

Lovely Professional University  
Jalandhar, Punjab, India.



**L** LOVELY  
**P** ROFESSIONAL  
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*Transforming Education Transforming India*

**INT 404  
PROJECT**

**TV SHOW POPULARITY ANALYSIS**

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Code of the project is available in the following link

**GITHUB LINK:** <https://github.com/PavanVadlamani/int-404>

## PROJECT DESCRIPTION:

Through this project we built a system which calculates the polarity and subjectivity of the corresponding comments from the public on particular tv show to give a corresponding rating to the show.

For this to be implemented we need an online source from which we can access through the database of the source to collect the people comments.

We created an developers app from the developers site to get the API for that source, followed by the consumer key, consumer secret key, access token, and access secret token while choosing the **TWITTER** as the source.

Next we installed the tweepy module to use the respective functions like API(), OAuthHandler(), etc....

After collecting the comments from a screen name, we cleaned the data using **re module**

The we stored the refined comments on the data frame and we applied sentiment analysis on each and every comment

Then found the respective polarities and subjectivities from sentiment analyzer using the **TEXTBLOB** library.

Then we draw a graph of positive, negative and neutral comments.

## ABSTRACT

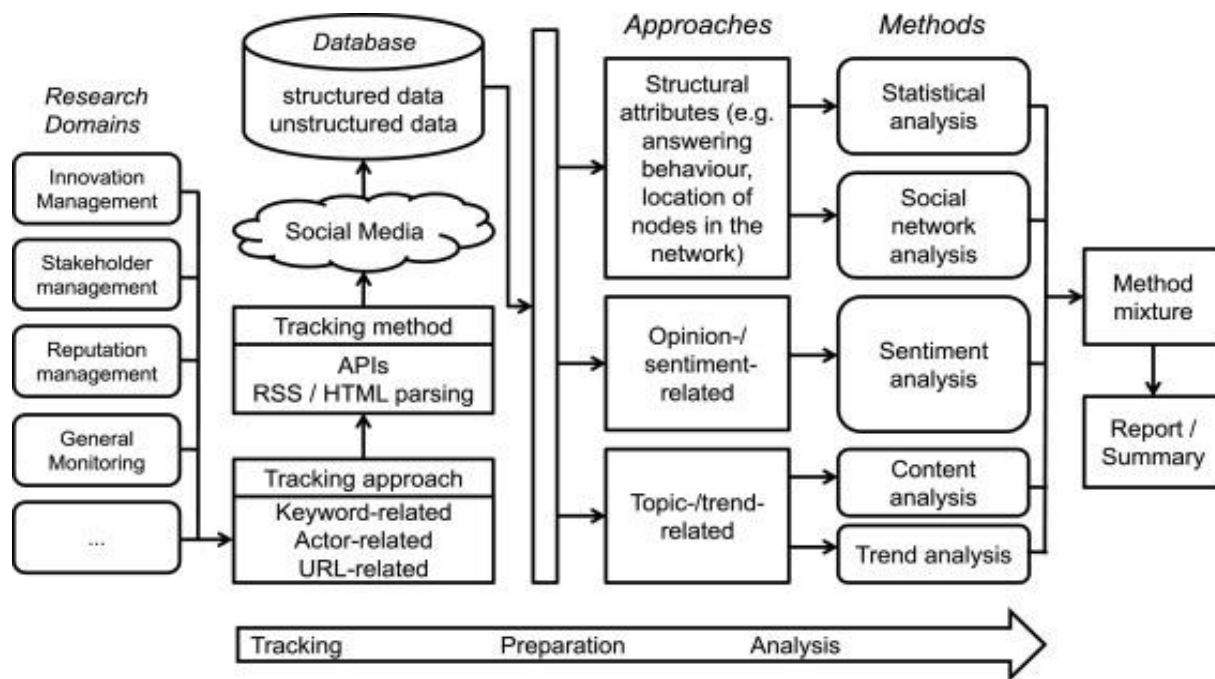
TV Show Popularity prediction using sentiment analysis is one of the most interesting and challenging tasks. A critical demand along this line is to predict the popularity of online serials, which can enable a wide range of applications, such as online advertising, and serial recommendation. The problem motivation stated above suggest is that it is only the viewer of a program who is responsible for its popularity or failure and if we anyhow can identify the most common features of a program which, the viewers want most, and through some effective scientific methodology could insert these requirements in the proposed TV program well at the time of production.

Pre-processing is one of the important steps in text mining, Natural Language Processing (NLP) and information retrieval (IR). which gives tokenization, normalization. i.e.

remove @, remove # and URL. Data pre-processing is used to extract interesting and non-trivial knowledge from unstructured text data. Information Retrieval is important for deciding which documents in a collection should be retrieved so that we can satisfy a user's need for information.

## SENTIMENT ANALYSIS

Sentiment analysis is another primary use case for NLP. Using sentiment analysis, data scientists can assess comments on social media to see how their business's brand is performing, for example, or review notes from customer service teams to identify areas where people want the business to perform better.



## MODULES USED IN THE PROJECT:

### TWEETPY MODULE:

Tweepy is a Python library for accessing the Twitter API. It is great for simple automation and creating twitter bots. Tweepy has many features.

In this tutorial we will be covering:

- Get tweets from our timeline.
- Creating and deleting Tweets.
- Follow and unfollow users.

### **TEXT BLOB MODULE:**

Text Blob is a python library and offers a simple API to access its methods and perform basic NLP tasks.

A good thing about Text Blob is that they are just like python strings. So, you can transform and play with it same like we did in python. Below, I have shown you below some basic tasks. Don't worry about the syntax, it is just to give you an intuition about how much-related Text Blob is to Python strings.

### **Sentiment Analysis**

Sentiment analysis is basically the process of determining the attitude or the emotion of the writer, i.e., whether it is positive or negative or neutral.

The sentiment function of text blob returns two properties, **polarity**, and **subjectivity**.

Polarity is float which lies in the range of  $[-1,1]$  where 1 means positive statement and -1 means a negative statement. Subjective sentences generally refer to personal opinion, emotion or judgment whereas objective refers to factual information. Subjectivity is also a float which lies in the range of  $[0,1]$ .

### **WORD CLOUD MODULE:**

Word Cloud is a data visualization technique used for representing text data in which the size of each word indicates its frequency or importance. Significant textual data points can be highlighted using a word cloud. Word clouds are widely used for analyzing data from social network websites.

### **Pandas Module**

Pandas is an open source library in Python. It provides ready to use high-performance data structures and data analysis tools. Pandas module runs on top of NumPy and it is popularly used for data science and data analytics. NumPy is a low-level data structure that supports multi-dimensional arrays and a wide range of mathematical array operations. Pandas has a higher-level interface. It also provides streamlined alignment of tabular data and powerful time series functionality. Data Frame is the key data structure in Pandas. It allows us to store and manipulate tabular data as a 2-D data structure.

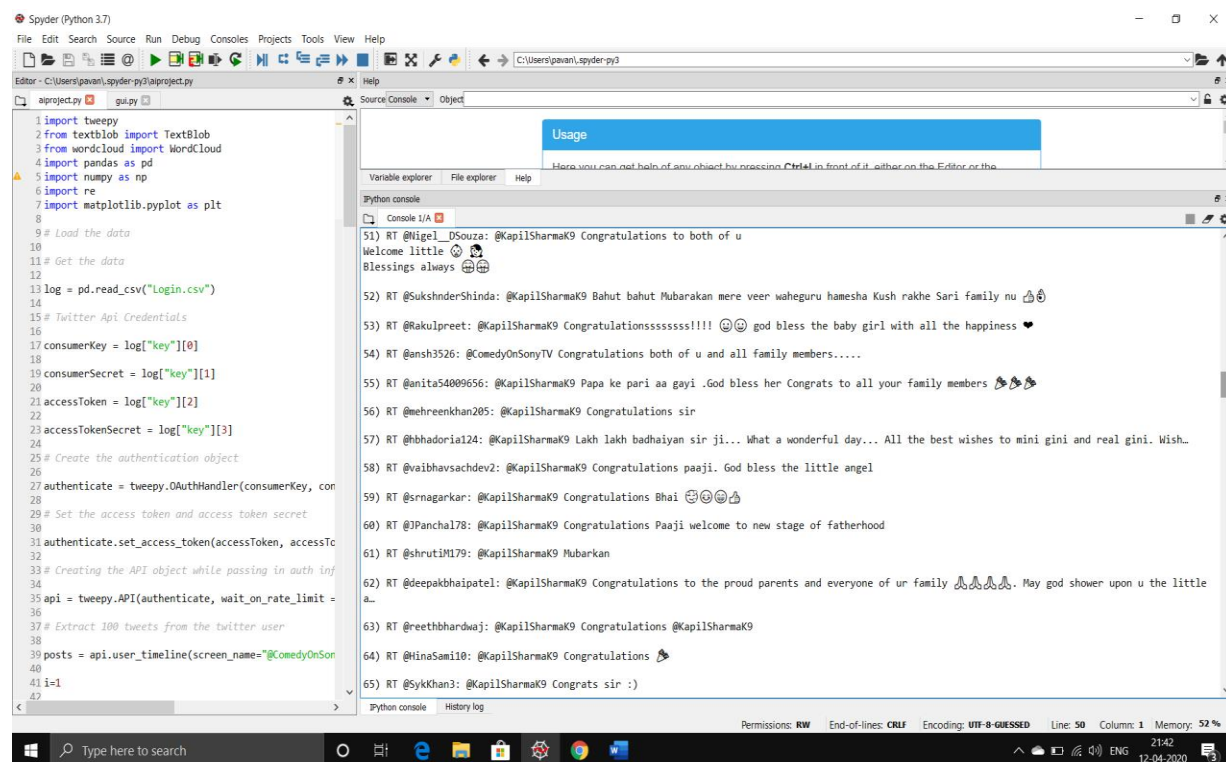
### **RE MODULE:**

The Python module **re** provides full support for Perl-like regular expressions in Python. The **re** module raises the exception **re.error** if an error occurs while compiling or using a regular expression. We would cover two important functions, which would be used to handle regular expressions.

## MODULE MATPLOTLIB:

Matplotlib is an amazing visualization library in Python for 2D plots of arrays. Matplotlib is a multi-platform data visualization library built on NumPy arrays and designed to work with the broader SciPy stack.

## SOME SNAP SHOTS OF THE OUTPUT:



The screenshot shows the Spyder Python IDE interface. The editor on the left contains a Python script that uses the Tweepy library to authenticate with Twitter and fetch tweets from a specific user. The script includes imports for tweepy, TextBlob, WordCloud, pandas, numpy, re, and matplotlib.pyplot. It then reads a CSV file for API credentials, authenticates, and uses the Tweepy API to fetch tweets from the user '@ComedyOnSony'. The console on the right displays the output of the script, showing a list of tweets with their text and user information. The tweets are numbered 51 through 65 and include various congratulatory messages and family-related content.

```
1 import tweepy
2 from textblob import TextBlob
3 from wordcloud import WordCloud
4 import pandas as pd
5 import numpy as np
6 import re
7 import matplotlib.pyplot as plt
8
9 # Load the data
10
11 # Get the data
12
13 log = pd.read_csv("Login.csv")
14
15 # Twitter Api Credentials
16
17 consumerKey = log["key"][0]
18
19 consumerSecret = log["key"][1]
20
21 accessToken = log["key"][2]
22
23 accessTokenSecret = log["key"][3]
24
25 # Create the authentication object
26
27 authenticate = tweepy.OAuthHandler(consumerKey, con
28
29 # Set the access token and access token secret
30
31 authenticate.set_access_token(accessToken, accessTo
32
33 # Creating the API object while passing in auth inf
34
35 api = tweepy.API(authenticate, wait_on_rate_limit =
36
37 # Extract 100 tweets from the twitter user
38
39 posts = api.user_timeline(screen_name="@ComedyOnSon
40
41 i=1
42
43
```

Usage

Here you can get help of any object by pressing **F1** in front of it either on the Editor or the

Variable explorer File explorer Help

Python console

Console I/O

51) RT @Nigel\_DSouza: @KapilSharmaK9 Congratulations to both of u  
Welcome little 🤗  
Blessings always 🙏🙏

52) RT @SukshnderShinda: @KapilSharmaK9 Bahut bahut Mubarakan mere veer waheguru hamesha Kush rakhe Sari family nu 🙏🙏

53) RT @Rakulpreet: @KapilSharmaK9 Congratulationssssssss!!!! 🙏🙏 god bless the baby girl with all the happiness 🙏

54) RT @ansh3526: @ComedyOnSonyTV Congratulations both of u and all family members.....

55) RT @anita54089656: @KapilSharmaK9 Papa ke pari aa gayi .God bless her Congrats to all your family members 🙏🙏

56) RT @mehreenkhan285: @KapilSharmaK9 Congratulations sir

57) RT @bbhadoria124: @KapilSharmaK9 Lakh lakh badhaiyan sir ji... What a wonderful day... All the best wishes to mini gini and real gini. Wish..

58) RT @vaibhavsachdev2: @KapilSharmaK9 Congratulations paaji. God bless the little angel

59) RT @srnagarkar: @KapilSharmaK9 Congratulations Bhai 🙏🙏🙏

60) RT @JPanchal78: @KapilSharmaK9 Congratulations Paaji welcome to new stage of fatherhood

61) RT @shrutiM179: @KapilSharmaK9 Mubarkan

62) RT @deepakbhaipatel: @KapilSharmaK9 Congratulations to the proud parents and everyone of ur family 🙏🙏🙏. May god shower upon u the little a..

63) RT @reethbhardwaj: @KapilSharmaK9 Congratulations @KapilSharmaK9

64) RT @HinaSami10: @KapilSharmaK9 Congratulations 🙏

65) RT @SykKhan3: @KapilSharmaK9 Congrats sir :)

Python console History log

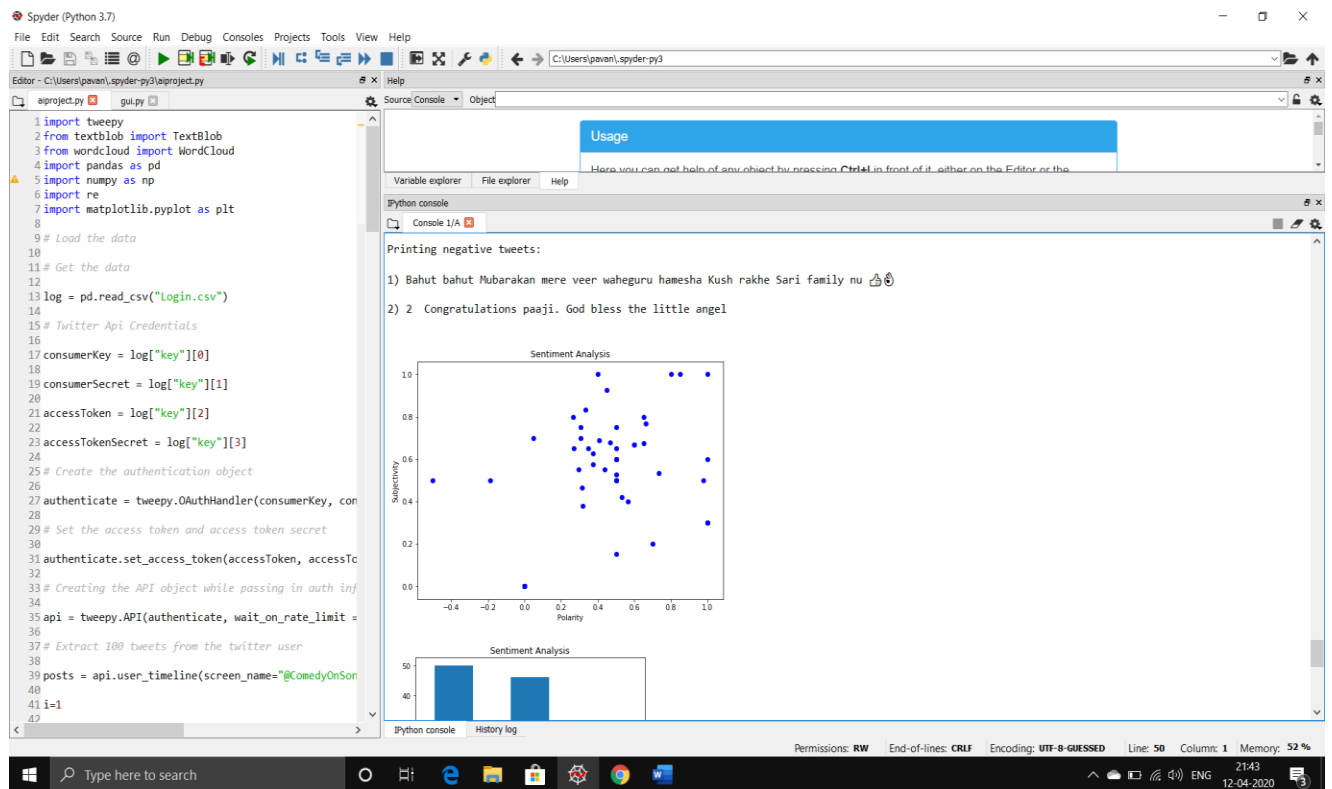
Permissions: RW End-of-lines: CRLF Encoding: UTF-8-GUESSED Line: 50 Column: 1 Memory: 52%

2142 12-04-2020

Collecting comments using api.

```
Spyder (Python 3.7)
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C:\Users\pavan\spyder-py3
Editor - C:\Users\pavan\spyder-py3\aproject.py
aproject.py 1 import tweepy
2 from textblob import TextBlob
3 from wordcloud import WordCloud
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This is a word cloud which shows the highly repeated words among all comments is the biggest one also we can observe all the positive tweets are collected



We can also observe the scatter graph of all the positive, negative and neutral comments

