

```
In [1]: # import library
import tweepy
from textblob import TextBlob
from wordcloud import WordCloud
import configparser
import pandas as pd
import numpy as np
import re
import matplotlib.pyplot as plt
plt.style.use('fivethirtyeight')
```

```
In [2]: # read configs
config = configparser.ConfigParser()
config.read('config.ini')
# Twitter API credentials
api_key = config['twitter']['api_key']
api_key_secret = config['twitter']['api_key_secret']
access_token = config['twitter']['access_token']
access_token_secret = config['twitter']['access_token_secret']
```

```
In [3]: # Create the authentication object
auth = tweepy.OAuthHandler(api_key, api_key_secret)
# Set the access token and access token secret
auth.set_access_token(access_token, access_token_secret)
# Create the API object while passing in the auth information
api = tweepy.API(auth, wait_on_rate_limit = True)
```

```
In [4]: # Extract 100 tweets from the twitter user
posts = api.user_timeline(screen_name = "ndtv", count = 1000, tweet_mode = 'extended')
```

```
In [5]: print("Show the 5 recent Tweets: \n")
i=1
for tweet in posts[0:5]:
    print(str(i)+' ) '+tweet.full_text + '\n')
    i+=1
```

Show the 5 recent Tweets:

1) RT @ndtvfeed: Gang Steals Lakhs From Telangana ATM, Then Throws Cash On Road. Here's Why <https://t.co/i1Lzd9TRvf> <https://t.co/hjMDmhLYez>

2) RT @ndtvfeed: "Do Not Mistake This As...": Kamal Haasan On Joining Bharat Jodo Yatra <https://t.co/Cmrah2MnoI> <https://t.co/PZFZGcPTsf>

3) RT @Sports_NDTV: India played out a goal-less draw against England in their second Pool D match but still remained in the hunt for a direct...

4) RT @ndtvfeed: Kerala Minister's Comments Blamed For Poor Turnout At India-Lanka Match <https://t.co/JZrMwCk4yo> <https://t.co/a3nqSBHWz6>

5) #LeftRightCentre | PKD Nambiar, BJP supporter, on Joshimath crisis <https://t.co/NCqXff7rM9>

```
In [6]: # Create a dataframe with a column called Tweets
df = pd.DataFrame([tweet.full_text for tweet in posts], columns = ['Tweets'])

# Show the first 5 rows of data
df.head()
```

Out[6]:

Tweets

- 0 RT @ndtvfeed: Gang Steals Lakhs From Telangana...
- 1 RT @ndtvfeed: "Do Not Mistake This As...": Kam...
- 2 RT @Sports_NDTV: India played out a goal-less ...
- 3 RT @ndtvfeed: Kerala Minister's Comments Blame...
- 4 #LeftRightCentre | PKD Nambiar, BJP supporter,...

```
In [7]: emoji = re.compile("[ "
    u"\U0001F600-\U0001F64F" # emoticons
    u"\U0001F300-\U0001F5FF" # symbols & pictographs
    u"\U0001F680-\U0001F6FF" # transport & map symbols
    u"\U0001F1E0-\U0001F1FF" # flags (iOS)
    u"\U00002500-\U00002BEF" # chinese char
    u"\U00002702-\U000027B0"
    u"\U00002702-\U000027B0"
    u"\U000024C2-\U0001F251"
    u"\U0001F926-\U0001F937"
    u"\U00010000-\U0010ffff"
    u"\u2640-\u2642"
    u"\u2600-\u2B55"
    u"\u200d"
    u"\u23cf"
    u"\u23e9"
    u"\u231a"
    u"\ufe0f" # dingbats
    u"\u3030"
    "]" + ", re.UNICODE)
```

```
In [8]: # Clean the text
# Create a function to clean the tweets
def cleanTxt(text):
    text = re.sub(r'@[A-Za-z0-9]+', '', text) # Remove @mentions
    text = re.sub(r'#', '', text) # Removing the '#' symbol
    text = re.sub(r'RT[\s]+', '', text) # Removing RT
    text = re.sub(emoji, '', text)
    text = re.sub(r'NDTV', '', text)
    text = re.sub(r'report+', '', text)
    text = re.sub(r'!', '', text)
    text = re.sub(r'\*', '', text)
    text = re.sub(r'_', '', text)
    text = re.sub(r'https://\S+', '', text) # Remove the hyper link
    return text
```

```
In [9]: # Clean the text
df['Tweets'] = df['Tweets'].apply(cleanTxt)
```

```
In [10]: # Show the cleaned text
df
```

Out[10]:

Tweets

| | |
|------------|---|
| 0 | : Gang Steals Lakhs From Telangana ATM, Then T... |
| 1 | : "Do Not Mistake This As...": Kamal Haasan On... |
| 2 | : India played out a goal-less draw against En... |
| 3 | : Kerala Minister's Comments Blamed For Poor T... |
| 4 | LeftRightCentre PKD Nambiar, BJP supporter, ... |
| ... | ... |
| 195 | LeftRightCentre "Great opportunity for India... |
| 196 | LeftRightCentre "The craze for hockey in Rou... |
| 197 | LeftRightCentre "One gold medal will change ... |
| 198 | Vlog Vande Bharat Sankranti Gift To Telugu S... |
| 199 | 32 Dead As Nepal Plane With 72 On Board Crashe... |

200 rows × 1 columns

```
In [11]: #j=1
#for i in range(0,df.shape[0]):
#    print(str(j)+' ') + df['Tweets'][i])
#    print()
#    j+=1
```

```
In [12]: # Create a function to get the subjectivity
def getSubjectivity(text):
    return TextBlob(text).sentiment.subjectivity

# Create a function to get the polarity
def getPolarity(text):
    return TextBlob(text).sentiment.polarity
```

```
In [13]: #Create two new columns
df['Subjectivity'] = df['Tweets'].apply(getSubjectivity)
df['Polarity'] = df['Tweets'].apply(getPolarity)
```

```
In [14]: # Show the new dataframe with the new columns
df
```



```
In [17]: df['Analysis'] = df['Polarity'].apply(getAnalysis)
# Show the dataframe
df
```

```
Out[17]:
```

| | Tweets | Subjectivity | Polarity | Analysis |
|-----|---|--------------|----------|----------|
| 0 | : Gang Steals Lakhs From Telangana ATM, Then T... | 0.0000 | 0.0 | Nutral |
| 1 | : "Do Not Mistake This As...": Kamal Haasan On... | 0.0000 | 0.0 | Nutral |
| 2 | : India played out a goal-less draw against En... | 0.0000 | 0.0 | Nutral |
| 3 | : Kerala Minister's Comments Blamed For Poor T... | 0.6000 | -0.4 | Negative |
| 4 | LeftRightCentre PKD Nambiar, BJP supporter, ... | 0.0000 | 0.0 | Nutral |
| ... | ... | ... | ... | ... |
| 195 | LeftRightCentre "Great opportunity for India... | 0.3750 | 0.4 | Positive |
| 196 | LeftRightCentre "The craze for hockey in Rou... | 0.0000 | 0.0 | Nutral |
| 197 | LeftRightCentre "One gold medal will change ... | 0.3125 | 0.0 | Nutral |
| 198 | Vlog Vande Bharat Sankranti Gift To Telugu S... | 0.0000 | 0.0 | Nutral |
| 199 | 32 Dead As Nepal Plane With 72 On Board Crashe... | 0.4000 | -0.2 | Negative |

200 rows × 4 columns

```
In [18]: # Print all of the postive tweets
j=1
sortedDF = df.sort_values(by = ['Polarity'])
for i in range(0,sortedDF.shape[0]):
    if sortedDF['Analysis'][i] == 'Positive':
        print(str(j)+' ) '+ sortedDF['Tweets'][i])
        print()
        j+=1
```

- 1) : 3 Shot Dead In Madhya Pradesh's Bhind Over Panchayat Poll Rivalry
- 2) : Chelsea eased the pressure on manager Graham Potter with a 1-0 win over Crystal Palace as Newcastle struck late to beat F...
- 3) : Google Chrome may get a new toggle to block all unwanted extensions at once
- 4) : Shakhtar confirmed that Mudryk will cost the Blues an initial 70 million euros with a further 30 million in performance re...
- 5) : Virat Kohli feels India star's outstanding run of form in 50-over cricket augers well for the team heading into the World...
- 6) : Team India had a memorable night on Sunday as they thrashed Sri Lanka in the third and final ODI of the three-match series...
- 7) : Drugs Worth \$400,000 And Stolen Artwork Recovered By Police In US
- 8) : Nepal Plane Crash: PM Modi Says "Precious Lives Lost, Including Indians"
- 9) BREAKING | On Nepal plane crash that killed 68, PM Modi says "precious lives have been lost"
- 10) BREAKING | On Nepal plane crash that killed 68, PM Modi says "precious lives have been lost"
- 11) India Register Biggest-Ever Win In ODI History, Beat Sri Lanka By 317 Runs
- 12) Watch | Alan Sippy, former India cricketer, on India's win in the match against Sri Lanka
- IndvsSL
- 13) : Move over regular pasta, try this quick and easy creamy pasta salad
- WeekendIndulgence pasta
- 14) India Register Biggest-Ever Win In ODI History, Beat Sri Lanka By 317 Runs
- 's Vimal Mohan s
- 15) : 3rd ODI: India (390/5) beat Sri Lanka (73/9) by 317 runs, register biggest-ever win margin in the format. Sweep series 3-0...
- 16) BREAKING | 3rd ODI: India (390/5) beat Sri Lanka (73/9) by 317 runs, register biggest-ever win margin in the format. Sweep series 3-0
- 17) : Andrew Garfield's Exchange With Interviewer At Golden Globes Goes Viral
- 18) : First quarter between India vs England Men's Hockey World Cup match has ended. The score is 0-0
- HockeyIndia IndiaKaGame...
- 19) : Hockey World Cup Live: India vs England Match In Rourkela Kicks Off
- HockeyIndia IndiaKaGame HWC2023 INDvsENG INDvENG...
- 20) : In Influencer Andrew Tate Case, \$4 Million Worth Assets Seized In Romania
- 21) doctor: Practice these 5 simple yet effective tips to ensure you stay fit thr

ough the winter season.

22) India Ready For Any Situation On China Border, Says Army Chief

23) : Man Assaulted Inside Train In UP, Railway Cops Say Not Hate Crime

24) : After 2-0 win over Spain, India face England in their second match of Hockey World Cup 2023

HockeyIndia IndiaKaGame...

25) : Cops On What Drove Man To Kill Jammu And Kashmir Top Cop Last Year

26) doctor: The exact properties of detox water vary depending on the ingredients you use and the strength of the infusion.

27) : 2 More Hotels Lean Towards Each Other In Uttarakhand's Sinking Joshimath

28) : Centre Wants To "Capture" Judiciary: Kapil Sibal On Judges Appointment

29) : Sonam Celebrated Makar Sankranti At Father Anil Kapoor's House. See Pics

30) : Putin Claims "Positive Dynamic" in Military Operation in Ukraine

31) : 3rd ODI: Virat Kohli scores 150 in 106 balls. India 378/5 in 49.1 overs vs Sri Lanka

INDvsSL TeamIndia INDvsSL

Live S...

32) : Watch: Toddler Greets Every Person In The Flight, Internet Goes Aww

33) doctor: The nutritionist stresses that the right balance of nutrients is one of the effective ways to combat acne and keep the ski...

34) : Nepal Plane Crashed Near Airport That Opened 2 Weeks Ago

35) : Anand Mahindra Shares Adorable Video Of A Dog Vibing To Classical Music

36) Watch special coverage of the two-day BJP national executive meet starting to morrow, on 24X7 and

37) : 3rd ODI: Shubman Gill departs for a brilliant 116 off 97. India 226/2 in 33.4 overs vs Sri Lanka

INDvsSL TeamIndia IND...

38) : Miss Universe 2022: Harnaaz's Special Tribute To Sushmita Sen, Lara Dutta

39) : Ratan Tata Celebrates 25 Years Of Tata Indica Car: ''Has A Special...''

40) : . showcased a new concept electric motorcycle platform at the AutoExpo2023. Named the F99 Factory Racing P...

41) : BSP To Contest Assembly, Lok Sabha Polls "On Its Own Strength": Mayyawati

42) : Davos Summit 2023 Starts Tomorrow, India To Feature Prominently

43) : Matt Reeves to edly meet new DC Studio co-heads James Gunn and Peter Safran to discuss BatVerse future

44) doctor: Some foods have been proven to pose helpful in boosting our immunity. Here are the best foods to help you boost your immun...

45) : 3rd ODI: India captain Rohit Sharma wins toss, opts to bat against Sri Lanka in Thiruvananthapuram

INDvsSL TeamIndia I...

46) : MM Keeravani Wins Best Music For Naatu Naatu (Again). This Time At LAOCA

47) : Skipping Meals And Shorter Meal Intervals Linked To Higher Mortality Risk

48) LeftRightCentre | "Great opportunity for India to host the Hockey World Cup": Mamta Kharab, Former Captain of the Indian Women's Hockey Team

```
In [19]: # Print all of the negative tweets
j=1
sortedDF = df.sort_values(by=['Polarity'],ascending =False)
for i in range(0,sortedDF.shape[0]):
    if sortedDF['Analysis'][i] == 'Negative':
        print(str(j)+' ) '+ sortedDF['Tweets'][i])
        print()
        j+=1
```


- 1) : Kerala Minister's Comments Blamed For Poor Turnout At India-Lanka Match
- 2) : Astronomers Find 400 Hidden Black Holes With NASA's Chandra Observatory
- 3) : "Hollow, Choreographed Event": Congress On PM Modi's Roadshow In Delhi
- 4) : . | Fourteen days after the New Year's Day attack in Rajouri, which saw 7 people being killed, every house in the Dha...
- 5) : . | 14 days later, Armed Forces are yet to track down terrorists behind the New Year's Day attack in Rajouri. Mother...
- 6) Ex-Afghan Leader, Who Stayed Back After Taliban Takeover, Shot Dead
- 7) : Majority Weapons Operated Through Artificial Intelligence: Rajnath Singh
- 8) : Man Crushed To Death In Shaft Of Delhi Pedestrian Bridge Elevator
- 9) : "Fearless Champion": Ex Afghan Lawmaker, Bodyguard Shot Dead In Her Home
- 10) : Congress Calls Opposition Huddle Over Remote Voting, Calls It "Sketchy"
- 11) : Delhi To Witness 3-Day Intense Cold Wave Beginning Tomorrow
- 12) Nepal Plane With 72 On Board Crashes Minutes Before Landing, 68 Dead
- 13) : Sri Lanka suffered a massive blow as two of their players collided with each other while trying to save a boundary
IN...
- 14) Delhi | "It is an unfortunate accident. I share my condolences with the families": Union Minister of Civil Aviation, Jyotiraditya Scindia on the Nepal Aircraft crash in which 68 people died | ed by news agency ANI
- 15) : 68 Dead In Nepal Plane Crash, 5 Indians Were On Board: 5 Facts
- 16) 68 Dead As Nepal Plane With 72 On Board Crashes, 5 Indians Were On Flight
- 17) : TikTok banned on government devices in two US states due to cyber security concerns
- 18) Nepal Aircraft crash | Delhi: "This is very unfortunate we have already expressed our condolences. There were 5 Indians on the aircraft as per the press release shared by the airlines but details are yet to arrive": Shankar P Sharma, Nepal Ambassador to India | ed by ANI
- 19) : Video: Narrow Escape For MP Supriya Sule, Saree Catches Fire At Pune Event
- 20) Video: Narrow Escape For MP Supriya Sule, Saree Catches Fire At Pune Event
- 21) : Virat Kohli left behind Mahela Jayawardene to become the 5th highest-scoring batter in ODI cricket history. Kohli achieved...
- 22) : In the third and final ODI between India and Sri Lanka, Shubman Gill got off to a slow start but later paced his innings...
- 23) Video Claims To Show Nepal Plane Moments Before Crash That Killed 67
- 24) 67 Dead As Nepal Plane With 72 On Board Crashes, 5 Indians Were On Flight
- 25) : Congress MP Who Died Of Cardiac Arrest During Bharat Jodo Yatra Cremated

26) Video Claims To Show Nepal Plane Crash That Killed 40

27) : Video: Nepal Plane Tilts Dangerously Moments Before Crash With 72 Onboard

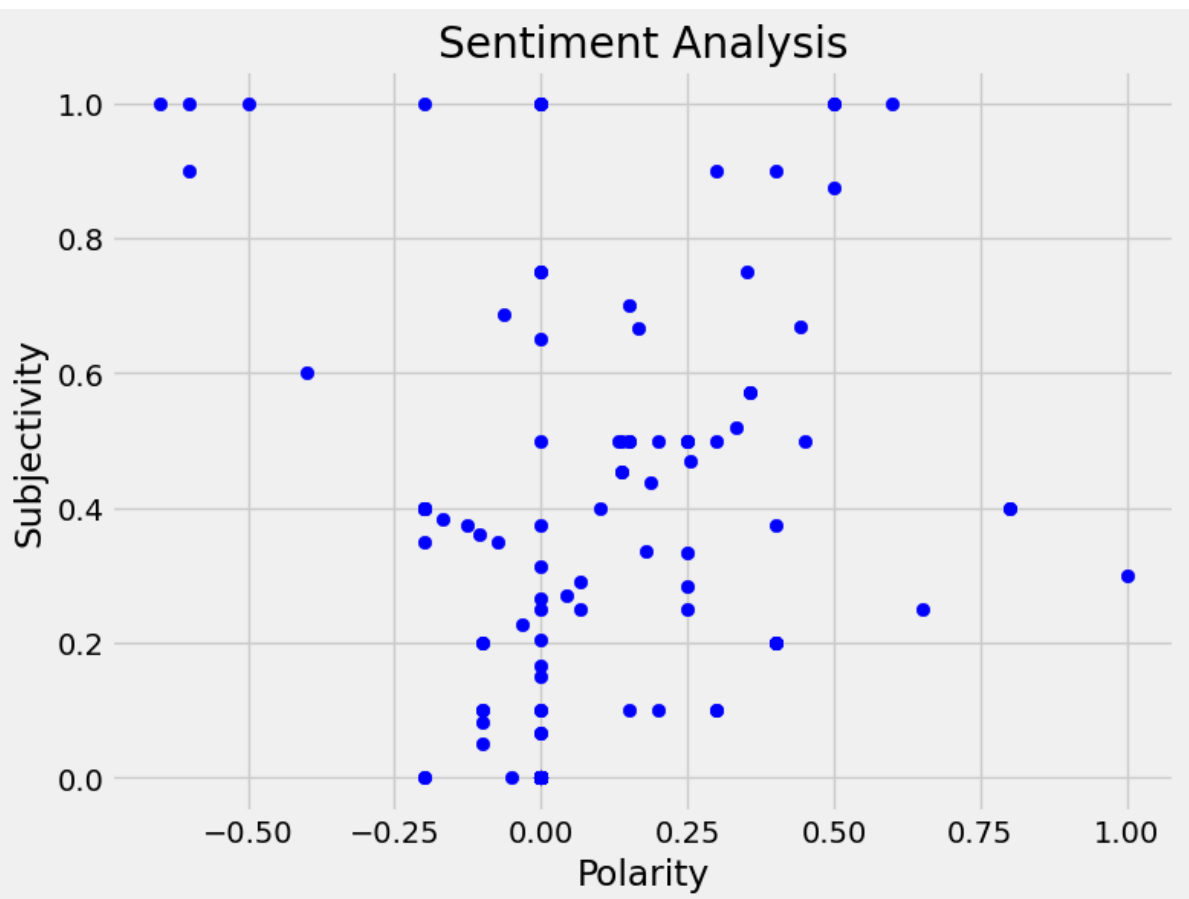
28) : 5 Pics: Motorcycle Stunts, Military Parades At Army Day Event In Bengaluru

29) : SuryakumarYadav has been going from strength to strength in the last few months. The world No. 1 T20I batter was recently...

30) 40 Dead As Nepal Plane With 72 On Board Crashes, 5 Indians Were On Flight

31) 32 Dead As Nepal Plane With 72 On Board Crashes, 5 Indians Were On Flight

```
In [20]: # Plot the polarity and subjectivity
plt.figure(figsize = (8,6))
for i in range(0,df.shape[0]):
    plt.scatter(df['Polarity'][i],df['Subjectivity'][i], color = 'Blue')
plt.title('Sentiment Analysis')
plt.xlabel('Polarity')
plt.ylabel('Subjectivity')
plt.show()
```



```
In [21]: # Get the percentage of positive tweets
ptweets = df[df.Analysis == 'Positive']
ptweets = ptweets['Tweets']

round((ptweets.shape[0]/df.shape[0])*100,1)
```

Out[21]: 24.0

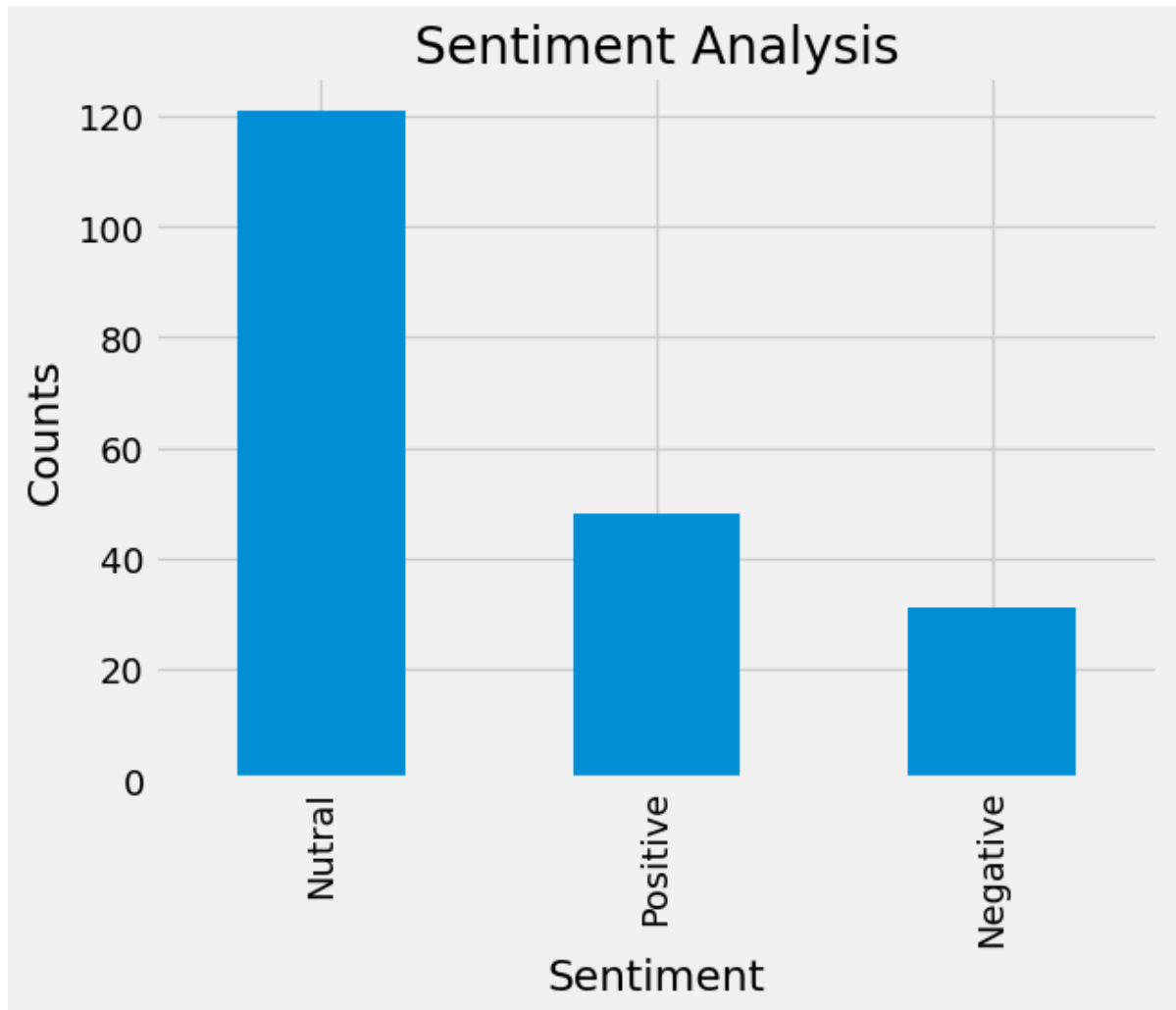
```
In [22]: # Get the percentage of Negative tweets
ntweets = df[df.Analysis == 'Negative']
ntweets = ntweets['Tweets']
```

```
round((ntweets.shape[0]/df.shape[0])*100,1)
```

Out[22]: 15.5

```
In [23]: # Show the value counts
df['Analysis'].value_counts()

#plot and visualize the counts
plt.title('Sentiment Analysis')
plt.xlabel('Sentiment')
plt.ylabel('Counts')
df['Analysis'].value_counts().plot(kind='bar')
plt.show()
```



In []:

In []: