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Roll No: 19CO33

Exp No : 05

```
!pip install snscrape
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Collecting snscrape
  Downloading snscrape-0.5.0.20230113-py3-none-any.whl (69 kB)
                                         ──── 69.2/69.2 KB 1.9 MB/s eta 0:00:00
Requirement already satisfied: beautifulsoup4 in /usr/local/lib/python3.8/dist-packages (from snscrape) (4.6.3)
Requirement already satisfied: requests[socks] in /usr/local/lib/python3.8/dist-packages (from snscrape) (2.25.1)
Requirement already satisfied: filelock in /usr/local/lib/python3.8/dist-packages (from snscrape) (3.9.0)
Requirement already satisfied: lxml in /usr/local/lib/python3.8/dist-packages (from snscrape) (4.9.2)
Requirement already satisfied: pytz in /usr/local/lib/python3.8/dist-packages (from snscrape) (2022.7.1)
Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.8/dist-packages (from requests[socks]->snscrape) (2.10)
Requirement already satisfied: chardet<5,>=3.0.2 in /usr/local/lib/python3.8/dist-packages (from requests[socks]->snscrape) (4.0.0)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.8/dist-packages (from requests[socks]->snscrape) (2022.
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/local/lib/python3.8/dist-packages (from requests[socks]->snscrape) (1.
Requirement already satisfied: PySocks!=1.5.7,>=1.5.6 in /usr/local/lib/python3.8/dist-packages (from requests[socks]->snscrape) (1
Installing collected packages: snscrape
Successfully installed snscrape-0.5.0.20230113
```

```python
import pandas as pd
import snscrape.modules.twitter as sntwitter
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import nltk
nltk.download('stopwords')

from nltk.corpus import stopwords
from nltk.tokenize import word_tokenize
from nltk.stem import WordNetLemmatizer
from nltk.stem.porter import PorterStemmer

import string
import re
import textblob
from textblob import TextBlob
import os

from wordcloud import WordCloud, STOPWORDS
from wordcloud import ImageColorGenerator
import warnings
%matplotlib inline
```

```
[nltk_data] Downloading package stopwords to /root/nltk_data...
[nltk_data]   Unzipping corpora/stopwords.zip.
```

```python
os.system("snscrape --jsonl --max-results 5000 --since 2023-01-31 twitter-search 'Unilever 2023 until:2023-02-07'>text-query-tweets.json"
```

```
0
```

```python
tweets_df = pd.read_json("text-query-tweets.json" ,lines=True)
```

```python
tweets_df.head(5)
```

	_type	url	date	rawContent	renderedContent	
0	snscrape.modules.twitter.Tweet	https://twitter.com/MyLandAg/status/1622645322...	2023-02-06 17:16:06+00:00	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	16226453226178
1	snscrape.modules.twitter.Tweet	https://twitter.com/ElenaNjeru/status/16225664...	2023-02-06 12:02:44+00:00	Injz bought Maganjo (Ugandan) maize flour agai...	Injz bought Maganjo (Ugandan) maize flour agai...	16225664595609
				We		

```
tweets_df.to_csv()
```

```
',_type,url,date,rawContent,renderedContent,id,user,replyCount,retweetCount,likeCount,quoteCount,conversationId,lang,source,source
Url,sourceLabel,links,media,retweetedTweet,quotedTweet,inReplyToTweetId,inReplyToUser,mentionedUsers,coordinates,place,hashtags,ca
shtags,card,viewCount,vibe\n0,snscrape.modules.twitter.Tweet,https://twitter.com/MyLandAg/status/1622645322617847830,2023-02-06 1
7:16:06+00:00,"In 2021, PepsiCo, Danone, Nestlé, and Unilever—vast, multinational, fast-moving consumer goods companies—announced
they were adopting regenerative agricultural practices across millions of acres of farmland. In 2023, they will...\n#regenerativef
arming #food https://t.co/NlmbBMeW4S","In 2021, PepsiCo, Danone, Nestlé, and Unilever—vast, multinational, fast-moving consumer go
ods companies—announced they were adopting regenerative agricultural practices across millions of acres of farmland. In 2023, they
will    \n#regenerativefarming #food wired.com/story/agricult  " 1622645322617847830 "{\' typ_i_g ...
```

```
df1 = tweets_df[[ 'date', 'rawContent' , 'renderedContent' , 'user' , 'replyCount' ,'retweetCount' , 'likeCount' , 'lang' , 'place' , 'ha
```

```
2023-02-06          du       venir : PIB du
```

```
df1.head()
```

	date	rawContent	renderedContent	user	replyCount	retweetCount	likeCount	lang	place	
0	2023-02-06 17:16:06+00:00	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	[regene
1	2023-02-06 12:02:44+00:00	Injz bought Maganjo (Ugandan) maize flour agai...	Injz bought Maganjo (Ugandan) maize flour agai...	{'_type': 'snscrape.modules.twitter.User', 'us...	4	3	14	en	NaN	
2	2023-02-06 11:34:14+00:00	We welcome our eminent speaker **Shrabani Bhatta**...	We welcome our eminent speaker **Shrabani Bhatta**...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	[UBSFFu
3	2023-02-06 10:16:38+00:00	Five trends that will take plant-based eating ...	Five trends that will take plant-based eating ...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	
		La semaine à venir : PIB	La semaine à	{'_type':						

```
df1.shape
```

```
(38, 11)
```

```
df1=df1.drop_duplicates("renderedContent")
```

```
df1.shape
```

```
(38, 11)
```

```
df1.head
```

```
<bound method NDFrame.head of                           date  \
0 2023-02-06 17:16:06+00:00
1 2023-02-06 12:02:44+00:00
2 2023-02-06 11:34:14+00:00
3 2023-02-06 10:16:38+00:00
4 2023-02-06 00:50:30+00:00
5 2023-02-05 12:30:57+00:00
6 2023-02-05 06:29:16+00:00
7 2023-02-04 11:00:18+00:00
8 2023-02-03 13:45:05+00:00
9 2023-02-03 13:37:00+00:00
10 2023-02-03 13:13:52+00:00
```

```
11 2023-02-03 09:29:00+00:00
12 2023-02-03 05:04:16+00:00
13 2023-02-02 18:09:01+00:00
14 2023-02-02 17:45:00+00:00
15 2023-02-02 17:29:10+00:00
16 2023-02-02 16:31:12+00:00
17 2023-02-02 08:29:42+00:00
18 2023-02-02 05:09:21+00:00
19 2023-02-02 02:37:01+00:00
20 2023-02-01 16:08:15+00:00
21 2023-02-01 14:44:23+00:00
22 2023-02-01 13:51:12+00:00
23 2023-02-01 12:58:16+00:00
24 2023-02-01 12:35:52+00:00
25 2023-02-01 11:43:58+00:00
26 2023-02-01 11:30:44+00:00
27 2023-02-01 10:30:39+00:00
28 2023-02-01 10:28:16+00:00
29 2023-02-01 08:03:05+00:00
30 2023-02-01 07:07:11+00:00
31 2023-02-01 01:17:03+00:00
32 2023-01-31 16:19:27+00:00
33 2023-01-31 12:07:42+00:00
34 2023-01-31 09:05:00+00:00
35 2023-01-31 07:27:11+00:00
36 2023-01-31 04:46:46+00:00
37 2023-01-31 03:18:31+00:00

                                      rawContent  \
0    In 2021, PepsiCo, Danone, Nestlé, and Unilever...
1    Injz bought Maganjo (Ugandan) maize flour agai...
2    We welcome our eminent speaker Shrabani Bhatta...
3    Five trends that will take plant-based eating ...
4    La semaine à venir : PIB du Royaume-Uni au qua...
5    Helado Sin Azúcar Alcance del mercado 2023-202...
6    @karirfess morris, astra, unilever, nestle ali...
7    Hellmann's #BigGame 🏈 celebrity combo  may sti...
8    #CHCNewsflash: @Unilever #Unilever has announc...
9    Ice Creams &amp; Frozen Desserts Market 2023 S...
10   @kimvankeken Zo zijn er veel grote bedrijven z...
11   Looking for 🆕 trends &amp; behaviour ahead of ...
12   Dear sir/ma'am i have given all docs required ...
13   02 Feb 2023 @TheEngineerUK Industry giants tar...
14   Join 200+ industry leaders, including top exec...
15   Learn more about CEO transition at https://t.c...
16   Join 200+ industry leaders, including top exec...
```

df1.info

```
<bound method DataFrame.info of                        date  \
0    2023-02-06 17:16:06+00:00
1    2023-02-06 12:02:44+00:00
2    2023-02-06 11:34:14+00:00
3    2023-02-06 10:16:38+00:00
4    2023-02-06 00:50:30+00:00
5    2023-02-05 12:30:57+00:00
6    2023-02-05 06:29:16+00:00
7    2023-02-04 11:00:18+00:00
8    2023-02-03 13:45:05+00:00
9    2023-02-03 13:37:00+00:00
10   2023-02-03 13:13:52+00:00
11   2023-02-03 09:29:00+00:00
12   2023-02-03 05:04:16+00:00
13   2023-02-02 18:09:01+00:00
14   2023-02-02 17:45:00+00:00
15   2023-02-02 17:29:10+00:00
16   2023-02-02 16:31:12+00:00
17   2023-02-02 08:29:42+00:00
18   2023-02-02 05:09:21+00:00
19   2023-02-02 02:37:01+00:00
20   2023-02-01 16:08:15+00:00
21   2023-02-01 14:44:23+00:00
22   2023-02-01 13:51:12+00:00
23   2023-02-01 12:58:16+00:00
24   2023-02-01 12:35:52+00:00
25   2023-02-01 11:43:58+00:00
26   2023-02-01 11:30:44+00:00
27   2023-02-01 10:30:39+00:00
28   2023-02-01 10:28:16+00:00
29   2023-02-01 08:03:05+00:00
30   2023-02-01 07:07:11+00:00
31   2023-02-01 01:17:03+00:00
32   2023-01-31 16:19:27+00:00
33   2023-01-31 12:07:42+00:00
34   2023-01-31 09:05:00+00:00
35   2023-01-31 07:27:11+00:00
36   2023-01-31 04:46:46+00:00
37   2023-01-31 03:18:31+00:00

                                      rawContent  \
```

```
0    In 2021, PepsiCo, Danone, Nestlé, and Unilever...
1    Injz bought Maganjo (Ugandan) maize flour agai...
2    We welcome our eminent speaker Shrabani Bhatta...
3    Five trends that will take plant-based eating ...
4    La semaine à venir : PIB du Royaume-Uni au qua...
5    Helado Sin Azúcar Alcance del mercado 2023-202...
6    @karirfess morris, astra, unilever, nestle ali...
7    Hellmann's #BigGame 🏈 celebrity combo  may sti...
8    #CHCNewsflash: @Unilever #Unilever has announc...
9    Ice Creams &amp; Frozen Desserts Market 2023 S...
10   @kimvankeken Zo zijn er veel grote bedrijven z...
11   Looking for 🆕 trends &amp; behaviour ahead of ...
12   Dear sir/ma'am i have given all docs required ...
13   02 Feb 2023 @TheEngineerUK Industry giants tar...
14   Join 200+ industry leaders, including top exec...
15   Learn more about CEO transition at https://t.c...
16   Join 200+ industry leaders, including top exec...
```

```python
df1.date.value_counts()
```
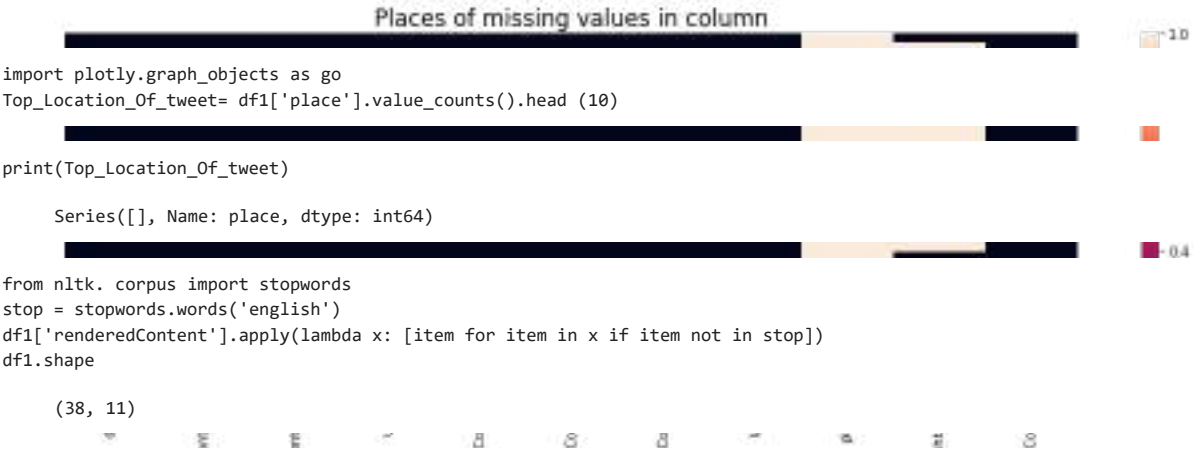
```
2023-02-06 17:16:06+00:00    1
2023-02-01 10:28:16+00:00    1
2023-02-01 14:44:23+00:00    1
2023-02-01 13:51:12+00:00    1
2023-02-01 12:58:16+00:00    1
2023-02-01 12:35:52+00:00    1
2023-02-01 11:43:58+00:00    1
2023-02-01 11:30:44+00:00    1
2023-02-01 10:30:39+00:00    1
2023-02-01 08:03:05+00:00    1
2023-02-06 12:02:44+00:00    1
2023-02-01 07:07:11+00:00    1
2023-02-01 01:17:03+00:00    1
2023-01-31 16:19:27+00:00    1
2023-01-31 12:07:42+00:00    1
2023-01-31 09:05:00+00:00    1
2023-01-31 07:27:11+00:00    1
2023-01-31 04:46:46+00:00    1
2023-02-01 16:08:15+00:00    1
2023-02-02 02:37:01+00:00    1
2023-02-02 05:09:21+00:00    1
2023-02-02 08:29:42+00:00    1
2023-02-06 11:34:14+00:00    1
2023-02-06 10:16:38+00:00    1
2023-02-06 00:50:30+00:00    1
2023-02-05 12:30:57+00:00    1
2023-02-05 06:29:16+00:00    1
2023-02-04 11:00:18+00:00    1
2023-02-03 13:45:05+00:00    1
2023-02-03 13:37:00+00:00    1
2023-02-03 13:13:52+00:00    1
2023-02-03 09:29:00+00:00    1
2023-02-03 05:04:16+00:00    1
2023-02-02 18:09:01+00:00    1
2023-02-02 17:45:00+00:00    1
2023-02-02 17:29:10+00:00    1
2023-02-02 16:31:12+00:00    1
2023-01-31 03:18:31+00:00    1
Name: date, dtype: int64
```

```python
plt.figure(figsize=(17, 5))
sns.heatmap(df1.isnull(), cbar=True, yticklabels=False)
plt.xlabel("Column_Name", size=14, weight="bold")
plt.title("Places of missing values in column",size=17)
plt.show()
```

Places of missing values in column

```python
import plotly.graph_objects as go
Top_Location_Of_tweet= df1['place'].value_counts().head (10)
```

```python
print(Top_Location_Of_tweet)
```

```
Series([], Name: place, dtype: int64)
```

```python
from nltk. corpus import stopwords
stop = stopwords.words('english')
df1['renderedContent'].apply(lambda x: [item for item in x if item not in stop])
df1.shape
```

```
(38, 11)
```

```python
!pip install tweet-preprocessor
```

```
    Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
    Collecting tweet-preprocessor
      Downloading tweet_preprocessor-0.6.0-py3-none-any.whl (27 kB)
    Installing collected packages: tweet-preprocessor
    Successfully installed tweet-preprocessor-0.6.0
```

```python
#Remove unnecessary characters
punct = ['%','/',':','\\','&amp','&',';','?']

def remove_punctuations(text):
  for punctuation in punct:
    text = text.replace(punctuation,'')
  return text


df1['renderedContent'] = df1['renderedContent'].apply(lambda x: remove_punctuations(x))
```

```python
df1['renderedContent'].replace( '', np.nan, inplace=True)
df1.dropna(subset=["renderedContent"],inplace=True)
len(df1)
```

```
    38
```

```python
df1 = df1.reset_index(drop=True)
df1.head()
```

	date	rawContent	renderedContent	user	replyCount	retweetCount	likeCount	lang	place
0	2023-02-06 17:16:06+00:00	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	[regene
1	2023-02-06 12:02:44+00:00	Injz bought Maganjo (Ugandan) maize flour agai...	Injz bought Maganjo (Ugandan) maize flour agai...	{'_type': 'snscrape.modules.twitter.User', 'us...	4	3	14	en	NaN	
2	2023-02-06 11:34:14+00:00	We welcome our eminent speaker **Shrabani Bhatta**...	We welcome our eminent speaker **Shrabani Bhatta**...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	[UBSFFu
3	2023-02-06 10:16:38+00:00	Five trends that will take plant-based eating ...	Five trends that will take plant-based eating ...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	
		La semaine à venir : PIB	La semaine à	{'_type':					

```python
from sklearn.feature_extraction. text import TfidfVectorizer, CountVectorizer
```

```python
sns.set_style('whitegrid')
%matplotlib inline
stop=stop+['assured' , 'health' , 'http' , '2023', 'best' ,'look' , 'union', 'product' , 'customer' , 'india']
```

```python
def plot_20_most_common_words(count_data, count_vectorizer) :
  import matplotlib. pyplot as plt
  words = count_vectorizer.get_feature_names()
  total_counts = np. zeros(len(words))
  for t in count_data:
    total_counts = t.toarray()[0]

  count_dict = (zip(words, total_counts))
  count_dict = sorted(count_dict, key=lambda x:x[1],reverse=True)[0:20]
  words = [w[0] for w in count_dict]
  counts = [w[1] for w in count_dict]
  x_pos = np.arange(len(words))

  plt.figure(2, (40,40))
  plt.subplot(title = '20 most common words')
  sns. set_context('notebook',font_scale=4,rc={ 'lines.linewidth' :2.5})
  sns.barplot(x_pos, counts, palette='husl')
  plt.xticks(x_pos, words, rotation=90)
  plt.xlabel('words')
  plt.ylabel('counts')
  plt.show()

count_vectorizer = CountVectorizer(stop_words=stop)
# Fit and transform the processed titles
count_data = count_vectorizer.fit_transform(df1['renderedContent'])
# print(count_vectorizer)
# print(count_data)
# Visualise the 20 most common words
plot_20_most_common_words(count_data,count_vectorizer)
plt.savefig( 'saved_figure.png')
```
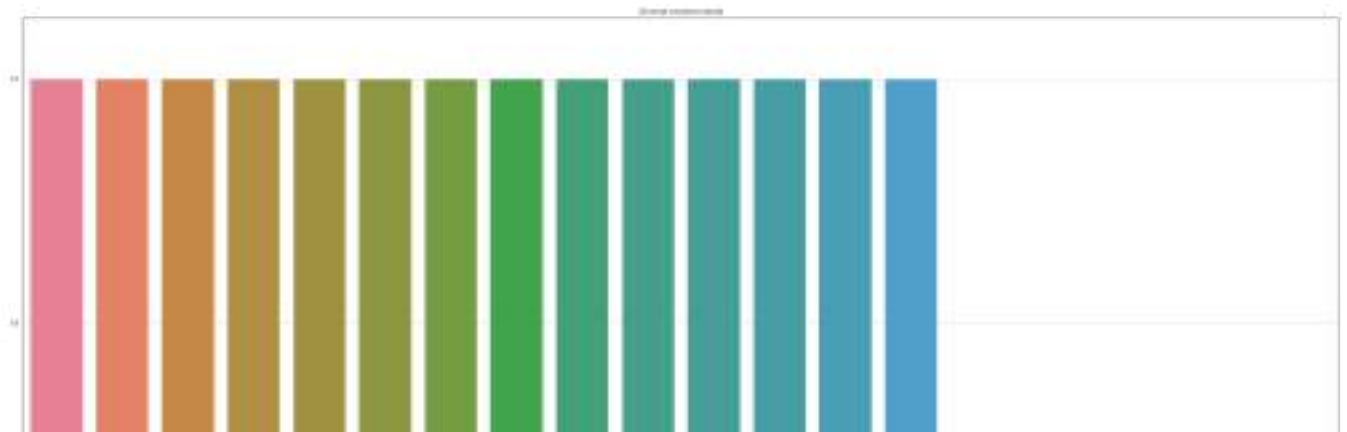
/usr/local/lib/python3.8/dist-packages/sklearn/utils/deprecation.py:87: FutureWarning:

Function get_feature_names is deprecated; get_feature_names is deprecated in 1.0 and will be removed in 1.2. Please use get_feature

/usr/local/lib/python3.8/dist-packages/seaborn/_decorators.py:36: FutureWarning:

Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passi


```python
import cufflinks as cf
cf.go_offline()
cf.set_config_file(offline=False, world_readable=True)

def get_top_n_bigram(corpus, n=None) :
  vec = CountVectorizer(ngram_range=(2, 4), stop_words="english").fit(corpus)
  bag_of_words = vec.transform(corpus)
  sum_words = bag_of_words.sum(axis=0)
  words_freq =[(word, sum_words[0, idx]) for word, idx in vec.vocabulary_.items()]
  words_freq =sorted(words_freq, key = lambda x: x[1], reverse=True)
  return words_freq[:n]

common_words = get_top_n_bigram(df1['renderedContent'] , 8)
mydict={}
for word, freq in common_words:
  bigram_df = pd.DataFrame(common_words,columns = ['ngram', 'count'])

bigram_df.groupby( 'ngram' ).sum()['count'].sort_values(ascending=False).sort_values().plot.barh(title = 'Top 8 bigrams',color='orange' ,
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f206e8a89d0>
```



```python
def get_subjectivity(text):
  return TextBlob(text).sentiment.subjectivity
def get_polarity(text):
  return TextBlob(text).sentiment.polarity


df1['subjectivity']=df1[ 'renderedContent'].apply(get_subjectivity)
df1[ 'polarity' ]=df1[ 'renderedContent'].apply(get_polarity)
df1.head()
```

	date	rawContent	renderedContent	user	replyCount	retweetCount	likeCount	lang	place
0	2023-02-06 17:16:06+00:00	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	[regene
1	2023-02-06 12:02:44+00:00	Injz bought Maganjo (Ugandan) maize flour agai...	Injz bought Maganjo (Ugandan) maize flour agai...	{'_type': 'snscrape.modules.twitter.User', 'us...	4	3	14	en	NaN	
2	2023-02-06 11:34:14+00:00	We welcome our eminent speaker **Shrabani Bhatta**...	We welcome our eminent speaker **Shrabani Bhatta**...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	[UBSFFu
3	2023-02-06 10:16:38+00:00	Five trends that will take plant-based eating ...	Five trends that will take plant-based eating ...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	en	NaN	
4	2023-02-06 00:50:30+00:00	La semaine à venir : PIB du Royaume-Uni au qua...	La semaine à venir PIB du Royaume-Uni au quat...	{'_type': 'snscrape.modules.twitter.User', 'us...	0	0	0	fr	NaN	

```python
df1['textblob_score'] =df1[ 'renderedContent'].apply(lambda x: TextBlob(x).sentiment.polarity)


neutral_threshold=0.05



df1['textblob_sentiment']=df1[ 'textblob_score'].apply(lambda c:'positive' if c >= neutral_threshold else ('Negative' if c <= -(neutral_t


textblob_df =  df1[['renderedContent','textblob_sentiment','likeCount']]
textblob_df
```

	renderedContent	textblob_sentiment	likeCount
0	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	Neutral	0
1	Injz bought Maganjo (Ugandan) maize flour agai...	Neutral	14
2	We welcome our eminent speaker **Shrabani Bhatta**...	positive	0
3	Five trends that will take plant-based eating ...	Neutral	0
4	La semaine à venir PIB du Royaume-Uni au quat...	Neutral	0
5	Helado Sin Azúcar Alcance del mercado 2023-202...	Neutral	0
6	@karirfess morris, astra, unilever, nestle ali...	Neutral	0
7	Hellmann's #BigGame 🏈 celebrity combo may sti...	Negative	26
8	#CHCNewsflash @Unilever #Unilever has announce...	positive	0
9	Ice Creams Frozen Desserts Market 2023 Size A...	positive	0
10	@kimvankeken Zo zijn er veel grote bedrijven z...	Neutral	0
11	Looking for 🆕 trends behaviour ahead of the w...	Neutral	0
12	Dear sirma'am i have given all docs required f...	Neutral	1
13	02 Feb 2023 @TheEngineerUK Industry giants tar...	Neutral	0

```python
textblob_df["textblob_sentiment"].value_counts()
```

```
Neutral     19
positive    15
Negative     4
Name: textblob_sentiment, dtype: int64
```

| 18 | @BambinoJalapeno @theJagmeetSingh Unilever sti... | Negative | 0 |

```python
textblob_df["textblob_sentiment"].value_counts().plot.barh(title = 'Sentiment Analysis',color='orange' , width=.4, figsize=(12,8),stacked
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f206e9accd0>
```



```python
df_positive=textblob_df[textblob_df['textblob_sentiment']=='positive' ]
```

```python
df_very_positive=df_positive[df_positive['likeCount']>0]
```

```python
df_very_positive.head()
```

	renderedContent	textblob_sentiment	likeCount
15	Learn more about CEO transition at halford.co\...	positive	1
20	Huge congratulations to 2023's Inspirational W...	positive	5

```
df_negative=textblob_df[textblob_df['textblob_sentiment']=='Negative' ]
```

```
df_negative
```

	renderedContent	textblob_sentiment	likeCount
7	Hellmann's #BigGame 🏈 celebrity combo may sti...	Negative	26
18	@BambinoJalapeno @theJagmeetSingh Unilever sti...	Negative	0
25	🔶Ynsect au Sommet de Davos 2023 \n\nAntoine Hu...	Negative	0
26	@HUL_News my order I'd is#148254 , today I hav...	Negative	0

```
df_neutral=textblob_df[textblob_df['textblob_sentiment']=='Neutral' ]
```

```
df_neutral
```

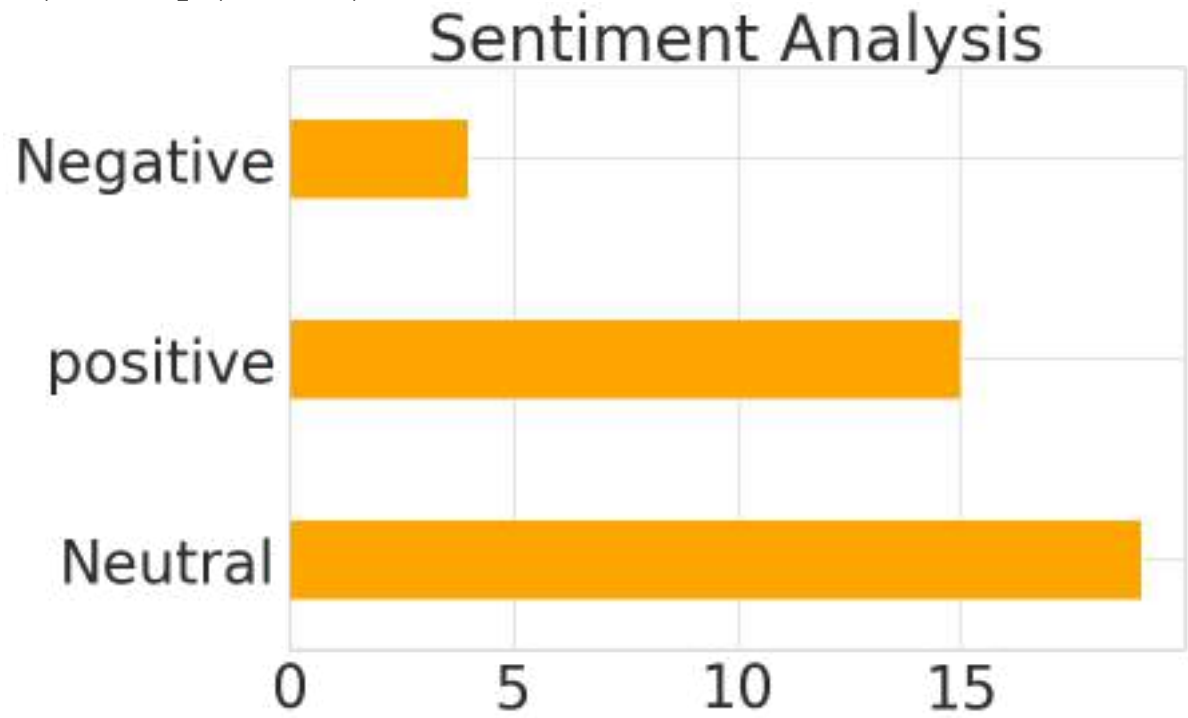|	renderedContent	textblob_sentiment	likeCount
0	In 2021, PepsiCo, Danone, Nestlé, and Unilever...	Neutral	0
1	Injz bought Maganjo (Ugandan) maize flour agai...	Neutral	14
3	Five trends that will take plant-based eating ...	Neutral	0
4	La semaine à venir PIB du Royaume-Uni au quat...	Neutral	0
5	Helado Sin Azúcar Alcance del mercado 2023-202...	Neutral	0
6	@karirfess morris, astra, unilever, nestle ali...	Neutral	0
10	@kimvankeken Zo zijn er veel grote bedrijven z...	Neutral	0
11	Looking for 🆕 trends behaviour ahead of the w...	Neutral	0
12	Dear sirma'am i have given all docs required f...	Neutral	1
13	02 Feb 2023 @TheEngineerUK Industry giants tar...	Neutral	0
17	7-11 มีสินค้าอะไรบ้าง ที่ออกเป็นของตัวเอง นอก...	Neutral	0
19	Berita Emiten\n\nPT Unilever Indonesia Tbk (UN...	Neutral	0
21	Hear from Paul Matthews, Head of Communication...	Neutral	0
22	Hear from Paul Matthews, Head of Communication...	Neutral	0
23	Unilever South Africa OLA Ice Cream Internship...	Neutral	0
24	Five trends that will take #plant-based eating...	Neutral	0
27	Buy Hindustan Unilever target of Rs 2960 Anand...	Neutral	0
34	Αν είστε έτοιμοι να πάτε την καριέρα σας στο ε...	Neutral	0
37	BusinessNewsAustraliaCom has published " Unile...	Neutral	0

```
from wordcloud import WordCloud, STOPWORDS
from PIL import Image


#Creating the text variable
positive_tw =" ".join(t for t in df_very_positive.renderedContent)
# Creating word _ cloud with text as argument in . generate() rtpthod
word_cloud1 = WordCloud(collocations = False, background_color = 'white') .generate(positive_tw)
# Display the generated Word Cloud
plt. imshow(word_cloud1, interpolation='bilinear')
plt.axis('off')
plt.show()
```

```python
#Creating the text variable
negative_tw =" ".join(t for t in df_negative.renderedContent)
# Creating word _ cloud with text as argument in . generate() rtpthod
word_cloud2 = WordCloud(collocations = False, background_color = 'white') .generate(negative_tw)
# Display the generated Word Cloud
plt. imshow(word_cloud2, interpolation='bilinear')
plt.axis('off')
plt.show()
```



```python
#Creating the text variable
neutral_tw =" ".join(t for t in df_neutral.renderedContent)
# Creating word _ cloud with text as argument in . generate() rtpthod
word_cloud2 = WordCloud(collocations = False, background_color = 'white') .generate(neutral_tw)
# Display the generated Word Cloud
plt. imshow(word_cloud2, interpolation='bilinear')
plt.axis('off')
plt.show()
```


Colab paid products - Cancel contracts here

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