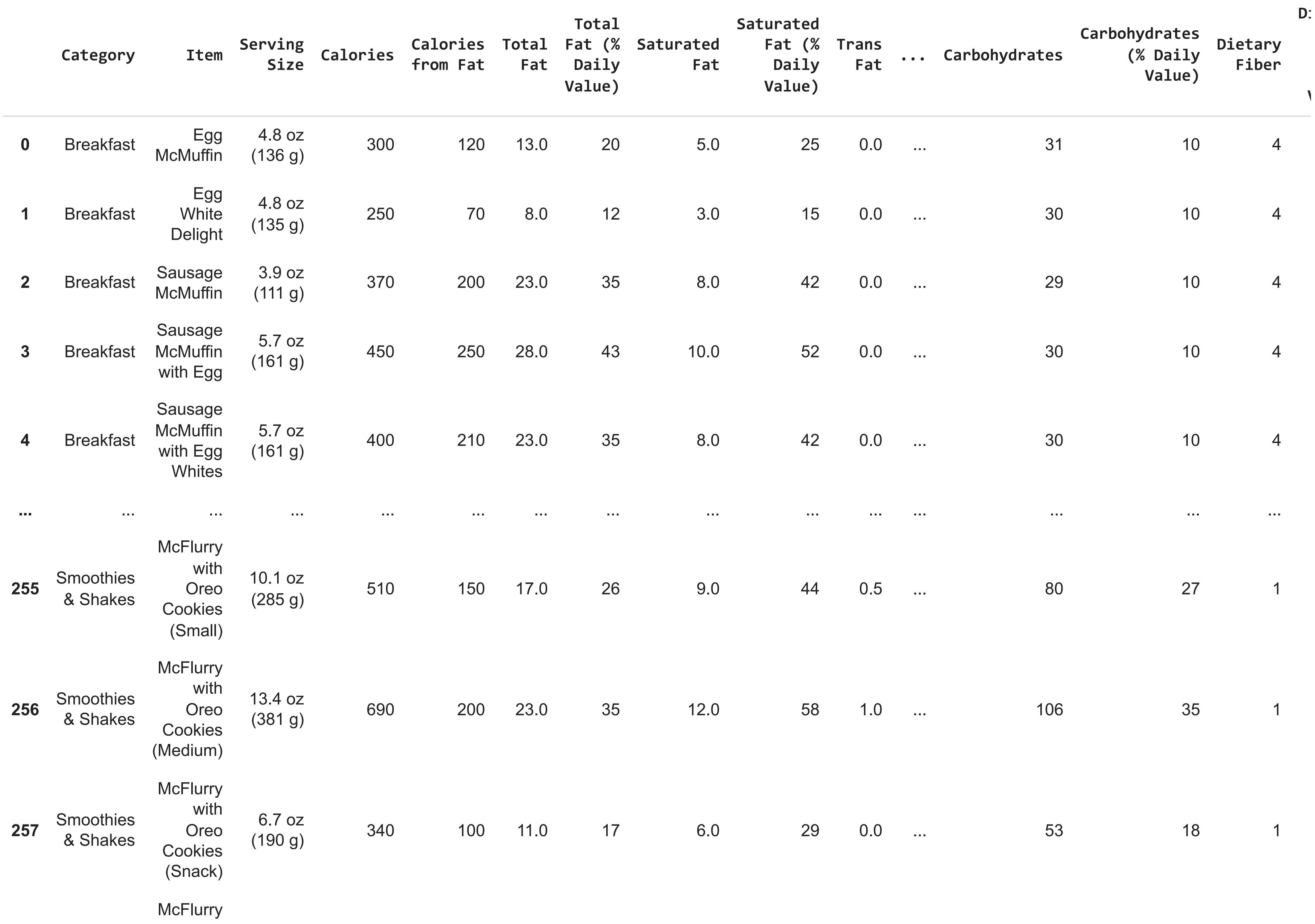
Nutrition Facts for McDonald's Menu

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
df=pd.read_csv("/content/menu.csv")
df
```



	Category	Item	Serving Size	Calories	Calories from Fat	Total Fat	Total Fat (% Daily Value)	Saturated Fat	Saturated Fat (% Daily Value)	Trans Fat	...	Carbohydrates	Carbohydrates (% Daily Value)	Dietary Fiber
0	Breakfast	Egg McMuffin	4.8 oz (136 g)	300	120	13.0	20	5.0	25	0.0	...	31	10	4
1	Breakfast	Egg White Delight	4.8 oz (135 g)	250	70	8.0	12	3.0	15	0.0	...	30	10	4
2	Breakfast	Sausage McMuffin	3.9 oz (111 g)	370	200	23.0	35	8.0	42	0.0	...	29	10	4
3	Breakfast	Sausage McMuffin with Egg	5.7 oz (161 g)	450	250	28.0	43	10.0	52	0.0	...	30	10	4
4	Breakfast	Sausage McMuffin with Egg Whites	5.7 oz (161 g)	400	210	23.0	35	8.0	42	0.0	...	30	10	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
255	Smoothies & Shakes	McFlurry with Oreo Cookies (Small)	10.1 oz (285 g)	510	150	17.0	26	9.0	44	0.5	...	80	27	1
256	Smoothies & Shakes	McFlurry with Oreo Cookies (Medium)	13.4 oz (381 g)	690	200	23.0	35	12.0	58	1.0	...	106	35	1
257	Smoothies & Shakes	McFlurry with Oreo Cookies (Snack)	6.7 oz (190 g)	340	100	11.0	17	6.0	29	0.0	...	53	18	1
		McFlurry												

258	Smoothies & Shakes	with Reese's Peanut Butter Cups (Medium)	14.2 oz (403 g)	810	290	32.0	50	15.0	76	1.0	...	114	38	2
259	Smoothies & Shakes	McFlurry with Reese's Peanut Butter Cups (Snack)	7.1 oz (202 g)	410	150	16.0	25	8.0	38	0.0	...	57	19	1

260 rows × 24 columns

```
df.size
```

```
6240
```

```
df.shape
```

```
(260, 24)
```

```
df.head()
```

	Category	Item	Serving Size	Calories	Calories from Fat	Total Fat	Total Fat (% Daily Value)	Saturated Fat	Saturated Fat (% Daily Value)	Trans Fat	...	Carbohydrates	Carbohydrates (% Daily Value)	Dietary Fiber
0	Breakfast	Egg McMuffin	4.8 oz (136 g)	300	120	13.0	20	5.0	25	0.0	...	31	10	4
1	Breakfast	Egg White Delight	4.8 oz (135 g)	250	70	8.0	12	3.0	15	0.0	...	30	10	4
2	Breakfast	Sausage McMuffin	3.9 oz (111 g)	370	200	23.0	35	8.0	42	0.0	...	29	10	4
3	Breakfast	Sausage McMuffin with Egg	5.7 oz (161 g)	450	250	28.0	43	10.0	52	0.0	...	30	10	4
4	Breakfast	Sausage McMuffin with Egg Whites	5.7 oz (161 g)	400	210	23.0	35	8.0	42	0.0	...	30	10	4

5 rows × 24 columns

```
df.tail()
```

	Category	Item	Serving Size	Calories	Calories from Fat	Total Fat	Total Fat (% Daily Value)	Saturated Fat	Saturated Fat (% Daily Value)	Trans Fat	...	Carbohydrates	Carbohydrates (% Daily Value)	Dietar Fibe
255	Smoothies & Shakes	McFlurry with Oreo Cookies (Small)	10.1 oz (285 g)	510	150	17.0	26	9.0	44	0.5	...	80	27	
256	Smoothies & Shakes	McFlurry with Oreo Cookies (Medium)	13.4 oz (381 g)	690	200	23.0	35	12.0	58	1.0	...	106	35	
257	Smoothies & Shakes	McFlurry with Oreo Cookies (Snack)	6.7 oz (190 g)	340	100	11.0	17	6.0	29	0.0	...	53	18	
258	Smoothies & Shakes	McFlurry with Reese's Peanut Butter Cups (Medium)	14.2 oz (403 g)	810	290	32.0	50	15.0	76	1.0	...	114	38	
259	Smoothies & Shakes	McFlurry with Reese's Peanut Butter Cups (Snack)	7.1 oz (202 g)	410	150	16.0	25	8.0	38	0.0	...	57	19	

5 rows × 24 columns

```
df.columns
```

```
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')
```

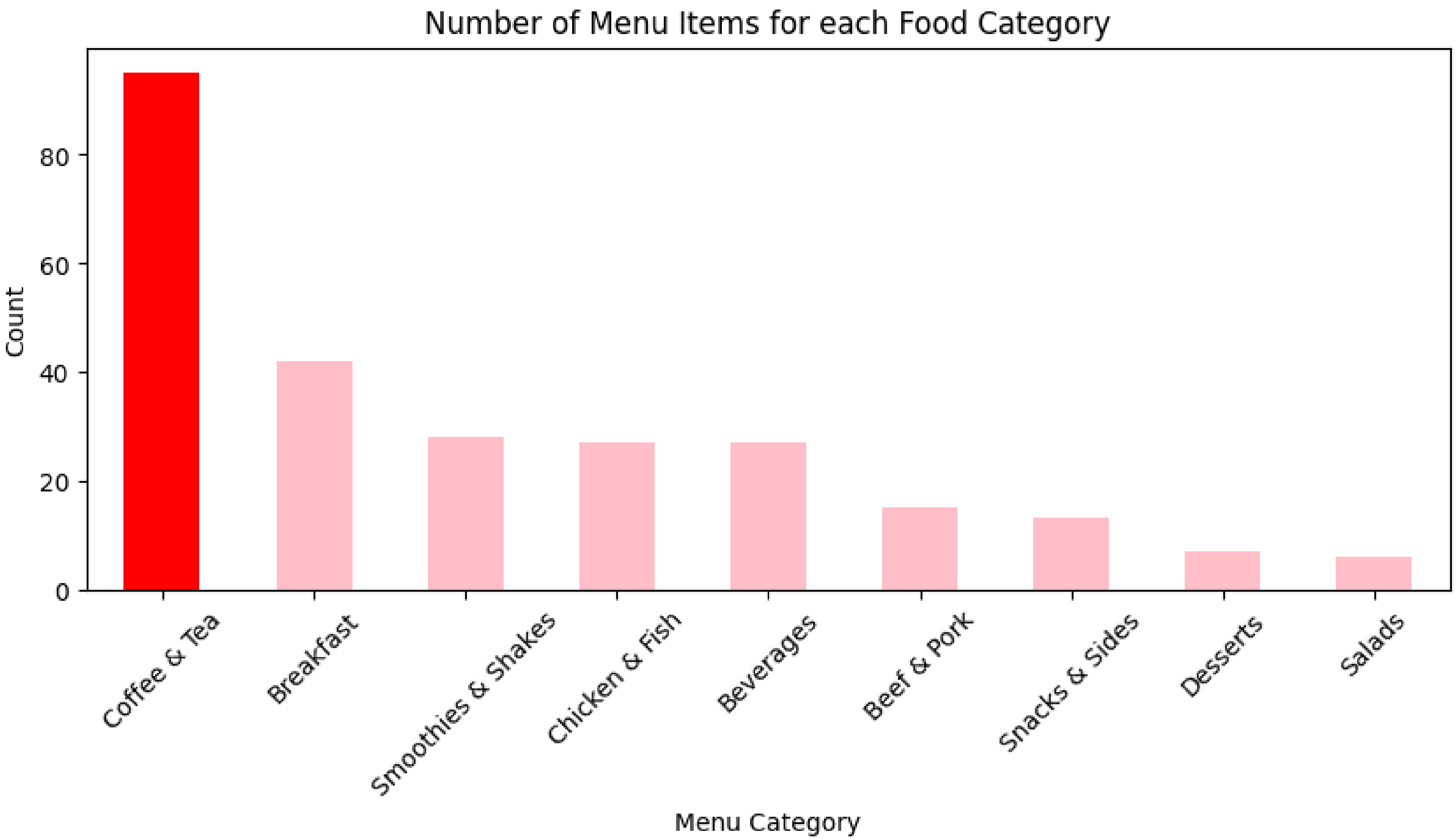
```
df.isna().sum()
```

```
Category                         0
Item                             0
Serving Size                     0
Calories                         0
Calories from Fat                0
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                    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
dtype: int64
```

```
df.info()
```

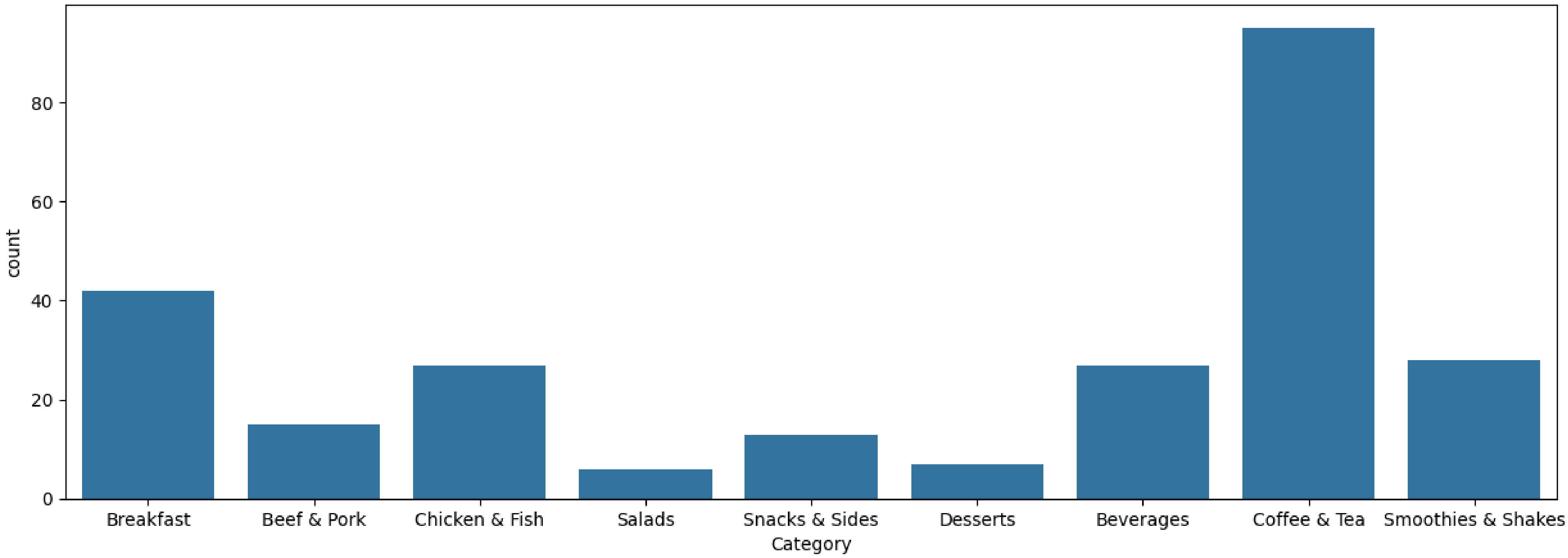
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 260 entries, 0 to 259
Data columns (total 24 columns):
 #   Column                         Non-Null Count  Dtype
---  ------                         --------------  -----
 0   Category                       260 non-null    object
 1   Item                           260 non-null    object
 2   Serving Size                   260 non-null    object
 3   Calories                       260 non-null    int64
 4   Calories from Fat              260 non-null    int64
 5   Total Fat                      260 non-null    float64
 6   Total Fat (% Daily Value)      260 non-null    int64
 7   Saturated Fat                  260 non-null    float64
 8   Saturated Fat (% Daily Value)  260 non-null    int64
 9   Trans Fat                      260 non-null    float64
 10  Cholesterol                    260 non-null    int64
 11  Cholesterol (% Daily Value)    260 non-null    int64
 12  Sodium                         260 non-null    int64
 13  Sodium (% Daily Value)         260 non-null    int64
 14  Carbohydrates                  260 non-null    int64
 15  Carbohydrates (% Daily Value)  260 non-null    int64
 16  Dietary Fiber                  260 non-null    int64
 17  Dietary Fiber (% Daily Value)  260 non-null    int64
 18  Sugars                         260 non-null    int64
 19  Protein                        260 non-null    int64
 20  Vitamin A (% Daily Value)      260 non-null    int64
 21  Vitamin C (% Daily Value)      260 non-null    int64
 22  Calcium (% Daily Value)        260 non-null    int64
 23  Iron (% Daily Value)           260 non-null    int64
dtypes: float64(3), int64(18), object(3)
memory usage: 48.9+ KB
```

```
plt.figure(figsize=(10, 4), dpi=100)
menu_category = df.Category.value_counts()
menu_category.plot.bar(color = ['red','pink','pink','pink','pink','pink','pink','pink','pink'])
plt.title("Number of Menu Items for each Food Category")
plt.ylabel("Count")
plt.xlabel("Menu Category")
plt.xticks(rotation=45)
plt.show()
```



```
fig, ax = plt.subplots(figsize=(15, 5))
sns.countplot(data=df,x='Category',ax=ax)
```

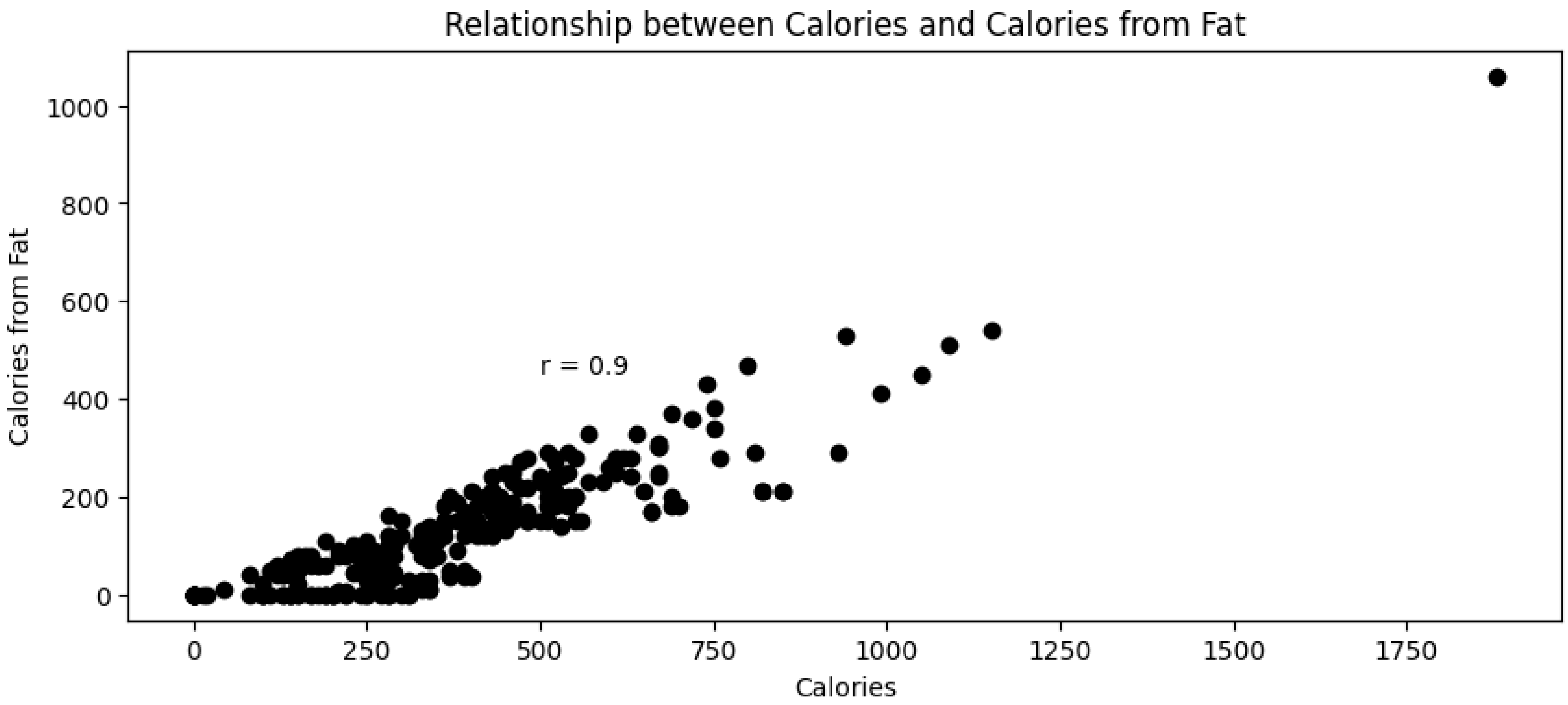
```
<Axes: xlabel='Category', ylabel='count'>
```



Fats and Carbohydrates

```
plt.figure(figsize=(10, 4), dpi=100)

correlation = df['Calories'].corr(df['Calories from Fat'])
plt.scatter(df.Calories, df['Calories from Fat'], color='black')
plt.text(500,450,'r = {}'.format(round(correlation,2)))
plt.xlabel("Calories")
plt.ylabel("Calories from Fat")
plt.title("Relationship between Calories and Calories from Fat")
plt.show()
```



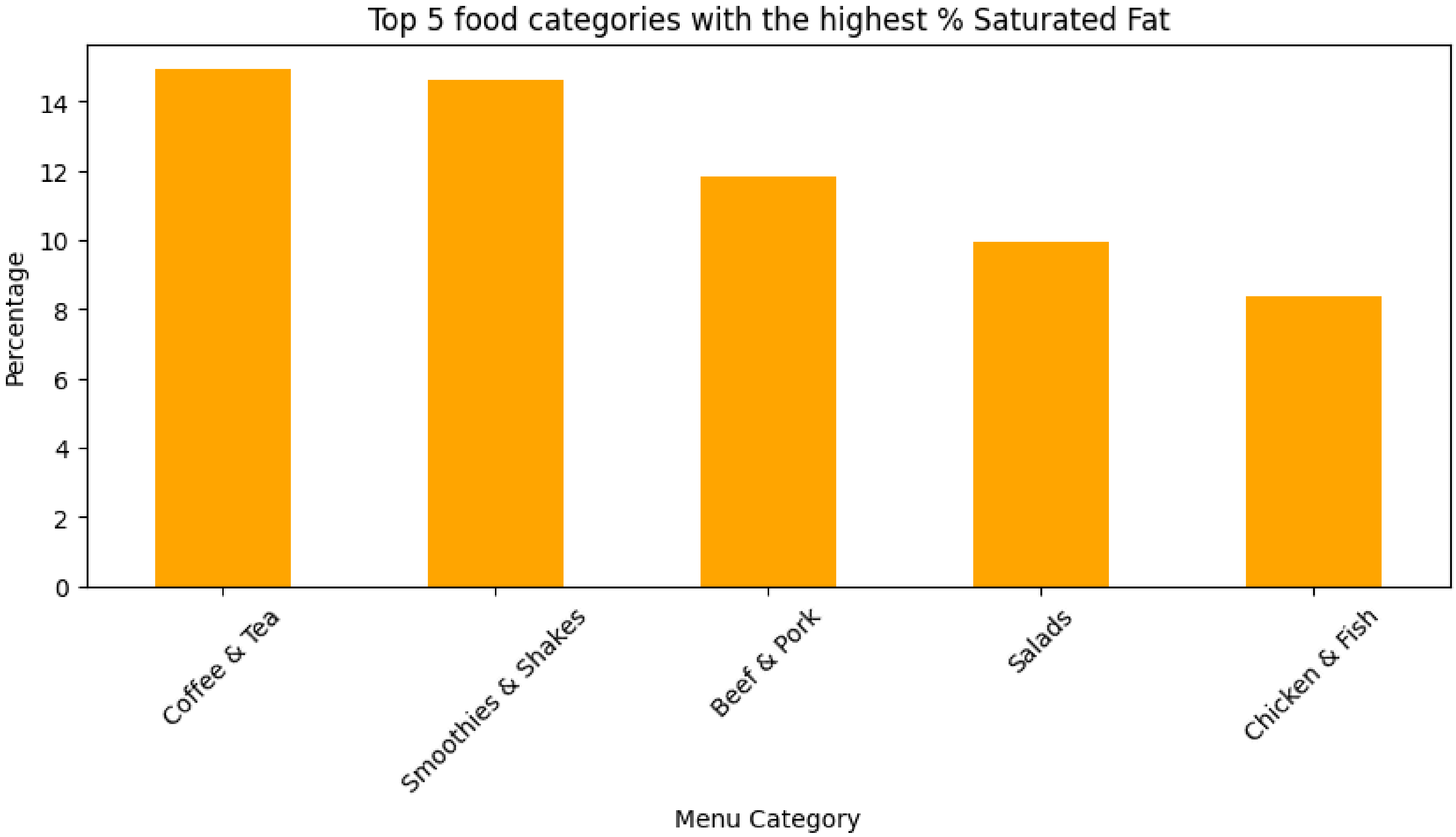
```
df.groupby('Category')['Trans Fat'].mean()
```

```
Category
Beef & Pork           1.100000
Beverages             0.000000
Breakfast             0.107143
Chicken & Fish        0.129630
Coffee & Tea          0.142105
Desserts              0.000000
Salads                0.000000
Smoothies & Shakes    0.535714
Snacks & Sides        0.000000
Name: Trans Fat, dtype: float64
```

```
df['saturated_cholesterol'] = df['Saturated Fat']/df['Cholesterol']*100
```

```
saturated_cholesterol = df.groupby('Category')['saturated_cholesterol'].mean().dropna().nlargest(5)
```

```
plt.figure(figsize=(10, 4), dpi=100)
saturated_cholesterol.sort_values(ascending=False).plot.bar(color = 'orange')
plt.title("Top 5 food categories with the highest % Saturated Fat")
plt.ylabel("Percentage")
plt.xlabel("Menu Category")
plt.xticks(rotation=45)
plt.show();
```



```
coffee_tea = df[df.Category == 'Coffee & Tea']
coffee_tea.groupby('Item')['saturated_cholesterol'].mean().sort_values(ascending=False)
```

```
Item
Frappé Chocolate Chip (Small)     21.538462
```

```
Frappé Chocolate Chip (Medium)    21.250000
Frappé Chocolate Chip (Large)     21.052632
Hazelnut Iced Coffee (Small)      20.000000
Hazelnut Latte (Medium)           20.000000
                                    ...
Iced Tea (Small)                        NaN
Sweet Tea (Child)                       NaN
Sweet Tea (Large)                       NaN
Sweet Tea (Medium)                      NaN
Sweet Tea (Small)                       NaN
Name: saturated_cholesterol, Length: 95, dtype: float64
```

```
shakes = df[df.Category == 'Smoothies & Shakes']
shakes.groupby('Item')['saturated_cholesterol'].mean().sort_values()
```

```
Item
Blueberry Pomegranate Smoothie (Medium)               0.000000
Blueberry Pomegranate Smoothie (Small)                0.000000
Mango Pineapple Smoothie (Medium)                     0.000000
Mango Pineapple Smoothie (Small)                      0.000000
Strawberry Banana Smoothie (Small)                    0.000000
Strawberry Banana Smoothie (Medium)                   0.000000
Blueberry Pomegranate Smoothie (Large)               10.000000
Mango Pineapple Smoothie (Large)                     10.000000
Strawberry Banana Smoothie (Large)                   10.000000
Chocolate Shake (Medium)                             16.000000
Vanilla Shake (Medium)                               16.000000
Shamrock Shake (Medium)                              16.000000
Vanilla Shake (Large)                                16.666667
Strawberry Shake (Small)                             16.666667
Strawberry Shake (Large)                             16.666667
Shamrock Shake (Large)                               16.666667
Vanilla Shake (Small)                                16.666667
Chocolate Shake (Small)                              16.666667
Strawberry Shake (Medium)                            17.333333
Chocolate Shake (Large)                              17.647059
McFlurry with Oreo Cookies (Snack)                   20.000000
McFlurry with Oreo Cookies (Small)                   20.000000
McFlurry with Oreo Cookies (Medium)                  21.818182
McFlurry with Reese's Peanut Butter Cups (Medium)    25.000000
McFlurry with M&M’s Candies (Medium)                 26.666667
McFlurry with Reese's Peanut Butter Cups (Snack)     26.666667
McFlurry with M&M’s Candies (Small)                  28.000000
McFlurry with M&M’s Candies (Snack)                 28.571429
Name: saturated_cholesterol, dtype: float64
```

```
beef_pork = df[df.Category == 'Beef & Pork']
beef_pork.groupby('Item')['saturated_cholesterol'].mean().sort_values()
```

```
Item
Hamburger                                   10.000000
McDouble                                    10.666667
Bacon McDouble                              11.111111
Cheeseburger                                11.111111
Double Cheeseburger                         11.111111
Daily Double                                11.250000
Jalapeño Double                             11.250000
Big Mac                                     11.764706
Double Quarter Pounder with Cheese          11.875000
Quarter Pounder with Bacon & Cheese         12.380952
Quarter Pounder with Bacon Habanero Ranch   12.380952
Quarter Pounder with Cheese                 12.631579
Quarter Pounder Deluxe                      12.941176
Bacon Clubhouse Burger                      13.043478
McRib                                       14.285714
Name: saturated_cholesterol, dtype: float64
```

```
salads = df[df.Category == 'Salads']
salads.groupby('Item')['saturated_cholesterol'].mean().sort_values()
```

```
Item
Premium Southwest Salad with Grilled Chicken       3.571429
Premium Bacon Ranch Salad with Grilled Chicken     4.705882
Premium Bacon Ranch Salad with Crispy Chicken      8.571429
Premium Southwest Salad with Crispy Chicken        9.000000
Premium Bacon Ranch Salad (without Chicken)       14.000000
Premium Southwest Salad (without Chicken)         20.000000
Name: saturated_cholesterol, dtype: float64
```

Vitamins & Minerals

```
df.groupby('Category')['Vitamin A (% Daily Value)'].mean()
```

```
Category
Beef & Pork             6.933333
Beverages               0.740741
Breakfast               6.928571
Chicken & Fish         20.444444
Coffee & Tea           10.736842
Desserts                5.142857
Salads                146.666667
Smoothies & Shakes     18.750000
Snacks & Sides          4.846154
Name: Vitamin A (% Daily Value), dtype: float64
```

```
df.groupby('Category')['Vitamin C (% Daily Value)'].mean()
```

```
Category
Beef & Pork            7.333333
Beverages             23.481481
Breakfast              8.904762
Chicken & Fish        12.629630
Coffee & Tea           0.000000
Desserts               4.142857
Salads                28.333333
Smoothies & Shakes     6.964286
Snacks & Sides        28.153846
Name: Vitamin C (% Daily Value), dtype: float64
```

```
beverage = df[df.Category == 'Beverages']
beverage.groupby('Item')['Vitamin C (% Daily Value)'].mean().sort_values()
```

```
Item
Diet Dr Pepper (Small)                0.0
Sprite (Large)                        0.0
Sprite (Child)                        0.0
Fat Free Chocolate Milk Jug           0.0
Dr Pepper (Small)                     0.0
Dr Pepper (Medium)                    0.0
Dr Pepper (Large)                     0.0
Dr Pepper (Child)                     0.0
Sprite (Medium)                       0.0
Diet Dr Pepper (Medium)               0.0
Diet Dr Pepper (Large)                0.0
Sprite (Small)                        0.0
```

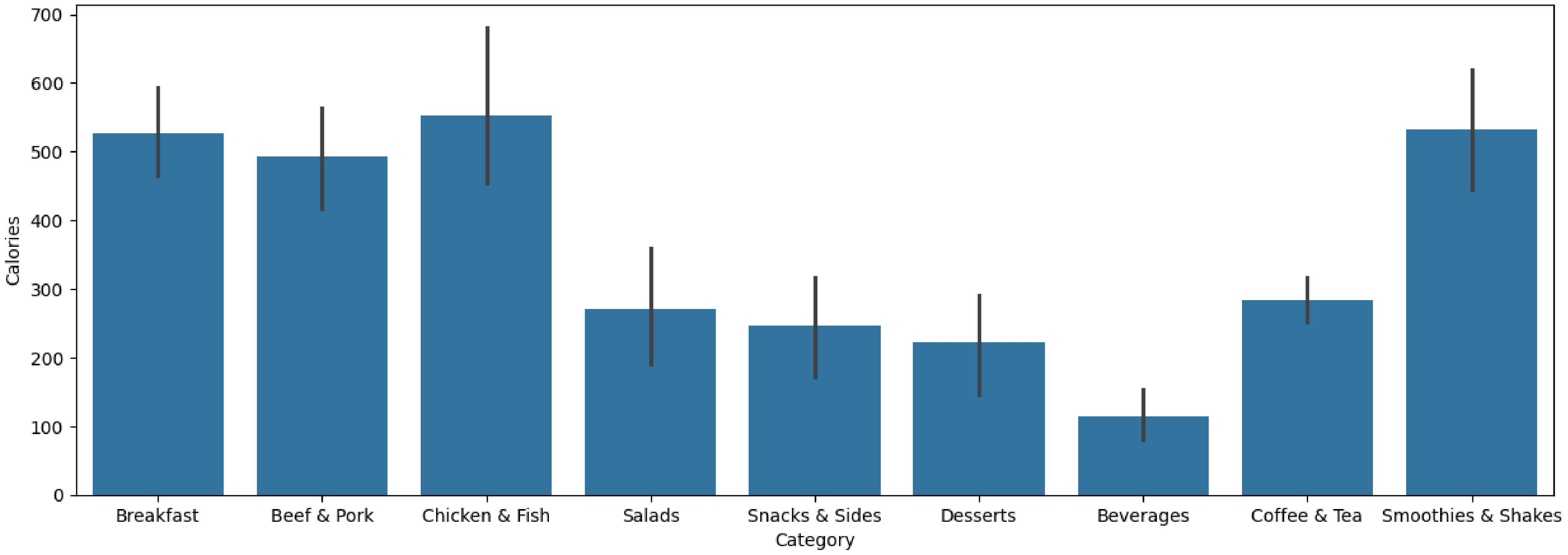
```
Diet Coke (Small)                      0.0
Diet Coke (Medium)                     0.0
Diet Coke (Large)                      0.0
Diet Coke (Child)                      0.0
Dasani Water Bottle                    0.0
Coca-Cola Classic (Small)              0.0
Coca-Cola Classic (Medium)             0.0
Coca-Cola Classic (Large)              0.0
Coca-Cola Classic (Child)              0.0
Diet Dr Pepper (Child)                 0.0
1% Low Fat Milk Jug                    4.0
Minute Maid 100% Apple Juice Box     100.0
Minute Maid Orange Juice (Small)     130.0
Minute Maid Orange Juice (Medium)    160.0
Minute Maid Orange Juice (Large)     240.0
Name: Vitamin C (% Daily Value), dtype: float64
```

Start coding or generate with AI.

CALORIES ANALYSIS

```
fig,ax=plt.subplots(figsize=(15,5))
sns.barplot(data=df,x='Category',y='Calories',ax=ax)
```

```
<Axes: xlabel='Category', ylabel='Calories'>
```



```
df1=df[df['Category']=='Breakfast']
```

```
df1.shape
```

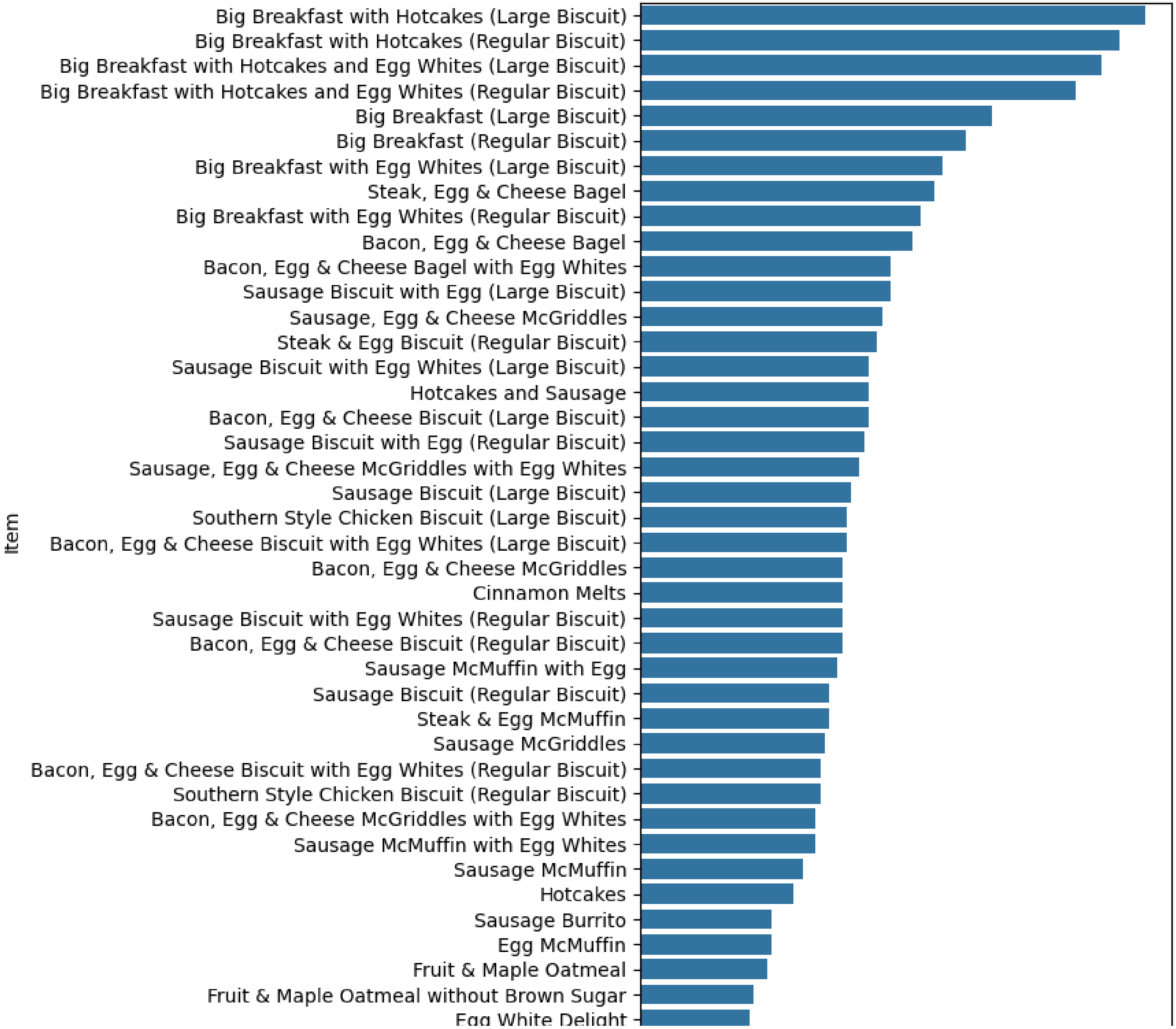
```
(42, 24)
```

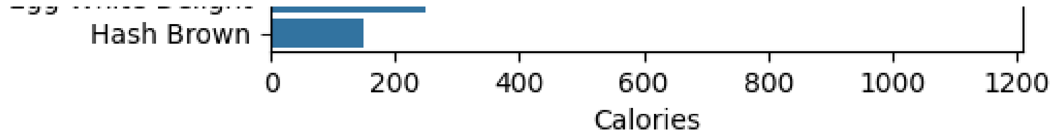
```
df1_1=df1.sort_values(by='Calories',ascending=False)
df1_2=df1.sort_values(by='Cholesterol',ascending=False)
```

calories in each item from breakfast category

```
fig,ax=plt.subplots(figsize=(5,10))
sns.barplot(data=df1_1,x='Calories',y='Item')
```

```
<Axes: xlabel='Calories', ylabel='Item'>
```

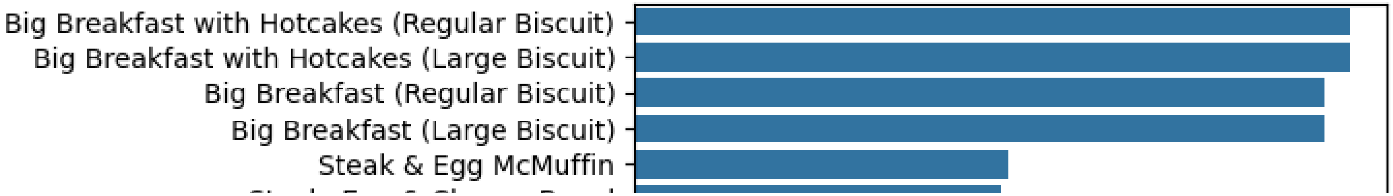

Item
Big Breakfast with Hotcakes (Large Biscuit)
Big Breakfast with Hotcakes (Regular Biscuit)
Big Breakfast with Hotcakes and Egg Whites (Large Biscuit)
Big Breakfast with Hotcakes and Egg Whites (Regular Biscuit)
Big Breakfast (Large Biscuit)
Big Breakfast (Regular Biscuit)
Big Breakfast with Egg Whites (Large Biscuit)
Steak, Egg & Cheese Bagel
Big Breakfast with Egg Whites (Regular Biscuit)
Bacon, Egg & Cheese Bagel
Bacon, Egg & Cheese Bagel with Egg Whites
Sausage Biscuit with Egg (Large Biscuit)
Sausage, Egg & Cheese McGriddles
Steak & Egg Biscuit (Regular Biscuit)
Sausage Biscuit with Egg Whites (Large Biscuit)
Hotcakes and Sausage
Bacon, Egg & Cheese Biscuit (Large Biscuit)
Sausage Biscuit with Egg (Regular Biscuit)
Sausage, Egg & Cheese McGriddles with Egg Whites
Sausage Biscuit (Large Biscuit)
Southern Style Chicken Biscuit (Large Biscuit)
Bacon, Egg & Cheese Biscuit with Egg Whites (Large Biscuit)
Bacon, Egg & Cheese McGriddles
Cinnamon Melts
Sausage Biscuit with Egg Whites (Regular Biscuit)
Bacon, Egg & Cheese Biscuit (Regular Biscuit)
Sausage McMuffin with Egg
Sausage Biscuit (Regular Biscuit)
Steak & Egg McMuffin
Sausage McGriddles
Bacon, Egg & Cheese Biscuit with Egg Whites (Regular Biscuit)
Southern Style Chicken Biscuit (Regular Biscuit)
Bacon, Egg & Cheese McGriddles with Egg Whites
Sausage McMuffin with Egg Whites
Sausage McMuffin
Hotcakes
Sausage Burrito
Egg McMuffin
Fruit & Maple Oatmeal
Fruit & Maple Oatmeal without Brown Sugar
Egg White Delight



Cholesterol in each item from breakfast category

```
fig,ax=plt.subplots(figsize=(5,10))
sns.barplot(data=df1_2,x='Cholesterol',y='Item')
```

```
<Axes: xlabel='Cholesterol', ylabel='Item'>
```


Big Breakfast with Hotcakes (Regular Biscuit)
Big Breakfast with Hotcakes (Large Biscuit)
Big Breakfast (Regular Biscuit)
Big Breakfast (Large Biscuit)
Steak & Egg McMuffin