식품의 종류에 따른 칼로리분석

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목차

1. 개 요

← **피기** 🔍 ☰

2021. 04. 01. 목

후드티 잘쓸클
오후 12:39

오후 12:40

피기
미쳔?

거기 건국대 마크달려있닼ㅎ

ㅗ

ㅋㅋㅋ
오후 12:48

🐷🐷

🐷

🐽

ᄋ빼가

← **피기** 🔍 ☰

🐷

오후 2:51

피기
왜
오후 3:04

너 다이어트 하냐?
오후 3:04

피기
?갑자기

왜
오후 3:05

나 이번에 식품종류에 따른 칼로리 분석이란 주제로 발표하는디

선정하게 된 계기를 우리동생때문이라 말하려고
오후 3:05

피기
ㄷㅊ
오후 3:07

왜
1

야 그래서 그런데
1

너 지금 몇킬로그램?
1

?
1
오후 3:08

1. 개 요

$$1KJ \quad 1kcal$$
$$(1000J) \quad (1000Cal)$$

$$1\,kcal = 4.184J$$

2. 데이터 소개

2. 데이터 소개

Data Explorer

193.39 kB

- ▦ calories.csv
- ▾ ▦ calories.xlsx
  - ▦ calories

‹ **calories.csv** (101.8 kB)   ⬇ ⛶

Detail   Compact   Column   5 of 5 columns ⌄

ⓐ FoodCategory		ⓐ FoodItem		ⓐ per100grams		ⓐ Cals_per100grams		ⓐ KJ_per100grams	
BakingIngredients	4%	**1993**		100g	81%	100 cal	1%	420 kJ	1%
Cakes&Pies	4%	unique values		100ml	19%	250 cal	1%	1050 kJ	1%
Other (2039)	92%					Other (2173)	98%	Other (2173)	98%
CannedFruit		Applesauce		100g		62 cal		260 kJ	
CannedFruit		Canned Apricots		100g		48 cal		202 kJ	
CannedFruit		Canned Blackberries		100g		92 cal		386 kJ	
CannedFruit		Canned Blueberries		100g		88 cal		370 kJ	
CannedFruit		Canned Cherries		100g		54 cal		227 kJ	
CannedFruit		Canned Cranberries		100g		178 cal		748 kJ	
CannedFruit		Canned Crushed Pineapple		100g		53 cal		223 kJ	
CannedFruit		Canned Figs		100g		107 cal		449 kJ	
CannedFruit		Canned Fruit Cocktail		100g		81 cal		340 kJ	
CannedFruit		Canned Fruit Salad		100g		50 cal		210 kJ	
CannedFruit		Canned Gooseberries		100g		73 cal		307 kJ	

3. 코드분석

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```python
#Importing pandas and Matplotlib
import pandas as pd
import matplotlib.pyplot as plt
from matplotlib.ticker import FuncFormatter

# Ensure plots are displayed inline
%matplotlib inline
#%matplotlib notebook

c = pd.read_csv("../input/calories-in-food-items-per-100-grams/calories.csv")
c.head()
```

	FoodCategory	FoodItem	per100grams	Cals_per100grams	KJ_per100grams
0	CannedFruit	Applesauce	100g	62 cal	260 kJ
1	CannedFruit	Canned Apricots	100g	48 cal	202 kJ
2	CannedFruit	Canned Blackberries	100g	92 cal	386 kJ
3	CannedFruit	Canned Blueberries	100g	88 cal	370 kJ
4	CannedFruit	Canned Cherries	100g	54 cal	227 kJ

3. 코드분석

```
#Renaming for ease
c.rename(columns={'FoodCategory': 'category', 'FoodItem': 'item', 'Cals_per100grams': 'calories', 'KJ_per100grams': 'kj'}, inplace=True)
c.columns
```

```
Index(['category', 'item', 'per100grams', 'calories', 'kj'], dtype='object')
```

```
#Summary: No. of items in each categories and corresponding average calories
c_sum = (c.groupby('category')['item', 'calories'].agg({'item': 'count', 'calories': 'mean'}).sort_values(by='calories', ascending=False)).reset_index()
c_sum

#Data is sorted from highest to lowest average calories
```

	category	item	calories
0	VegetableOils	33	875.363636
1	Oils&Fats	30	819.766667
2	Nuts&Seeds	39	439.794872
3	Candy&Sweets	81	424.592593
4	Spreads	39	382.205128
5	Oatmeal,Muesli&Cereals	76	374.407895
6	CerealProducts	44	359.886364
7	Cheese	53	342.735849
8	SlicedCheese	34	328.647059
9	BakingIngredients	95	324.168421
10	Cakes&Pies	91	318.604396
11	CreamCheese	17	315.705882
12	Pasta&Noodles	40	301.275000
13	Pastries,Breads&Rolls	78	299.243590
14	Pork	39	269.230769
15	Sausage	47	264.957447
16	Sauces&Dressings	54	241.129630
17	Legumes	62	240.387097
18	FastFood	72	240.097222
19	Pizza	43	237.697674
20	Beef&Veal	39	237.102564
21	Meat	46	227.869565
22	ColdCuts&LunchMeat	35	223.057143
23	IceCream	45	223.000000
24	AlcoholicDrinks&Beverages	48	207.937500
25	Dishes&Meals	78	207.833333
26	Poultry&Fowl	33	198.666667
27	Herbs&Spices	90	194.455556
28	Venison&Game	36	190.333333
29	Offal&Giblets	33	180.000000
30	PotatoProducts	39	149.743590
31	Fish&Seafood	60	148.650000
32	Milk&DairyProducts	33	139.484848
33	Wine	39	98.051282
34	Yogurt	40	92.425000
35	CannedFruit	29	78.724138
36	Soups	52	74.134615
37	Fruits	54	73.148148
38	Tropical&ExoticFruits	39	72.461538
39	Non-AlcoholicDrinks&Beverages	51	64.156863
40	(Fruit)Juices	46	54.500000
41	Vegetables	63	48.507937
42	Beer	85	39.176471
43	Soda&SoftDrinks	45	32.822222

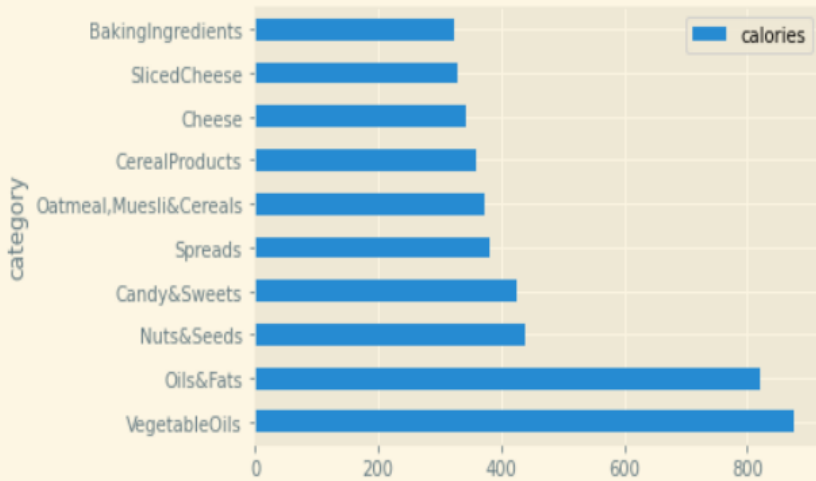# 4. 데이터 시각화

4. 데이터 시각화


```
#Basic Bar plot

c_top10=c_sum.iloc[0:10]

c_top10.plot(kind='barh', y="calories", x="category")
```

```
# A way of misrepresentation of data - Using logs
fig, ax = plt.subplots(figsize=(10,5))
c_top10.plot(kind='bar', y="calories", x="category", ax=ax)
ax.set_yscale('log') #Log scaling
ax.set_xlabel('Calories per 100 grams')
ax.set_ylabel('Food Category')
plt.xticks(rotation=30)
```
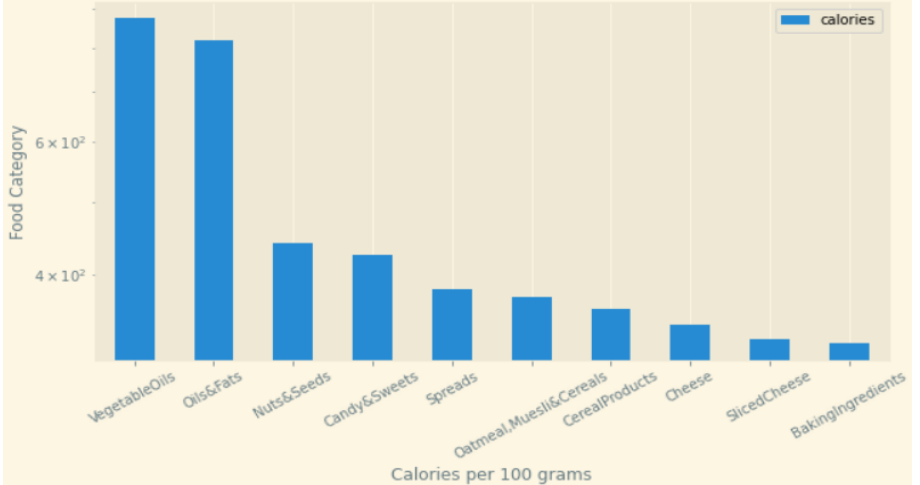
4. 데이터 시각화

```python
#Creating figure and axes
fig, ax = plt.subplots(figsize=(4,5))

#plotting data and getting average
c_top10.plot(kind='barh', y="calories", x="category", ax=ax)
avg= c_top10['calories'].mean()

#setting limits and labels
ax.set_xlim([-100,1000])
ax.set(title='HIGH CALORIE FOOD INGREDIENTS',xlabel ='Calories per 100 grams (in KCal)',ylab
el='Food Category' )

#removing legend
ax.legend().set_visible(False)

#Adding line for average
ax.axvline(x=avg, color='b', label='Avg', linestyle=':', linewidth=2)

#Annotating the food category
for cat in [0,1]:
    ax.text(avg,cat,"Danger Food!")
```
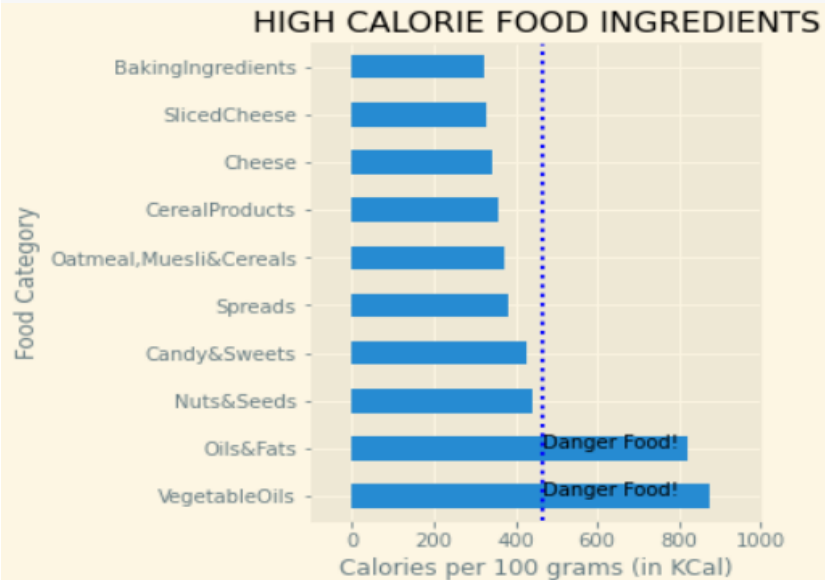
```python
#Creating figure and axes
fig, ax = plt.subplots(figsize=(4,5))

#plotting data and getting average
c_top10.plot(kind='barh', y="item", x="category", ax=ax)
avg1= c_top10['item'].mean()

#setting limits and labels
#ax.set_xlim([-100,1000])
ax.set(title='VARIETY OF FOOD INGREDIENTS ',xlabel ='Number of items in the category',ylabel
='Food Category' )

#removing legend
ax.legend().set_visible(False)

#Adding line for average
ax.axvline(x=avg1, color='b', label='Avg', linestyle=':', linewidth=2)

#Annotating the food category
for cat in [3,5,9]:
    ax.text(avg1,cat,"Lot of Variety")
```
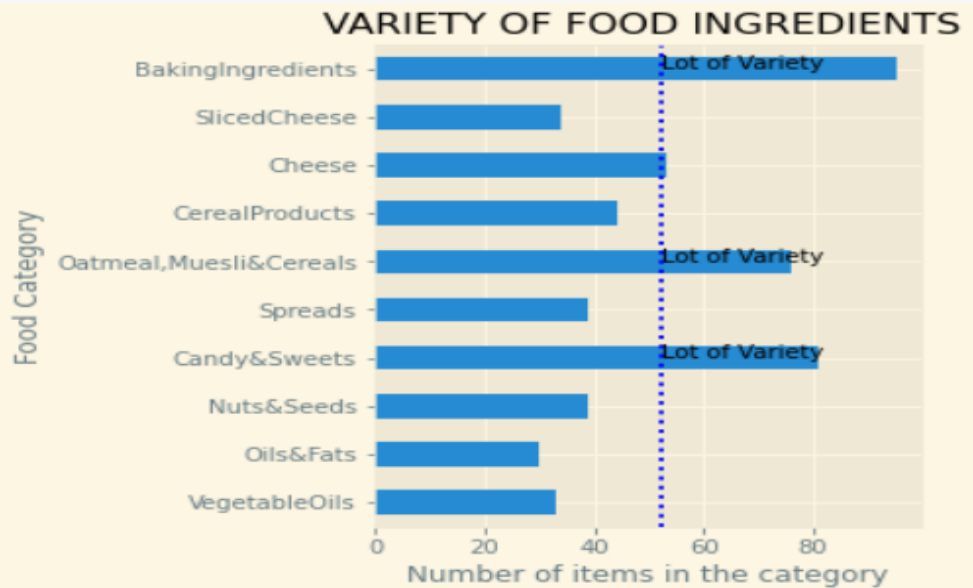
5. 참고문헌

https://www.kriss.re.kr/menu.es?mid=a10302070000

(한국표준과학연구원-국제단위계)

https://www.kaggle.com/kkhandekar/calories-in-food-items-per-100-grams

(식품 칼로리 분석 데이터 자료)

6. 결 론

감사합니다