I. Overview:-

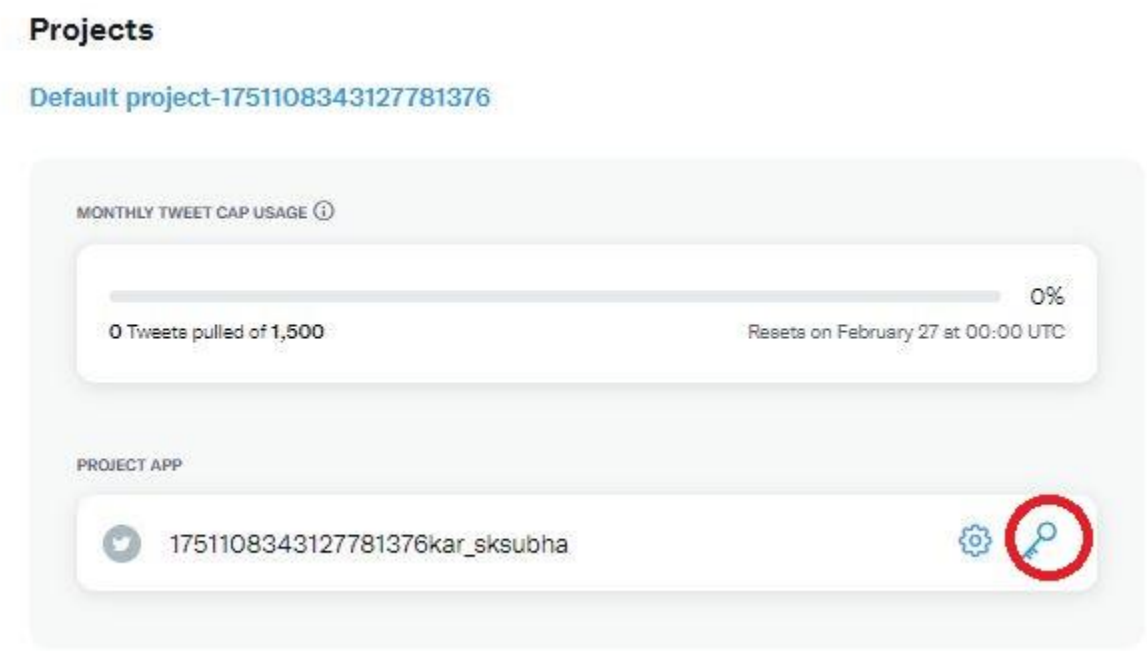
This code performs sentiment analysis on the 50 most recent tweets fetched from the Twitter API using the [X] API for authentication. The sentiment analysis is performed on the retrieved data to determine the overall sentiment (positive, negative, or neutral) of the tweets and then visualize the sentiment analysis results on a dashboard.

II. Functionality:-

A. Authentication

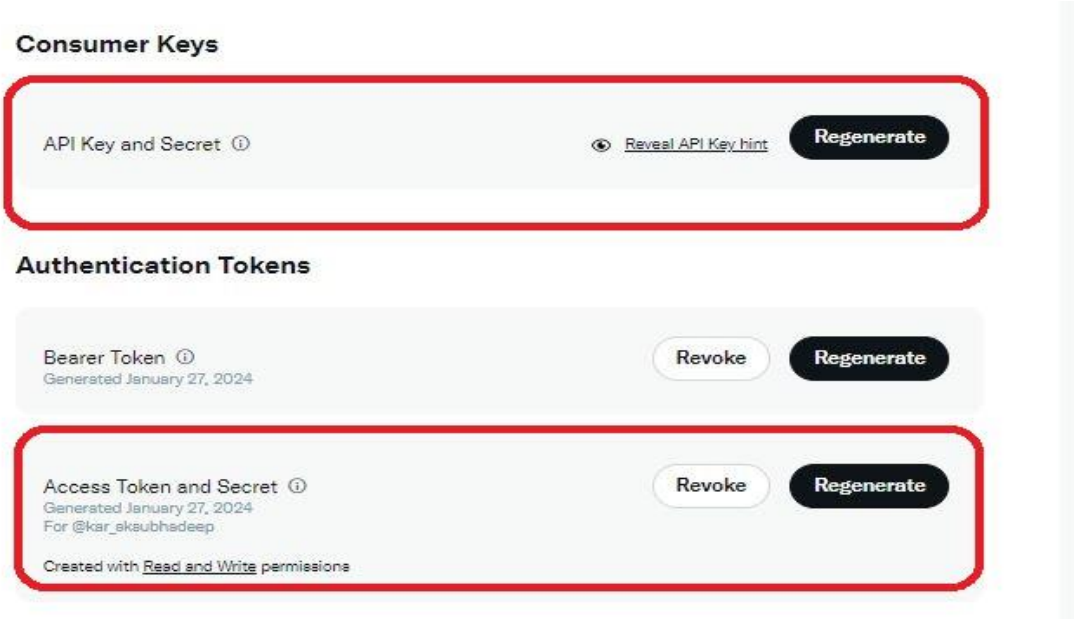
1. Obtaining the API Keys from [X] API

- Create a developer account in twitter https://developer.twitter.com/en
- Select the key symbol from the dashboard as shown below:-



2. Saving the API Keys

- Save the highlighted Access Tokens in a text file which will be required later



B. Fetching Tweets using tweepy

- Installing Tweepy library

```
In [ ]: pip install tweepy
```

- Running the Twitter.py in Jupyter notebook to fetch the 50 real-time tweets

```
import tweepy

# Access Tokens
consumer_key = 'XXXXXXXXXXXX'
consumer_secret = 'XXXXXXXXXXXXX'
access_token = 'XXXXXXXXXXXXXXXX'
access_token_secret = 'XXXXXXXXXXXXXXX'

# Authenticate with Twitter API
auth = tweepy.OAuthHandler(consumer_key, consumer_secret)
auth.set_access_token(access_token, access_token_secret)

api = tweepy.API(auth)

# Specify the Twitter hashtags
hashtag = '#INDVSENG'

# Fetch the 50 most recent tweets
tweets = api.search(q=hashtag, count=50)

# Print the text of each tweet
for tweet in tweets:
    print(tweet.text)
```

- Saving the tweets in a file after converting it into a data frame.

C. Sentiment Analysis using Transformer

1. Importing the required libraries

```
import pandas as pd
from transformers import pipeline
```

2. Data cleaning

```
#Reading dataset
df = pd.read_excel('.\Data.xlsx')

#Extracting only the useful columns
df= df[['Text', 'Date','Retweet','Like','View']]

#Selecting only the ASCII characters from the Text
for i,t in df.iterrows():
    df.loc[i,"Text"]=t["Text"].encode('ascii', 'ignore').decode('ascii')
```

3. Loading the “siebert/sentiment-roberta-large-english” transformer model from huggingface

```
model = pipeline("sentiment-analysis",model="siebert/sentiment-roberta-large-english")
```

4. Analyzing the sentiment of the 50 most recent tweets on the chosen hashtag and categorize them as positive, negative, or neutral.

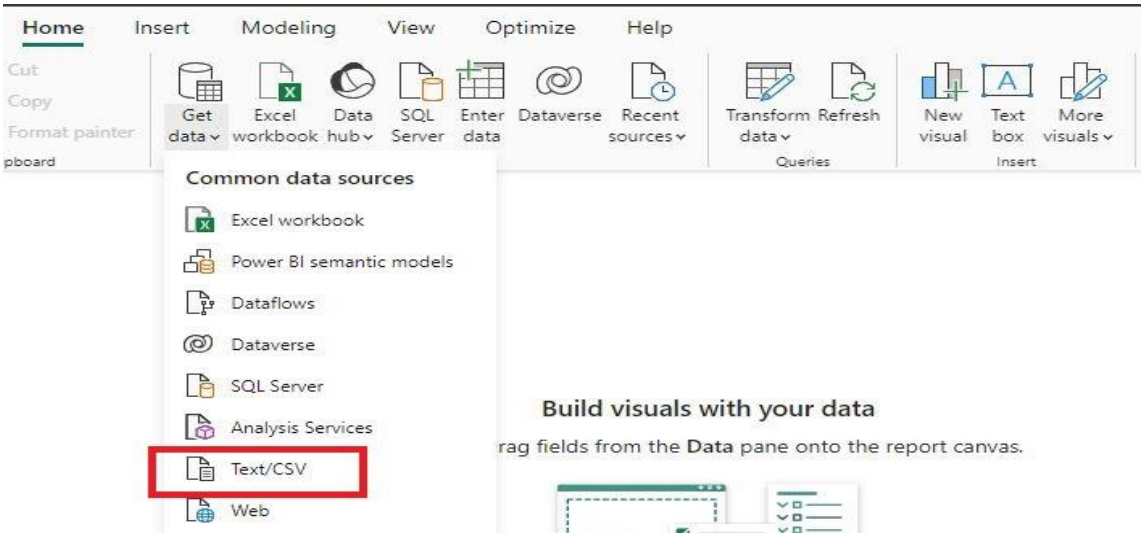
```
for i,t in df.iterrows():
    df.loc[i,"Sentiment"]=model(t["Text"])[0]['label']
```

5. Saving the data frame in a file

```
df.to_csv(r'.\to_dashboard.csv',index = False)
```

D. Dashboard

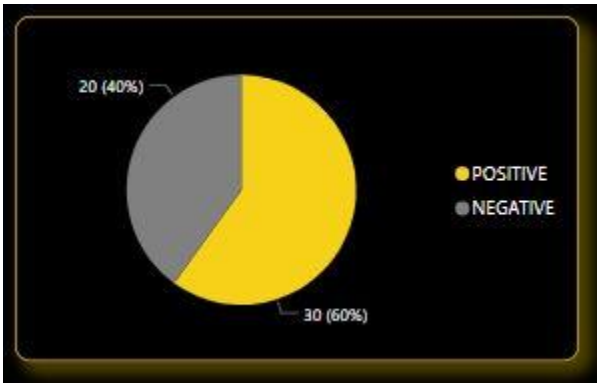
1. Importing the data in Power BI



2. A table containing tweets and its details

Tweets	Sentiment	Retweets	Likes	Views
9 wicket down, siraj hitting the winning runs in home ground , this is pure cinema.	POSITIVE	0	5	280
Anyways India always play their worst in first match of the series. This is going to be one of the most memorable series on the card.	POSITIVE	8	10	820
Awww.. princess failed again	NEGATIVE	14	507	13000
BAZBALL BEAT INDIA BY 28 RUNS ..!!	POSITIVE	12	139	6900
BREAKING NEWS Virat Kohli has been Ruled out of Test series against England. He has been Sacked by the selectors.	NEGATIVE	1	7	875
Bro wtf was that Benjamin Stokes - what a runout	NEGATIVE	40	376	43000
Bumrah showing is quality bowling Ben stokes gone	POSITIVE	18	209	52000

3. A pie chart showing the number of sentiments in percentage



III. Dependencies

A. Python 3.x
B. Tweepy library
C. Pandas Library
D. Transformer Library

IV. Useful Links

A. Github

Codes

B. PowerBI Dashboard

Twitter Sentiment Analysis Report