

Instalacion de dependencias //librerias

```
## En la terminal Instalar
## pip install google-api-python-client
```

```
!pip install --upgrade google-api-python-client
```

```
from googleapiclient.discovery import build
import pandas as pd
import seaborn as sns
```

Asignamos a una Variable nuestra API KEY

```
api_key = 'A1za5dyF4Nj3pJA30Scnd6lFqgKmo31Za1SUEHM'
```

Channel ID / De mi canal consigo el ID para probar si funciona / <https://www.youtube.com/channel/UCUvUgQw-1RRTMK1SbXnENG>

```
channel_id_Facu = 'UCUvUgQw-1RRTMK1SbXnENG'
```

```
channel_id_Facu
```

```
UCUvUgQw-1RRTMK1SbXnENG'
```

Creo una variable 'Youtube' para lograr entrar y asignar el api_key

```
youtube = build('youtube', 'v3', developerKey=api_key)
```

```
youtube
```

```
<googleapiclient.discovery.Resource at 0x157ac94c30d>
```

Extraccion de data de los canales de los Artistas Urbanos

```
# TRUENO -> UCRBxLrHLnZOmYrYnj4ZEWg
# DUKI -> UCJUYCEdvnYFGaJHBWNaoc3w
# DUKI HERMES -> UC4o5EqmQQL5d1UYJvft-kIA
# NICKY NICOLE -> UCENaAw9QkHrZqLxvSBFHDw
```

Funcion para obtener Estadísticas del Canal

Creo una lista para guardar el ID de los Canales

```
channels_ids = ['UCRBxLrHLnZOmYrYnj4ZEWg', #trueno
                'UCJUYCEdvnYFGaJHBWNaoc3w', #duki
                'UC4o5EqmQQL5d1UYJvft-kIA', #emilia
                'UCENaAw9QkHrZqLxvSBFHDw'] # NickyNicole
```

Funcion "get_channel_stats"

```
def get_channel_stats(youtube, channels_ids):
    all_data = []
    request = youtube.channels().list(
        part='snippet, contentDetails, statistics',
        id=', '.join(channels_ids))
    response = request.execute()

    for i in range(len(response['items'])):
        data = dict(Channel_name = response['items'][i]['snippet']['title'],
                    Subscribers = response['items'][i]['statistics']['subscriberCount'],
                    Views = response['items'][i]['statistics']['viewCount'],
                    Total_videos = response['items'][i]['statistics']['videoCount'],
                    Playlist_id = response['items'][i]['contentDetails']['relatedPlaylists']['uploads'])
        all_data.append(data)

    return all_data
```

```
#def get_channel_stats(youtube, channels_ids):
#    request = youtube.channels().list(
#        part='snippet, contentDetails, statistics',
#        id=', '.join(channels_ids))
#    response = request.execute()
#    #
#    return response
```

Traemos las estadísticas

```
get_channel_stats(youtube, channels_ids)
```

```
{'Channel_name': 'Emilia',
 'Subscribers': '1149000',
 'Views': '464745157',
 'Total_videos': '8',
 'Playlist_id': 'UU4o5EqmQQL5d1UYJvft-kIA'},
 {'Channel_name': 'nicki nicole',
 'Subscribers': '4170000',
 'Views': '921947220',
 'Total_videos': '17',
 'Playlist_id': 'UUEMoAW9QkHrZqLxvSBFHDw'},
 {'Channel_name': 'Duki',
 'Subscribers': '5990000',
 'Views': '2110528777',
 'Total_videos': '112',
 'Playlist_id': 'UUJUYCEdvnYFGaJHBWNaoc3w'},
 {'Channel_name': 'Trueno Oficial',
 'Subscribers': '5630000',
 'Views': '1169448317',
 'Total_videos': '45',
 'Playlist_id': 'UURBxLrHLnZOmYrYnj4ZEWg'}
```

#Creo una variable en la que pueda guardar esta funcion

```
channel_statistics = get_channel_stats(youtube, channels_ids)
```

utilizo Pandas para crear un DataFrame

```
channel_df = pd.DataFrame(channel_statistics)
```

```
channel_df
```

	Channel_name	Subscribers	Views	Total_videos	Playlist_id
0	Emilia	1140000	464745157	8	UU4o5EqmQQL5d1UYJvft-kIA
1	nicki nicole	4170000	921947220	17	UUEMoAW9QkHrZqLxvSBFHDw
2	Duki	5990000	2110528777	112	UUJUYCEdvnYFGaJHBWNaoc3w
3	Trueno Oficial	5630000	1169448317	45	UURBxLrHLnZOmYrYnj4ZEWg

```
# Data Transformation
```

```
channel_df['Subscribers'] = pd.to_numeric(channel_df['Subscribers'])
channel_df['Views'] = pd.to_numeric(channel_df['Views'])
channel_df['Total_videos'] = pd.to_numeric(channel_df['Total_videos'])
channel_df
```

Channel_name	Subscribers	Views	Total_videos	Playlist_id	
0	Emilia	1140000	464745157	8	UU4o5EqmQQL5d1UYJvft-kIA
1	nicki nicole	4170000	921947220	17	UUEMoAW9QkHrZqLxvSBFHDw
2	Duki	5990000	2110528777	112	UUJUYCEdvnYFGaJHBWNaoc3w
3	Trueno Oficial	5630000	1169448317	45	UURBxLrHLnZOmYrYnj4ZEWg

```
channel_df.dtypes
```

```
Channel_name    object
Subscribers      int64
Views            int64
Total_videos     int64
Playlist_id     object
dtype: object
```

Visualizamos

Cantidad de Suscriptores por Canal

```
sns.set(rc={'figure.figsize':(10,8)})
ax = sns.barplot(x='Channel_name', y='Subscribers', data=channel_df)
```



Visualizamos

Cantidad de Views por Canal

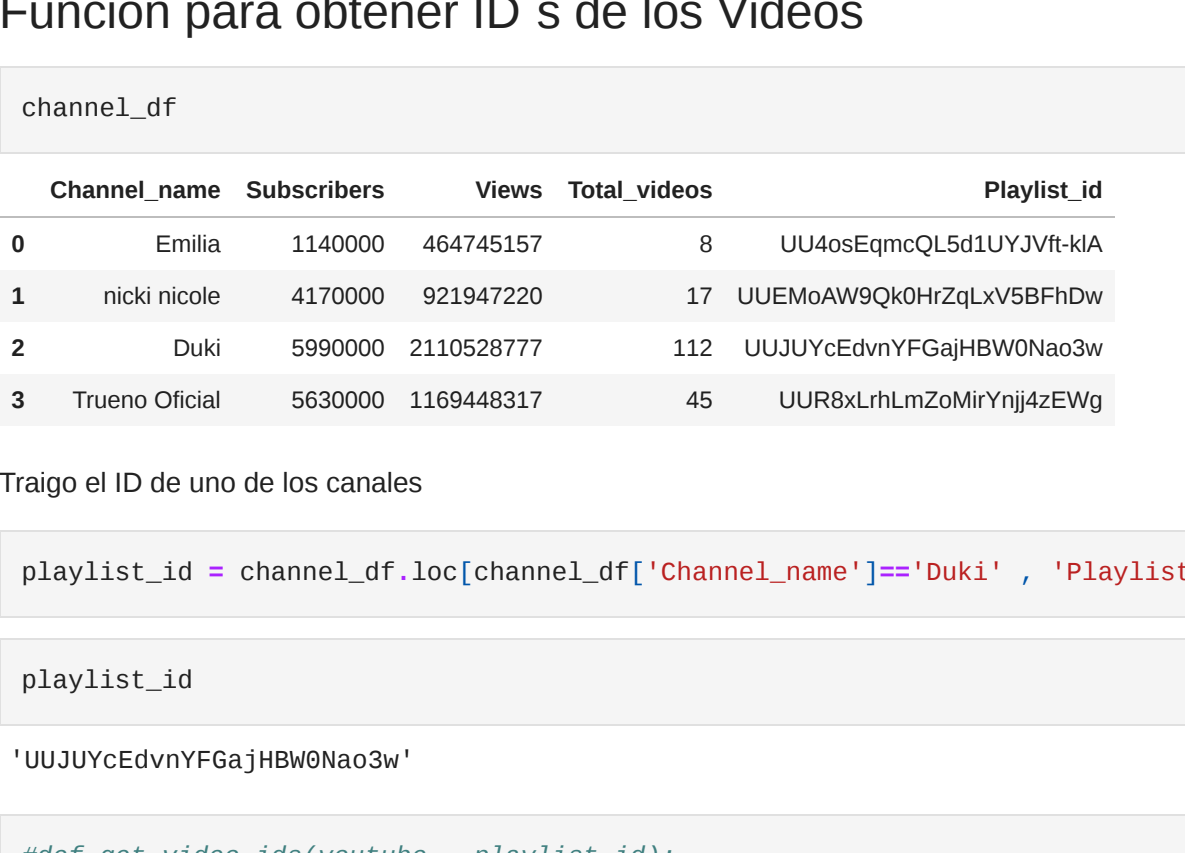
```
ax = sns.barplot(x='Channel_name', y='Views', data=channel_df)
```



Visualizamos

Cantidad de Videos subidos por Canal

```
ax = sns.barplot(x='Channel_name', y='Total_videos', data=channel_df)
```



Funcion para obtener ID's de los Videos

```
channel_df
```

	Channel_name	Subscribers	Views	Total_videos	Playlist_id
0	Emilia	1140000	464745157	8	UU4o5EqmQQL5d1UYJvft-kIA
1	nicki nicole	4170000	921947220	17	UUEMoAW9QkHrZqLxvSBFHDw
2	Duki	5990000	2110528777	112	UUJUYCEdvnYFGaJHBWNaoc3w
3	Trueno Oficial	5630000	1169448317	45	UURBxLrHLnZOmYrYnj4ZEWg

Traigo el ID de uno de los canales

```
playlist_id = channel_df.loc[channel_df['Channel_name']=='Duki', 'Playlist_id'].iloc[0]
```

```
playlist_id
```

```
'UUJUYCEdvnYFGaJHBWNaoc3w'
```

```
#def get_video_ids(youtube, playlist_id):
#    request = youtube.playlistItems().list(
#        part='contentDetails',
#        playlistId = playlist_id,
#        maxResults = 50)
#    response = request.execute()
#    return response
```

```
def get_video_ids(youtube, playlist_id):
    request = youtube.playlistItems().list(
        part='contentDetails',
        playlistId = playlist_id,
        maxResults = 50)
    response = request.execute()

    video_ids = []

    for i in range(len(response['items'])):
        video_ids.append(response['items'][i]['contentDetails']['videoId'])

    next_page_token = response.get('nextPageToken')
    more_pages = True

    while more_pages:
        if next_page_token is None:
            more_pages = False
        else:
            request = youtube.playlistItems().list(
                part='contentDetails',
                playlistId = playlist_id,
                maxResults = 50,
                pageToken = next_page_token)
            response = request.execute()

            for j in range(len(response['items'])):
                video_ids.append(response['items'][j]['contentDetails']['videoId'])

            next_page_token = response.get('nextPageToken')

    return video_ids
```

```
get_video_ids(youtube, playlist_id)
```

Guardo en una variable mi funcion

```
video_ids = get_video_ids(youtube, playlist_id)
```

```
video_ids
```

Funcion para extraer detalles de los videos

```
def get_video_details(youtube, video_ids):
    all_video_stats = []

    for i in range(0, len(video_ids), 50):
        request = youtube.videos().list(
            part='snippet, statistics',
            id=', '.join(video_ids[i:i+50]))
        response = request.execute()

        for video in response['items']:
            video_stats = dict(Title= video['snippet']['title'],
                               Published_date = video['snippet']['publishedAt'],
                               Views = video['statistics']['viewCount'],
                               Likes = video['statistics']['likeCount'],
                               Favorites = video['statistics']['favoriteCount'],
                               Comments = video['statistics']['commentCount'],)

            all_video_stats.append(video_stats)

    return all_video_stats
```

```
#get_video_details(youtube, video_ids)
```

```
video_details = get_video_details(youtube, video_ids)
```

```
# convertimos a DataFrame
```

```
videos_df = pd.DataFrame(video_details)
```

```
videos_df
```

	Title	Published_date	Views	Likes	Favorites	Comments
0	DUKI - "La Vuelta" (Visualizer)	2022-06-24T18:43:23Z	239441	19999	0	630
1	DUKI - Perreo Bendito (Visualizer)	2022-06-23T22:00:22Z	962304	74003	0	1979
2	DUKI - Celosa (Video Oficial)	2022-06-23T22:00:11Z	3866997	221313	0	5674
3	DUKI, Mora - Amor Bipolar (Visualizer)	2022-06-23T22:00:00Z	1494652	110605	0	3123
4	TEMPORADA DE REGGAETON 2	2022-06-16	798610	88134	0	3741
...
107	DUKI, Ysy A, Neo Piestra - QUAVO (Video Oficial)...	2018-03-15T03:00:21Z	107021437	798603	0	60892
108	DUKI - Si Te Sentis Solo (Video Oficial), Shot...	2018-02-23T14:11:12Z	111812234	1059628	0	52171
109	DUKI - She Don't Give a F.O ft. Khea (Oficial)	2018-02-14T16:41:18Z	3504688	128502	0	4766
110	DUKI - Hello Cotto (Oficial)	2018-02-14T15:37:45Z	4849203	131152	0	3548
111	DUKI - Rockstar (Video Oficial)	2018-02-09T20:38:55Z	78661936	1051156	0	43158

112 rows x 6 columns

```
# Data Transformation
```

```
# Convertimos los tipos de Datos
```

```
videos_df['Published_date'] = pd.to_datetime(videos_df['Published_date']).dt.date
videos_df['Views'] = pd.to_numeric(videos_df['Views'])
videos_df['Likes'] = pd.to_numeric(videos_df['Likes'])
videos_df['Favorites'] = pd.to_numeric(videos_df['Favorites'])
videos_df['Comments'] = pd.to_numeric(videos_df['Comments'])
```

```
videos_df.dtypes
```

```
Title          object
Published_date object
Views          int64
Likes          int64
Favorites      int64
Comments       int64
dtype: object
```

```
videos_df
```

	Title	Published_date	Views	Likes	Favorites	Comments
0	DUKI - "La Vuelta" (Visualizer)	2022-06-24	239441	19999	0	630
1	DUKI - Perreo Bendito (Visualizer)	2022-06-23	962304	74003	0	1979
2	DUKI - Celosa (Video Oficial)	2022-06-23	3866997	221313	0	5674
3	DUKI, Mora - Amor Bipolar (Visualizer)	2022-06-23	1494652	110605	0	3123
4	TEMPORADA DE REGGAETON 2	2022-06-16	798610	88134	0	3741
...
107	DUKI, Ysy A, Neo Piestra - QUAVO (Video Oficial)...	2018-03-15	107021437	798603	0	60892
108	DUKI - Si Te Sentis Solo (Video Oficial), Shot...	2018-02-23	111812234	1059628	0	52171
109	DUKI - She Don't Give a F.O ft. Khea (Oficial)	2018-02-14	3504688	128502	0	4766
110	DUKI - Hello Cotto (Oficial)	2018-02-14	4849203	131152	0	3548
111	DUKI - Rockstar (Video Oficial)	2018-02-09	78661936	1051156	0	43158

112 rows x 6 columns

```
# Top10 Videos de Artista con más cantidad de Views
```

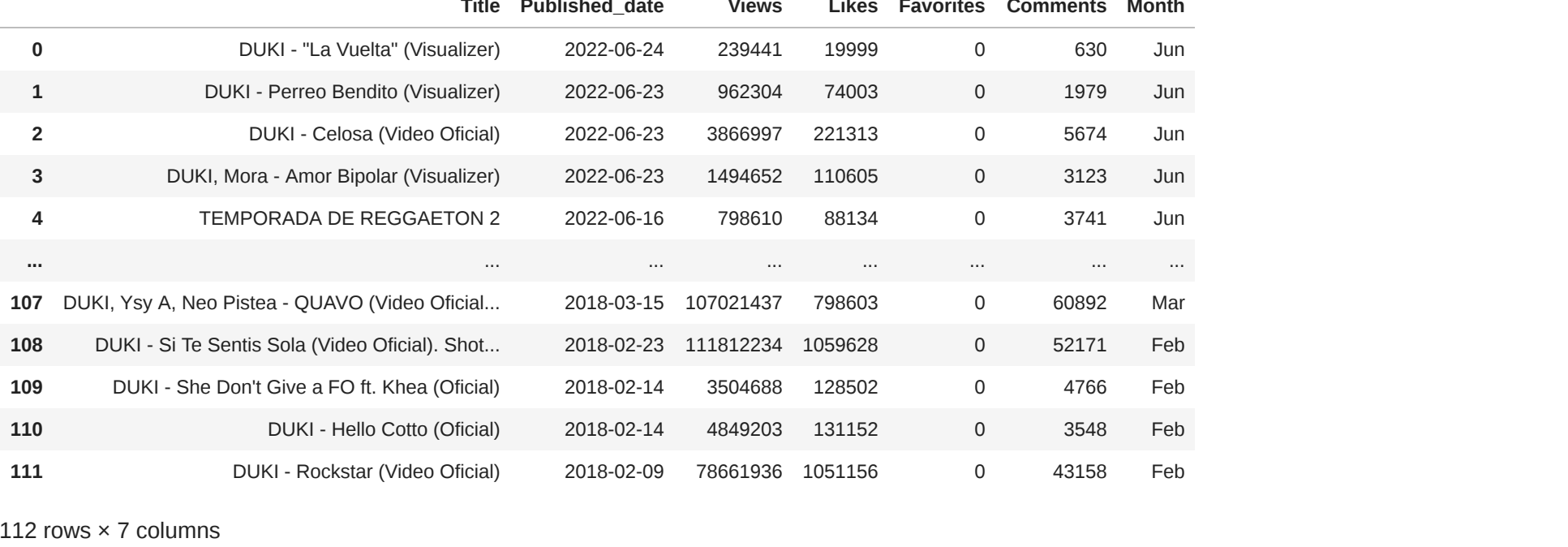
```
top10_videos = videos_df.sort_values(by = 'Views', ascending= False).head(10)
```

```
top10_videos
```

	Title	Published_date	Views	Likes	Favorites	Comments
96	DUKI Ft. DrenQuila - Sin Culpa (Video Oficial)	2019-12-13	159668861	196676	0	43291
95	DUKI - Gato (Video Oficial)	2019-08-07	13729242	1966284	0	7537
108	DUKI - Si Te Sentis Solo (Video Oficial), Shot by Balthe	2019-02-23	111812234	1059628	0	52171
100	DUKI x Leiby - No me Llores (Remix)	2019-09-10	11087710	986139	0	44273
107	DUKI, Ysy A, Neo Piestra - QUAVO (Video Oficial)...	2019-03-15	107021437	798603	0	60892
106	DUKI, Ysy A, C.R.O - Hijo de la Noche (Video Oficial)	2019-05-01	86262704	760446	0	49710
111	DUKI - Rockstar (Video Oficial)	2019-02-09	78661936	1051156	0	43158
88	DUKI x KHEA - HITBOY	2019-06-05	63602034	1174832	0	51819
26	DUKI - Malbec x Bizarrap	2021-04-27	54745315	739949	0	13895
6	DUKI, De La Ghetto, Quevedo - Si Quieren Fronte...	2022-03-31	46408790	877145	0	18734

Visualizacion

```
ax1 = sns.barplot(x='Views', y='Title', data=top10_videos)
```



```
videos_df
```

	Title	Published_date	Views	Likes	Favorites	Comments
0	DUKI - "La Vuelta" (Visualizer)	2022-06-24	239441	19999	0	630
1	DUKI - Perreo Bendito (Visualizer)	2022-06-23	962304	74003	0	1979
2	DUKI - Celosa (Video Oficial)	2022-06-23	3866997	221313	0	5674
3	DUKI, Mora - Amor Bipolar (Visualizer)	2022-06-23	1494652	110605	0	3123
4	TEMPORADA DE REGGAETON 2	2022-06-16	798610	88134	0	3741
...
107	DUKI, Ysy A, Neo Piestra - QUAVO (Video Oficial)...	2018-03-15	107021437	798603	0	60892
108	DUKI - Si Te Sentis Solo (Video Oficial), Shot...	2018-02-23	111812234	1059628	0	52171
109	DUKI - She Don't Give a F.O ft. Khea (Oficial)	2018-02-14	3504688	128502	0	4766
110	DUKI - Hello Cotto (Oficial)	2018-02-14	4849203	131152	0	3548
111	DUKI - Rockstar (Video Oficial)	2018-02-09	78661936	1051156	0	43158

112 rows x 7 columns

```
# Quiero saber cuantos videos publica por Mes
# Utilizo .groupby()
```

```
videos_per_month = videos_df.groupby('Month', as_index=False).size()
```

```
videos_per_month
```

```
Month      size
```

```
0  Apr      37
1  Aug       5
2  Dec       5
3  Feb       8
4  Jan       5
5  Jun       3
6  Mar       7
7  May       3
8  Nov      12
9  Oct       4
10 Sep       4
```

```
# Orden
```

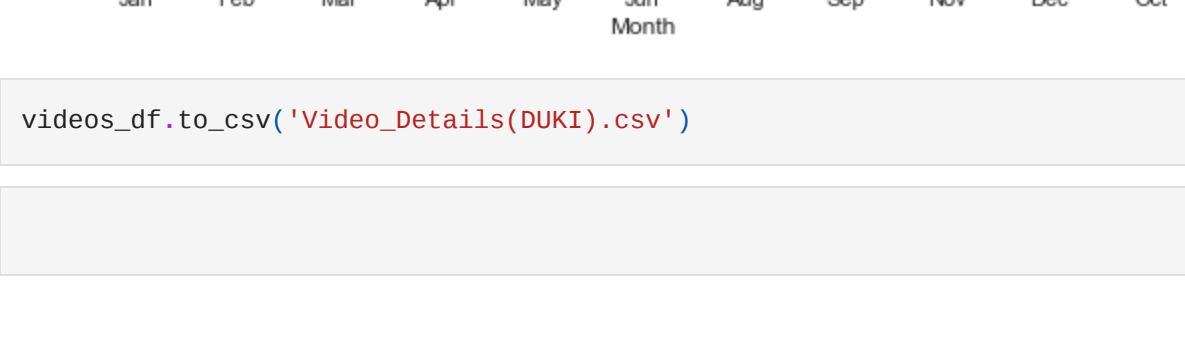
```
sort_order = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
```

```
videos_per_month_index = pd.CategoricalIndex(videos_per_month['Month'], categories=sort_order, ordered=True)
```

```
videos_per_month = videos_per_month.sort_index()
```

```
# Visualizamos para cada mes cuantos videos ha subido
```

```
ax3 = sns.barplot(x='Month', y='size', data=videos_per_month)
```



```
videos_df.to_csv('Video_Details(DUKI).csv')
```