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Class: BE - C

Moodle Id: 20102065

Roll No.: 28

Sub.: Social Media Analytics

Experiment No.: 02

Aim: Data Collection-Select the social media platforms of your choice (Twitter, Facebook, LinkedIn, YouTube, Web blogs etc) ,connect to and capture social media data for business (scraping, crawling, parsing).

Part 01: Scraping Youtube Video Comments

Step 1: Get API Key - Go to the *Google Cloud console • (Google Cloud Console https://console.cloud.google.com) and sign in with your Google Account

Step 2: Click the project drop-down menu in the top bar and select or create the project you want to use.

Step 3: Click the hamburger menu in the top left and select APIs & Services >Select Youtube Data V3 API> Credentials.

Step 4: Click the Create credentials button and select API key. The API key will be displayed in a pop-up window. You can click the RESTRICT KEY button to restrict the API keys usage, such as by IP address or referrer. Click the COPY button to copy the API key to your clipboard.

Step 5: You can use the API key in your application to access the Google Cloud APIs. Be sure to keep the API key confidential, as it can be used to access your Google Cloud resources.

Use API_key

```
import requests
video_id = "uYPbbksJxIg"
api_key = "AIzaSyCK2G1eQu42pCEObH-ieE_lHLqyyqsX9v0"
```

Retrieve video information

```
# Retrieve video information
video_info_url = f"https://www.googleapis.com/youtube/v3/videos?part=snippet&id={video_id}&key={api_key}"
video_info_response = requests.get(video_info_url)
video_info_data = video_info_response.json()


video_info_data
```

```
    'snippet': {'publishedAt': '2023-05-08T07:01:04Z',
     'channelId': 'UCq0OueAsdxH6b8nyAspwViw',
     'title': 'Oppenheimer | New Trailer',
     'description': 'Oppenheimer - In Theaters 7 21 23\n\nWritten and directed by Christopher Nolan, Oppenheimer is an
IMAX®-shot epic thriller that thrusts audiences into the pulse-pounding paradox of the enigmatic man who must risk
destroying the world in order to save it. \n \nThe film stars Cillian Murphy as J. Robert Oppenheimer and Emily Blunt
as his wife, biologist and botanist Katherine "Kitty" Oppenheimer. Oscar® winner Matt Damon portrays General Leslie
Groves Jr., director of the Manhattan Project, and Robert Downey, Jr. plays Lewis Strauss, a founding commissioner of
the U.S. Atomic Energy Commission. \n \nAcademy Award® nominee Florence Pugh plays psychiatrist Jean Tatlock, Benny
Safdie plays theoretical physicist Edward Teller, Michael Angarano plays Robert Serber and Josh Hartnett plays
pioneering American nuclear scientist Ernest Lawrence.\n \nOppenheimer also stars Oscar® winner Rami Malek and
reunites Nolan with eight-time Oscar® nominated actor, writer and filmmaker Kenneth Branagh. \n \nThe cast includes
Dane DeHaan (Valerian and the City of a Thousand Planets), Dylan Arnold (Halloween franchise), David Krumholtz (The
Ballad of Buster Scruggs), Alden Ehrenreich (Solo: A Star Wars Story) and Matthew Modine (The Dark Knight Rises). \n
\nThe film is based on the Pulitzer Prize-winning book American Prometheus: The Triumph and Tragedy of J. Robert
Oppenheimer by Kai Bird and the late Martin J. Sherwin. The film is produced by Emma Thomas, Atlas Entertainment's
Charles Roven and Christopher Nolan. \n\nOppenheimer is filmed in a combination of IMAX® 65mm and 65mm large-format
film photography including, for the first time ever, sections in IMAX® black and white analogue photography.
\n\nNolan's films, including Tenet, Dunkirk, Interstellar, Inception and The Dark Knight trilogy, have earned more
than $5 billion at the global box office and have been awarded 11 Oscars and 36 nominations, including two Best
Picture nominations. \n\nSocial Handles:\nIG: https://www.instagram.com/oppenheimermovie     \nTW:
https://www.twitter.com/@oppenheimerfilm  \nFB: https://www.facebook.com/OppenheimerMovie \nReddit:
https://www.reddit.com/user/OppenheimerMovie/\nTwitch: https://www.twitch.tv/oppenheimermovie\nWebsite:
```

```
        width : 320,
        'height': 180},
       'high': {'url': 'https://i.ytimg.com/vi/uYPbbksJxIg/hqdefault.jpg',
        'width': 480,
        'height': 360},
       'standard': {'url': 'https://i.ytimg.com/vi/uYPbbksJxIg/sddefault.jpg',
        'width': 640,
        'height': 480},
       'maxres': {'url': 'https://i.ytimg.com/vi/uYPbbksJxIg/maxresdefault.jpg',
        'width': 1280,
        'height': 720}},
      'channelTitle': 'Universal Pictures',
      'categoryId': '24',
      'liveBroadcastContent': 'none',
      'localized': {'title': 'Oppenheimer | New Trailer',
       'description': 'Oppenheimer - In Theaters 7 21 23\n\nWritten and directed by Christopher Nolan, Oppenheimer is
  an IMAX®-shot epic thriller that thrusts audiences into the pulse-pounding paradox of the enigmatic man who must risk
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  film photography including, for the first time ever, sections in IMAX® black and white analogue photography.
```

Retrieve video comments

```python
# Retrieve video compnts
comments_url = f"https://www.googleapis.com/youtube/v3/commentThreads?part=snippet&videoId={video_id}&key={api_key}"
comments_response= requests.get(comments_url)
comments_data = comments_response.json()
comments_data
```
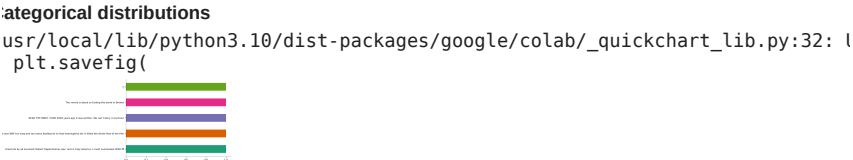
            update.dt   2024 01 19105.31.332 jj;
        'canReply': True,
        'totalReplyCount': 1,
        'isPublic': True}},
      {'kind': 'youtube#commentThread',
       'etag': 'HmjiGm7BpioowQrO5kYxIQIAbKk',
       'id': 'Ugy-0JZVk1xz0R3KhEN4AaABAg',

Extract the comments

```
# Extract the comments
comments = [item["snippet"]["topLevelComment"]["snippet"]["textOriginal"] for item in comments_data["items"]]
print(comments)
```

```
['Movie was WAY too long and too many flashbacks to that hearing/trial etc it killed the whole flow of the film', 'This
```

```
import pandas as pd
display = pd.DataFrame({"Comments": comments})
display.head()
```

	Comments
0	Movie was WAY too long and too many flashbacks...
1	This movie is about to Ending the world in Bombs
2	👍
3	Great job by all involved! Robert Oppenheimer ...
4	READ THE BIBLE. OVER 4000 years ago it was wri...

Categorical distributions

```
usr/local/lib/python3.10/dist-packages/google/colab/_quickchart_lib.py:32: l
  plt.savefig(
```

Save Comments to CSV File

```
display.to_csv("YouTube_Comments_Sentiment.csv")
```