

```
!pip install snsrape
!pip install textblob
!pip install nltk
!pip install wordcloud
!pip install emot
```



Collecting snsrape

Downloading snsrape-0.7.0.20230622-py3-none-any.whl (74 kB)

74.8/74.8 kB 1.8 MB/s eta 0:00:00

Requirement already satisfied: requests[socks] in /usr/local/lib/python3.10/dist-packages (from snsrape) (2.31.0)
 Requirement already satisfied: lxml in /usr/local/lib/python3.10/dist-packages (from snsrape) (4.9.3)
 Requirement already satisfied: beautifulsoup4 in /usr/local/lib/python3.10/dist-packages (from snsrape) (4.11.2)
 Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-packages (from snsrape) (3.13.1)
 Requirement already satisfied: soupsieve>1.2 in /usr/local/lib/python3.10/dist-packages (from beautifulsoup4->snsrape) (2.5)
 Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests[socks]->snsrape) (3.3.2)
 Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests[socks]->snsrape) (3.6)
 Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests[socks]->snsrape) (2.2.3)
 Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests[socks]->snsrape) (2024.7.4)
 Requirement already satisfied: PySocks!=1.5.7,>=1.5.6 in /usr/local/lib/python3.10/dist-packages (from requests[socks]->snsrape) (1.7.1)

Installing collected packages: snsrape

Successfully installed snsrape-0.7.0.20230622

Requirement already satisfied: textblob in /usr/local/lib/python3.10/dist-packages (0.17.1)
 Requirement already satisfied: nltk>=3.1 in /usr/local/lib/python3.10/dist-packages (from textblob) (3.8.1)
 Requirement already satisfied: click in /usr/local/lib/python3.10/dist-packages (from nltk>=3.1->textblob) (8.1.7)
 Requirement already satisfied: joblib in /usr/local/lib/python3.10/dist-packages (from nltk>=3.1->textblob) (1.3.2)
 Requirement already satisfied: regex>=2021.8.3 in /usr/local/lib/python3.10/dist-packages (from nltk>=3.1->textblob) (2024.5.15)
 Requirement already satisfied: tqdm in /usr/local/lib/python3.10/dist-packages (from nltk>=3.1->textblob) (4.66.1)
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 Requirement already satisfied: joblib in /usr/local/lib/python3.10/dist-packages (from nltk) (1.3.2)
 Requirement already satisfied: regex>=2021.8.3 in /usr/local/lib/python3.10/dist-packages (from nltk) (2024.5.15)
 Requirement already satisfied: tqdm in /usr/local/lib/python3.10/dist-packages (from nltk) (4.66.1)
 Requirement already satisfied: wordcloud in /usr/local/lib/python3.10/dist-packages (1.9.2)
 Requirement already satisfied: numpy>=1.6.1 in /usr/local/lib/python3.10/dist-packages (from wordcloud) (1.23.5)
 Requirement already satisfied: pillow in /usr/local/lib/python3.10/dist-packages (from wordcloud) (9.4.0)
 Requirement already satisfied: matplotlib in /usr/local/lib/python3.10/dist-packages (from wordcloud) (3.7.1)
 Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib->wordcloud) (1.1.1)
 Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (from matplotlib->wordcloud) (0.12.1)
 Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib->wordcloud) (4.53.0)
 Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib->wordcloud) (1.4.5)
 Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib->wordcloud) (24.1)
 Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib->wordcloud) (3.1.2)
 Requirement already satisfied: python-dateutil>=2.7 in /usr/local/lib/python3.10/dist-packages (from matplotlib->wordcloud) (2.9.0)
 Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.7->matplotlib) (1.16.0)

Collecting emot

Downloading emot-3.1-py3-none-any.whl (61 kB)

61.5/61.5 kB 1.6 MB/s eta 0:00:00

Installing collected packages: emot

Successfully installed emot-3.1



```
import pandas as pd
import snsrape.modules.twitter as sntwitter
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

```
import nltk
nltk.download('stopwords') #run once and comment it out to avoid it downloading multiple times
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
```


```
from wordcloud import WordCloud, STOPWORDS
from emot.emo_unicode import UNICODE_EMOJI
```

```
porter = PorterStemmer()
```


```
lemmatizer = WordNetLemmatizer()
```

```
from wordcloud import ImageColorGenerator
from PIL import Image
```

```
import warnings
%matplotlib inline
```

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

```
df = pd.read_csv('/content/drive/MyDrive/teja.csv' , encoding = 'latin-1' )
df.head()
```

 <ipython-input-5-aea8ba988dd2>:1: DtypeWarning: Columns (0,7) have mixed types. Specify dtype option on import or
df = pd.read_csv('/content/drive/MyDrive/teja.csv' , encoding = 'latin-1')

	id	username	location	description	date	tweet	source	retweets	favorites
0	1.62E+18	Fabulous Faga	Abakaliki, Nigeria	ðŸŒŸ'A Social media influencer\ndðŸŒŸA scientist...	2023-01-23 20:24:20+00:00	#OBI and #wife storm kastina state today.\n\nS...	Twitter for Android	0.0	5.0
1	1.62E+18	Patriotic Nigerian	Lagos, Nigeria	inspiring and amazingly created. Marketing/ Br...	2023-01-23 22:20:47+00:00	If they canâŸŸt point to you one project , inv...	Twitter for iPhone	11.0	15.0
2	1.62E+18	Promise	NaN	Health and Fitness enthusiast	2023-01-23 22:54:22+00:00	@atiku God with his infinite mercy will never ...	Twitter for iPhone	0.0	0.0
3	1.62E+18	KemKem	Lagos, Nigeria	My Tweets & Views are Personal & do not\refle...	2023-01-23 18:05:02+00:00	Governor @RotimiAkeredolu takes Asiwaju Bola A...	Twitter for Android	14.0	40.0
4	1.62E+18	Mo'Gicky	NaN	By nature, an optimist ðŸŒŸ	2023-01-23 20:25:14+00:00	@atiku Salutation is not Love. #Obi is	Twitter for	0.0	4.0

```
df.location.isna().sum()
df['location'] = df['location'].fillna('Unknown')
```

```
eng_stop_words = list(stopwords.words('english'))
```

```
emoji = list(UNICODE_EMOJI.keys())
```

```
# function for preprocessing tweet in preparation for sentiment analysis
def ProcessedTweets(text):
    #changing tweet text to small letters
    text = text.lower()
    # Removing @ and links
    text = ' '.join(re.sub("(@[A-Za-z0-9]+)|(^0-9A-Za-z \t) |(\w+:\/\/\S+)", " ", text).split())
    # removing repeating characters
    text = re.sub(r'\@w+|\#w+|\d+', '', text)
    # removing punctuation and numbers
    punct = str.maketrans('', '', string.punctuation+string.digits)
    text = text.translate(punct)
    # tokenizing words and removing stop words from the tweet text
    tokens = word_tokenize(text)
    filtered_words = [w for w in tokens if w not in eng_stop_words]
    filtered_words = [w for w in filtered_words if w not in emoji]
    # lemmetizing words
    lemmatizer = WordNetLemmatizer()
    lemma_words = [lemmatizer.lemmatize(w) for w in filtered_words]
    text = " ".join(lemma_words)
    return text
```

```
nlTK.download('punkt')
```

```
↗ [nltk_data] Downloading package punkt to /root/nltk_data...
[nltk_data] Unzipping tokenizers/punkt.zip.
True
```


```
nlTK.download('wordnet')
```

```
↗ [nltk_data] Downloading package wordnet to /root/nltk_data...
True
```


```
nlTK.download('omw-1.4')
```

```
↗ [nltk_data] Downloading package omw-1.4 to /root/nltk_data...
True
```

```
df[df['tweet'].isna()]
```



		id	username	location	description	date	tweet	source	retweets	favorites
6813		1.62E+18	Celestin Atanga	Yaounde, Cameroon	A hunter with only one arrow does not shoot wi...	NaN	NaN	NaN	NaN	NaN
45556		1.63E+18	dynamic	Oyo	An arrow can be sent only by dragging it back.	NaN	NaN	NaN	NaN	NaN
45557	So when life is dragging you back with difficu...		NaN	Unknown		NaN	NaN	NaN	NaN	NaN
46755		1.63E+18	Amydar Balogun	Lagos Nigeria	Associate Management Consultant. Best graduati...	NaN	NaN	NaN	NaN	NaN
47964		1.63E+18	âââNew Nigeria Advocate	Unknown	NEW NIGERIA ADVOCATE/	NaN	NaN	NaN	NaN	NaN
47965	Kids fashion designer /Godgirl /		NaN	Unknown		NaN	NaN	NaN	NaN	NaN
62658		1.63E+18	Kenny chukis ââ	Federal Capital Territory, Nig	ð Architect	NaN	NaN	NaN	NaN	NaN
62659	ð Graphics Designer		NaN	Unknown		NaN	NaN	NaN	NaN	NaN
62660	Architectural /Building /Design Services		NaN	Unknown		NaN	NaN	NaN	NaN	NaN



```
df['tweet'].fillna('', inplace=True)

df['Processed_Tweets'] = df['tweet'].astype(str).apply(ProcessedTweets)
df.head()
```



	id	username	location	description	date	tweet	source	retweets	favorites	Pro
0	1.62E+18	Fabulous Faga	Abakaliki, Nigeria	ðA Social media influencer\ndðA scientist...	2023-01-23 20:24:20+00:00	#OBI and #wife storm kastina state today.\n\nS...	Twitter for Android	0.0	5.0	sto t
1	1.62E+18	Patriotic Nigerian	Lagos, Nigeria	inspiring and amazingly created. Marketing/ Br...	2023-01-23 22:20:47+00:00	If they canât point to you one project , inv...	Twitter for iPhone	11.0	15.0	car pr
2	1.62E+18	Promise	Unknown	Health and Fitness enthusiast	2023-01-23 22:54:22+00:00	@atiku God with his infinite mercy will never ...	Twitter for iPhone	0.0	0.0	gr nev
3	1.62E+18	KemKem	Lagos, Nigeria	My Tweets & Views are Personal & do not\nrefle...	2023-01-23 18:05:02+00:00	Governor @RotimiAkeredolu takes Asiwaju Bola A...	Twitter for Android	14.0	40.0	
4	1.62E+18	Mo'Gicky	Unknown	By nature, an optimist_ðð	2023-01-23 20:25:14+00:00	@atiku Salutation is not Love. #Obi is coming	Twitter for Android	0.0	4.0	

```
#another data wrangling process
#replacing some words in the processed tweet
df['Processed_Tweets'] = df['tweet'].replace(to_replace = 'parties', value = 'party')
df['Processed_Tweets'] = df['tweet'].replace(to_replace = 'Labor party', value = 'Labour party')
```

```
#another data wrangling process
# extracting the parties: apc, pdp, labour party and the 3 top candidate name into new columns
def extract_apc(n):
    n = str(n)
    resp = n.lower().find("apc")
    if resp != -1:
        return "APC"
    else:
        return None

def extract_pdp(n):
    n = str(n)
    resp = n.lower().find("pdp")
    if resp != -1:
        return "PDP"
    else:
        return None

def extract_labour(n):
    n = str(n)
    resp = n.lower().find("labour party")
    if resp != -1:
        return "Labour Party"
    else:
        return None

def extract_obi(n):
    n = str(n)
    resp = n.lower().find("obi")
    if resp != -1:
        return "Peter Obi"
    else:
        return None

def extract_atiku(n):
    n = str(n)
    resp = n.lower().find("atiku")
    if resp != -1:
        return "Atiku"
    else:
        return None

def extract_tinubu(n):
    n = str(n)
    resp = n.lower().find("tinubu")
    if resp != -1:
        return "Tinubu"
    else:
        return None

#applying the function
df['Obi'] = df['tweet'].apply(extract_obi)
df['labour'] = df['tweet'].apply(extract_labour)
df['pdp'] = df['tweet'].apply(extract_pdp)
df['apc'] = df['tweet'].apply(extract_apc)
df['atiku'] = df['tweet'].apply(extract_atiku)
df['tinubu'] = df['tweet'].apply(extract_tinubu)

df['Obi'] = df['Obi'].fillna('Empty')
df['labour'] = df['labour'].fillna('Empty')
df['pdp'] = df['pdp'].fillna('Empty')
df['apc'] = df['apc'].fillna('Empty')
df['atiku'] = df['atiku'].fillna('Empty')
df['tinubu'] = df['tinubu'].fillna('Empty')
```

```
#another data wrangling process
# convert the tweet text into a string separate with " "

# Function for polarity score
def polarity(tweet):
    return TextBlob(tweet).sentiment.polarity

# Function to get sentiment type
#setting the conditions
def sentimenttextblob(polarity):
    if polarity < 0:
        return "Negative"
    elif polarity == 0:
        return "Neutral"
    else:
        return "Positive"

df['Polarity'] = df['Processed_Tweets'].apply(polarity)
df['Sentiment'] = df['Polarity'].apply(sentimenttextblob)
sent = df['Sentiment'].value_counts()
sent
```

```
↗ Neutral    42879
   Positive   32908
   Negative    9874
   Name: Sentiment, dtype: int64
```

```
plt.subplot(1,2,1)
sent.plot(kind='bar', color=['green'], figsize=(15,5))
plt.title('Sentiment percieved for the forthcoming election', fontsize=16)
plt.xlabel('Types of sentiment')
plt.ylabel('Number of sentiment');
```

