

YOUTUBE DATA ANALYSIS

In [1]:

```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib as plot
import matplotlib.pyplot as plt
import datetime as datetime
import warnings
warnings.filterwarnings('ignore')
import json
```

In [2]:

```
df_US = pd.read_csv(r"US_youtube_trending_data.csv")
```

In [3]:

```
df_US.head(3)
```

Out[3]:

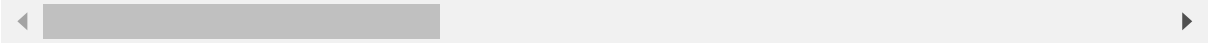
	video_id	title	publishedAt	channelId	channelTitle	ca
0	3C66w5Z0ixs	I ASKED HER TO BE MY GIRLFRIEND...	2020-08-11T19:20:14Z	UCvtRTOMP2TqYqu51xNrqAzg	Brawadis	
1	M9Pmf9AB4Mo	Apex Legends Stories from the Outlands – “Th...	2020-08-11T17:00:10Z	UC0ZV6M2THA81QT9hrVWJG3A	Apex Legends	
2	J78aPJ3VyNs	I left youtube for a month and THIS is what ha...	2020-08-11T16:34:06Z	UCYzPXprvI5Y-Sf0g4vX-m6g	jacksepticeye	

In [4]:

```
df_US.tail(3)
```

Out[4]:

	video_id	title	publishedAt	channelId	channelTitle	cat
176587	IbHe7kn3_M4	Survive 100 Days at WAR in a Minecraft City...	2022-12-28T19:00:05Z	UCtrg_CO-cloh0x9bMDkRJww	RyanNotBrian	
176588	Y2uSZu3XTgE	Board Game Video Games - Scott The Woz	2022-12-29T01:00:18Z	UC4rqhyiTs7XyuODcECvuiiQ	Scott The Woz	
176589	D8eFGeqFXmk	Blind Dating 7 Guys Based on Their Christmas P...	2022-12-27T23:43:24Z	UCWb0O7gdabdhZd62xiHTp0Q	David Alvareeezy	



In [5]:

```
df_US.shape
```

Out[5]:

(176590, 16)

In [6]:

df_US.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 176590 entries, 0 to 176589
Data columns (total 16 columns):
#   Column                Non-Null Count  Dtype
---  -
0   video_id              176590 non-null object
1   title                 176590 non-null object
2   publishedAt           176590 non-null object
3   channelId              176590 non-null object
4   channelTitle          176590 non-null object
5   categoryId            176590 non-null int64
6   trending_date         176590 non-null object
7   tags                  176590 non-null object
8   view_count            176590 non-null int64
9   likes                 176590 non-null int64
10  dislikes              176590 non-null int64
11  comment_count         176590 non-null int64
12  thumbnail_link        176590 non-null object
13  comments_disabled     176590 non-null bool
14  ratings_disabled      176590 non-null bool
15  description           172632 non-null object
dtypes: bool(2), int64(5), object(9)
memory usage: 19.2+ MB
```

DATA CLEANING

Removing unnecessary Columns

In [7]:

```
del_cols = ["thumbnail_link", "comments_disabled", "ratings_disabled", "description"]
df_US = df_US.drop(del_cols, axis = 1)
```

Duplicated values

In [8]:

```
df_US.duplicated().value_counts()
df_US = df_US.drop_duplicates(subset = "video_id", keep = "last")
```

In [9]:

```
df_US.head(1)
```

Out[9]:

	video_id	title	publishedAt	channelId	channelTitle	categoryId
172	cAtazlk1IYw	How To Make a Curried Egg Sandwich	2020-08-07T18:30:06Z	UCR4s1DE9J4DHZZYXMItSMAg	HowToBasic	26

In [10]:

```
df_US['trending_date'].values
```

Out[10]:

```
array(['2020-08-12T00:00:00Z', '2020-08-12T00:00:00Z',
      '2020-08-12T00:00:00Z', ..., '2023-01-07T00:00:00Z',
      '2023-01-07T00:00:00Z', '2023-01-07T00:00:00Z'], dtype=object)
```

In [11]:

```
df_US['trending_date'] = pd.to_datetime(df_US['trending_date']).dt.date
```

In [12]:

```
#pd.to_datetime(old_df['oldDate'], format='%b %d, %Y')
#df_US['publish_time'] = pd.to_datetime(df_US['publishedAt'], format = "T%H:%m:%S:%fZ")
```

In [13]:

```
categories_US = pd.read_json('US_category_id.json')
```

In [14]:

```
categories_US.head(3)
```

Out[14]:

	kind	etag	items
0	youtube#videoCategoryListResponse	HlrK3n45Uw2IYz9_U2-gK1OsXvo	{'kind': 'youtube#videoCategory', 'etag': 'lfW...
1	youtube#videoCategoryListResponse	HlrK3n45Uw2IYz9_U2-gK1OsXvo	{'kind': 'youtube#videoCategory', 'etag': '5XG...
2	youtube#videoCategoryListResponse	HlrK3n45Uw2IYz9_U2-gK1OsXvo	{'kind': 'youtube#videoCategory', 'etag': 'HCj...

In [15]:

```
categories_US['items'].values
```

Out[15]:

```
array([[{'kind': 'youtube#videoCategory', 'etag': 'IfWa37JGcqZs-jZeAyFGkbeh6b
c', 'id': '1', 'snippet': {'title': 'Film & Animation', 'assignable': True,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': '5XGylIs7zkjHh5940dsT5862m1
Y', 'id': '2', 'snippet': {'title': 'Autos & Vehicles', 'assignable': True,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'HCjFMARbBeWjpm6PDfReCOMOZG
A', 'id': '10', 'snippet': {'title': 'Music', 'assignable': True, 'channelI
d': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'ra8H7xyAfmE2FewsDabE3TUSq1
0', 'id': '15', 'snippet': {'title': 'Pets & Animals', 'assignable': True,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': '7mqChSJogdF3hSIL-88BfDE-W8
M', 'id': '17', 'snippet': {'title': 'Sports', 'assignable': True, 'channelI
d': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': '0Z6uGkj97NgjD-X3pkA-nL18Hq
k', 'id': '18', 'snippet': {'title': 'Short Movies', 'assignable': False, 'c
hannelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'K_-7stg0kIU7eUB0PUa6j5fqIM
Q', 'id': '19', 'snippet': {'title': 'Travel & Events', 'assignable': True,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'I3IL9xGIM3MsULLqR4tvCsEKv9
8', 'id': '20', 'snippet': {'title': 'Gaming', 'assignable': True, 'channelI
d': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'D1W6tq5mMMCV0wtNxf9A6g9wWj
U', 'id': '21', 'snippet': {'title': 'Videoblogging', 'assignable': False,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'QMEBz6mxVdklVaq8JwesPEw_4n
I', 'id': '22', 'snippet': {'title': 'People & Blogs', 'assignable': True,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'v2n6q4JttoL4uUbazrcxNQRGPZ
k', 'id': '23', 'snippet': {'title': 'Comedy', 'assignable': True, 'channelI
d': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'Qi1csjh-POReitZEB7CUw7dma
o', 'id': '24', 'snippet': {'title': 'Entertainment', 'assignable': True, 'c
hannelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'IbGXblQi8v_n0sXjirhul1NVCh
8', 'id': '25', 'snippet': {'title': 'News & Politics', 'assignable': True,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'gYzt8dB8mlod-84ipMtjynYe9x
U', 'id': '26', 'snippet': {'title': 'Howto & Style', 'assignable': True, 'c
hannelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'hHUhloYhyMMqVkQ4LH9sr3aRQo
U', 'id': '27', 'snippet': {'title': 'Education', 'assignable': True, 'chann
elId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'KEdEtUd4WGk_aACrYI03UhGE33
w', 'id': '28', 'snippet': {'title': 'Science & Technology', 'assignable': T
rue, 'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'AioSVwhKNpZ2bhtw9SJmrkfY5-
I', 'id': '29', 'snippet': {'title': 'Nonprofits & Activism', 'assignable':
True, 'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'tMfbFvkfuPP8YnUEqpr0gcR6aW
U', 'id': '30', 'snippet': {'title': 'Movies', 'assignable': False, 'channel
Id': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
      {'kind': 'youtube#videoCategory', 'etag': 'totPMF_82XTvVFy0ExFgoKhTk1
```

```

M', 'id': '31', 'snippet': {'title': 'Anime/Animation', 'assignable': False,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'LNgrKNynxC50MeYV9e6XLPX9JC
4', 'id': '32', 'snippet': {'title': 'Action/Adventure', 'assignable': Fals
e, 'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'harT7v7A6516SPdkqp81Xy5yfB
w', 'id': '33', 'snippet': {'title': 'Classics', 'assignable': False, 'chann
elId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'M6Y5Av0CP45r5GgpzamLfHj41y
4', 'id': '34', 'snippet': {'title': 'Comedy', 'assignable': False, 'channel
Id': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'ZFbZGeelYWolvCLQM7m8Yio10
4', 'id': '35', 'snippet': {'title': 'Documentary', 'assignable': False, 'ch
annelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'FD7naICnxxl8H0nZZJAzrWplzu
U', 'id': '36', 'snippet': {'title': 'Drama', 'assignable': False, 'channelI
d': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': '7fvdoCRRWE89SpB5Ua0Y8gGdbk
0', 'id': '37', 'snippet': {'title': 'Family', 'assignable': False, 'channel
Id': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'H6d6HrYDy3EAVAxQR8Z-ShEva1
k', 'id': '38', 'snippet': {'title': 'Foreign', 'assignable': False, 'channe
lId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'Z3yra5IR8n2bkjvv3ZheAOQ-tU
k', 'id': '39', 'snippet': {'title': 'Horror', 'assignable': False, 'channel
Id': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': '3F8eda4xnGzGFmlpsFaf5_YpOg
U', 'id': '40', 'snippet': {'title': 'Sci-Fi/Fantasy', 'assignable': False,
'channelId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'HwuNLGhBJ4PZCEurr-SoqvHuKx
8', 'id': '41', 'snippet': {'title': 'Thriller', 'assignable': False, 'chann
elId': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': 'qJ2eDOZWUDj8fbFYAIG_yzPCYR
c', 'id': '42', 'snippet': {'title': 'Shorts', 'assignable': False, 'channel
Id': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': '2sKmJip5q7FHJgqkHvnpMDgmdd
E', 'id': '43', 'snippet': {'title': 'Shows', 'assignable': False, 'channelI
d': 'UCBR8-60-B28hp2BmDPdntcQ'}}},
    {'kind': 'youtube#videoCategory', 'etag': '3IaZjRK8JeIkLMfRDX57P4FFb9
A', 'id': '44', 'snippet': {'title': 'Trailers', 'assignable': False, 'chann
elId': 'UCBR8-60-B28hp2BmDPdntcQ'}}}],
dtype=object)

```

In [16]:

```

id_to_category = {}
for category in categories_US['items']:
    id_to_category[category['id']] = category['snippet']['title']

```

In [17]:

```
id_to_category
```

Out[17]:

```
{'1': 'Film & Animation',
 '2': 'Autos & Vehicles',
 '10': 'Music',
 '15': 'Pets & Animals',
 '17': 'Sports',
 '18': 'Short Movies',
 '19': 'Travel & Events',
 '20': 'Gaming',
 '21': 'Videoblogging',
 '22': 'People & Blogs',
 '23': 'Comedy',
 '24': 'Entertainment',
 '25': 'News & Politics',
 '26': 'Howto & Style',
 '27': 'Education',
 '28': 'Science & Technology',
 '29': 'Nonprofits & Activism',
 '30': 'Movies',
 '31': 'Anime/Animation',
 '32': 'Action/Adventure',
 '33': 'Classics',
 '34': 'Comedy',
 '35': 'Documentary',
 '36': 'Drama',
 '37': 'Family',
 '38': 'Foreign',
 '39': 'Horror',
 '40': 'Sci-Fi/Fantasy',
 '41': 'Thriller',
 '42': 'Shorts',
 '43': 'Shows',
 '44': 'Trailers'}
```

In [18]:

```
df_US['categoryId'] = df_US['categoryId'].astype(str)
```

In [19]:

```
df_US.insert(4, 'category', df_US['categoryId'].map(id_to_category))
```

Deriving Insights

In [20]:

```
def print_top5(column_of_interest, column_stats):
    df = df_US.groupby(column_of_interest)['view_count', 'likes', 'comment_count', 'dislike
    return df.sort_values(by=column_stats, ascending=False).head()
```

In [21]:

```
def visualize_top5(column_of_interest, column_stats):
    most_viewed_df = df_US.groupby([column_of_interest])[column_stats].sum().reset_index()
    sorted_df= most_viewed_df.sort_values(column_stats, ascending=False).iloc[:5]
    ax = sorted_df.plot.bar(figsize = (5,5))
    # customizes the video titles, for asthetic purposes for the bar chart
    labels = []
    for item in sorted_df[column_of_interest]:
        labels.append(item[:20] + '...')
    ax.set_xticklabels(labels, rotation=45, fontsize=12)
    plt.show()
```

Videos and channels with Top_5 views

In [22]:

```
print_top5('title', 'view_count')
```

Out[22]:

	view_count	likes	comment_count	dislikes
title				
BLACKPINK - 'Pink Venom' M/V	277791741	12993894	3534337	0
BTS (방탄소년단) 'Butter' Official MV	264407389	16021534	6738537	150989
BTS (방탄소년단) 'Dynamite' Official MV	232649205	15735533	6065230	714194
Turn into orbeez - Tutorial #Shorts	206202284	6840430	2826	240769
BLACKPINK - 'Ice Cream (with Selena Gomez)' M/V	184778248	11795670	2735997	879354

In [23]:

```
print_top5('channelTitle', 'view_count')
```

Out[23]:

	view_count	likes	comment_count	dislikes
channelTitle				
MrBeast	2117147182	128303205	7271818	928195
BLACKPINK	1683566796	134419996	18663533	1929218
SMTOWN	1316096024	65734884	12274663	737410
HYBE LABELS	1242036049	118412697	22369631	538641
JYP Entertainment	1148696222	57092540	10577983	609057

Videos and channels with top_5 likes

In [24]:

```
print_top5('title', 'likes')
```

Out[24]:

	view_count	likes	comment_count	dislikes
title				
BTS (방탄소년단) 'Butter' Official MV	264407389	16021534	6738537	150989
BTS (방탄소년단) 'Dynamite' Official MV	232649205	15735533	6065230	714194
BLACKPINK - 'Pink Venom' M/V	277791741	12993894	3534337	0
BTS (방탄소년단) 'Permission to Dance' Official MV	156482499	12117314	2781218	102132
BLACKPINK - 'Ice Cream (with Selena Gomez)' M/V	184778248	11795670	2735997	879354

In [25]:

```
print_top5('channelTitle', 'likes')
```

Out[25]:

	view_count	likes	comment_count	dislikes
channelTitle				
BLACKPINK	1683566796	134419996	18663533	1929218
MrBeast	2117147182	128303205	7271818	928195
HYBE LABELS	1242036049	118412697	22369631	538641
BANGTANTV	700887976	110909599	4825844	459926
SMTOWN	1316096024	65734884	12274663	737410

Videos and channel with top_5 comment

In [26]:

```
print_top5('title', 'comment_count')
```

Out[26]:

	view_count	likes	comment_count	dislikes
title				
BTS (방탄소년단) 'Butter' Official MV	264407389	16021534	6738537	150989
BTS (방탄소년단) 'Dynamite' Official MV	232649205	15735533	6065230	714194
BTS (방탄소년단) 'Life Goes On' Official MV	150622781	11405030	4160903	126202
BLACKPINK - 'Pink Venom' M/V	277791741	12993894	3534337	0
GAME (Full Video) Shooter Kahlon Sidhu Moose Wala Hunny PK Films Gold Media 5911 Records	20896765	1146139	3431431	54130

In [27]:

```
print_top5('channelTitle', 'comment_count')
```

Out[27]:

	view_count	likes	comment_count	dislikes
channelTitle				
HYBE LABELS	1242036049	118412697	22369631	538641
BLACKPINK	1683566796	134419996	18663533	1929218
Big Hit Labels	599584464	57411672	12931041	1261833
SMTOWN	1316096024	65734884	12274663	737410
JYP Entertainment	1148696222	57092540	10577983	609057

Videos with top_5 dislikes

In [28]:

```
print_top5('title', 'dislikes')
```

Out[28]:

	view_count	likes	comment_count	dislikes
title				
BLACKPINK - 'Ice Cream (with Selena Gomez)' M/V	184778248	11795670	2735997	879354
BTS (방탄소년단) 'Dynamite' Official MV	232649205	15735533	6065230	714194
Cardi B - WAP feat. Megan Thee Stallion [Official Music Video]	98442414	3207729	310630	467717
Lil Nas X - MONTERO (Call Me By Your Name) (Official Video)	79848249	3287141	591103	290208
La 69 - Jenny69 (Video Oficial)	4582686	63949	44414	253992

In [29]:

```
print_top5('channelTitle', 'dislikes')
```

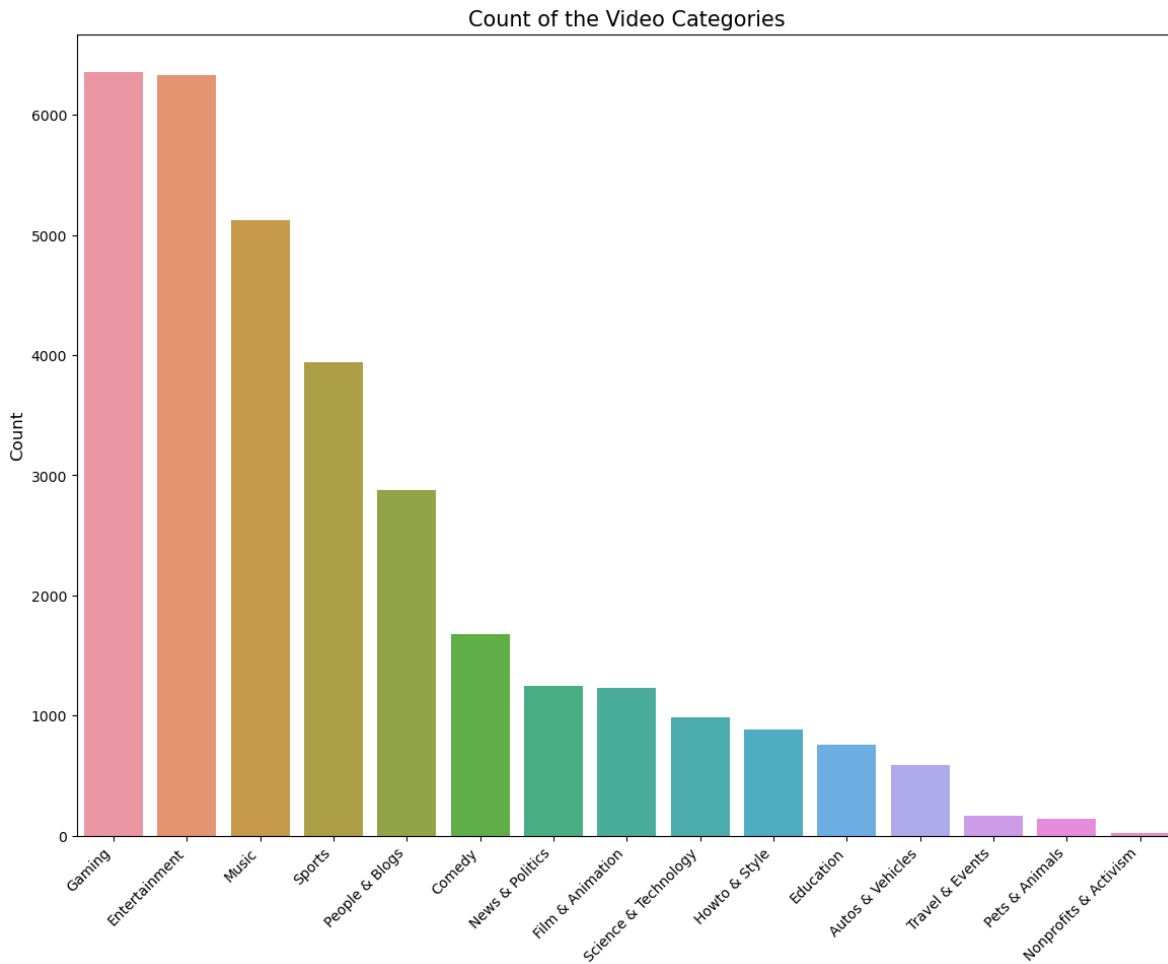
Out[29]:

	view_count	likes	comment_count	dislikes
channelTitle				
BLACKPINK	1683566796	134419996	18663533	1929218
Big Hit Labels	599584464	57411672	12931041	1261833
MrBeast	2117147182	128303205	7271818	928195
Dan Rhodes	445938538	15366535	95709	761189
SMTOWN	1316096024	65734884	12274663	737410

Category wise number of trending videos

In [30]:

```
plt.figure(figsize = (14,10))
g = sns.countplot('category', data = df_US, order = df_US['category'].value_counts().index)
g.set_xticklabels(g.get_xticklabels(),rotation=45, ha="right")
g.set_title("Count of the Video Categories", fontsize=15)
g.set_xlabel("", fontsize=12)
g.set_ylabel("Count", fontsize=12)
plt.subplots_adjust(wspace = 0.9, hspace = 0.9, top = 0.9)
plt.show()
```



Correlation between the columns [views, likes, dislikes, comment_counts]

In [31]:

```
columns_of_interest = ['view_count', 'likes', 'dislikes', 'comment_count']  
corr_matrix = df_US[columns_of_interest].corr()  
corr_matrix
```

Out[31]:

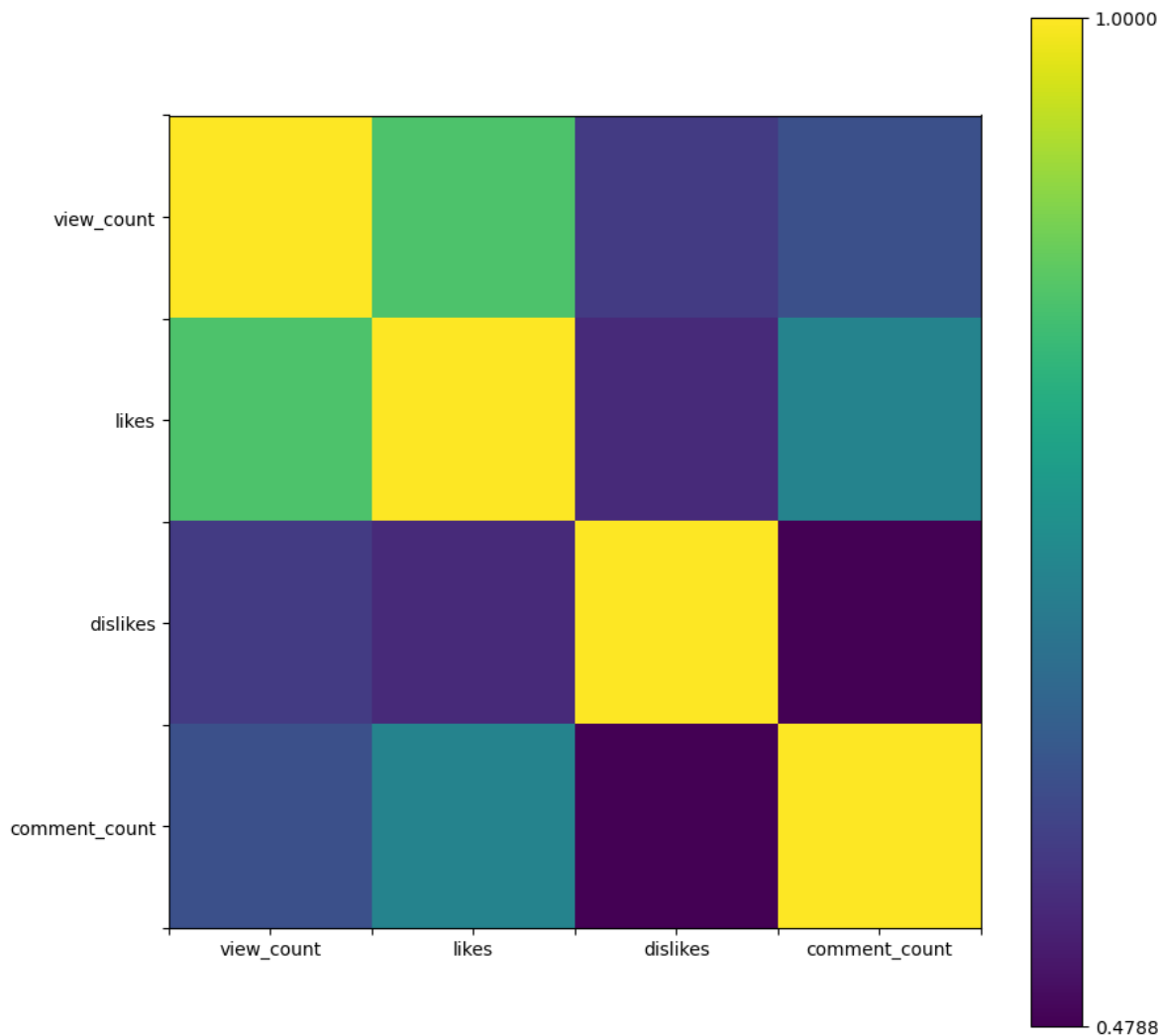
	view_count	likes	dislikes	comment_count
view_count	1.000000	0.854718	0.570287	0.606595
likes	0.854718	1.000000	0.541455	0.711928
dislikes	0.570287	0.541455	1.000000	0.478756
comment_count	0.606595	0.711928	0.478756	1.000000

In [32]:

```

fig, ax = plt.subplots(figsize=(10,10))
heatmap = ax.imshow(corr_matrix, interpolation='nearest' )
# making the colorbar on the side
cbar_min = corr_matrix.min().min()
cbar_max = corr_matrix.max().max()
cbar = fig.colorbar(heatmap, ticks=[cbar_min, cbar_max])
# making the labels
labels = ['']
for column in columns_of_interest:
    labels.append(column)
    labels.append('')
ax.set_yticklabels(labels, minor=False)
ax.set_xticklabels(labels, minor=False)
plt.show()

```



Daily trending insights

In [33]:

```

daily = df_US[['trending_date']].value_counts().reset_index().sort_values(by='trending_date'

```

In [34]:

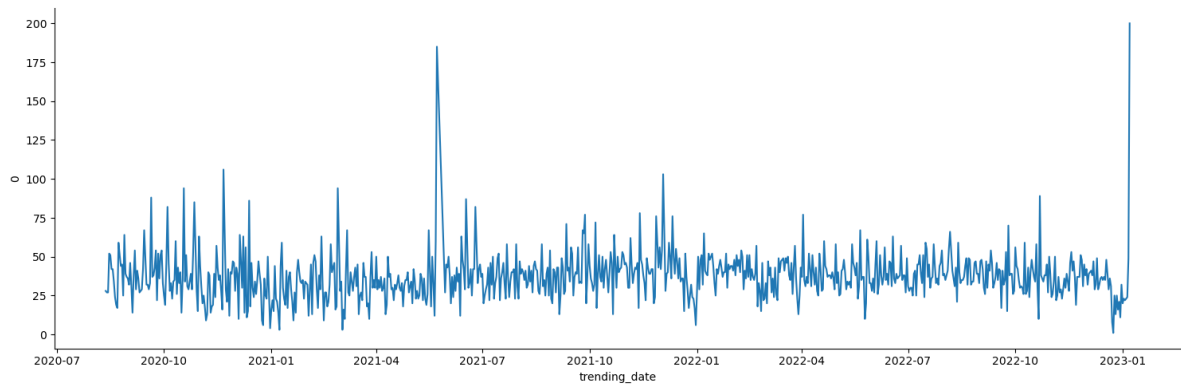
```
daily.head()
```

Out[34]:

	trending_date	0
0	2020-08-12	28
1	2020-08-13	27
2	2020-08-14	27
3	2020-08-15	52
4	2020-08-16	51

In [35]:

```
sns.relplot(data=daily, x='trending_date', y=0, kind='line', aspect=3)  
plt.show()
```

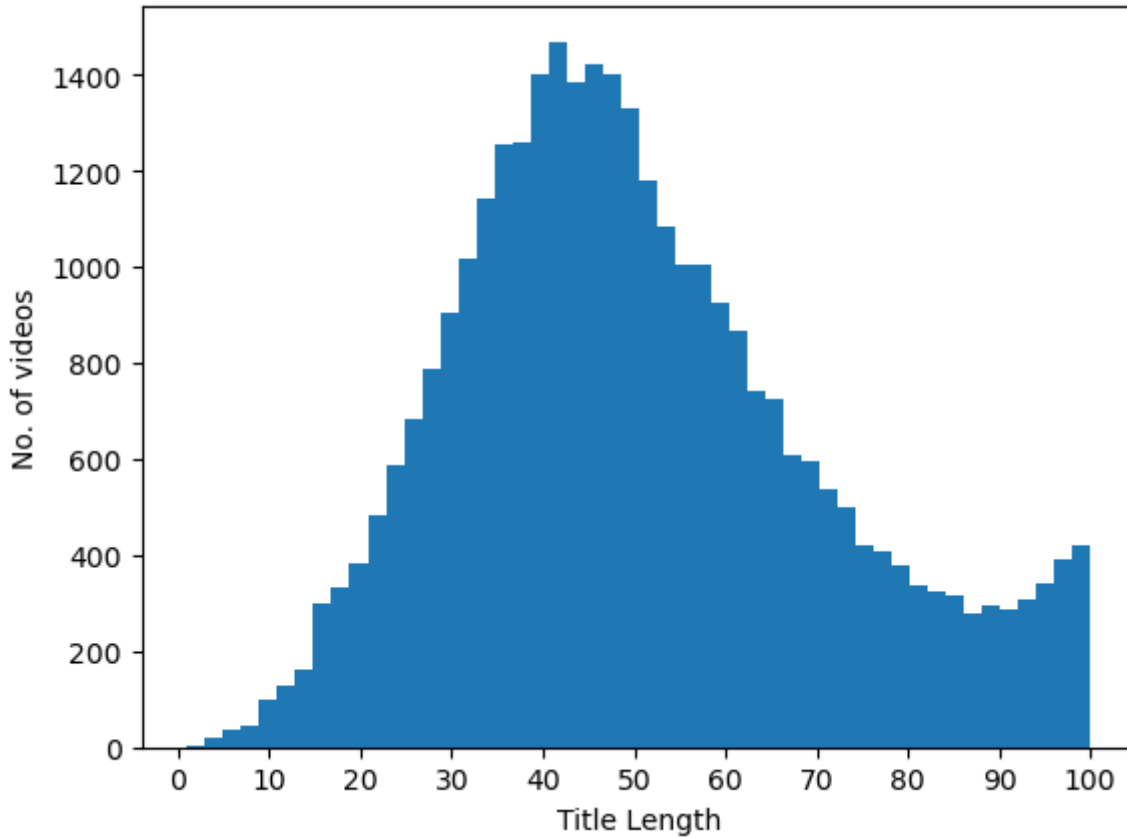


Title Length

In [36]:

```
df_US["title_length"] = df_US["title"].apply(lambda x: len(x))

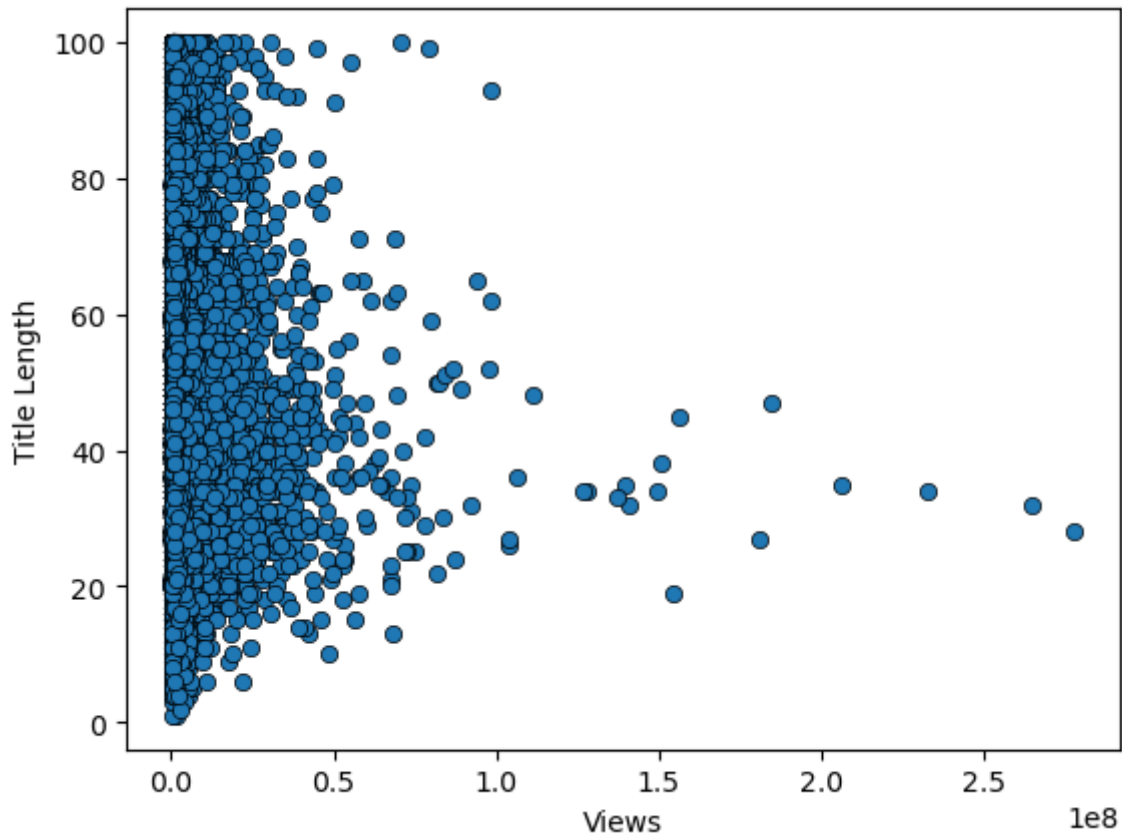
fig, ax = plt.subplots()
_ = sns.distplot(df_US["title_length"], kde=False, rug=False, hist_kws={'alpha': 1}, ax=ax)
_ = ax.set(xlabel="Title Length", ylabel="No. of videos", xticks=range(0, 110, 10))
```



Views according to the title length

In [37]:

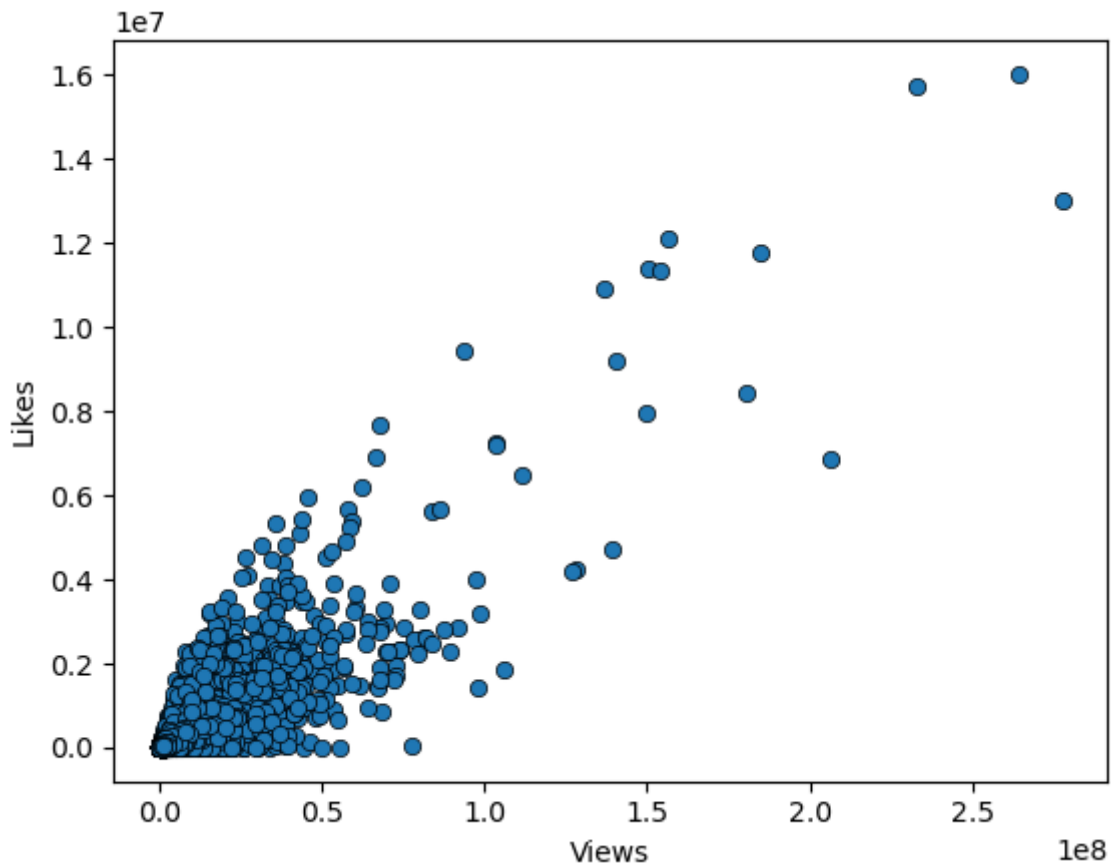
```
fig, ax = plt.subplots()
_ = ax.scatter(x=df_US['view_count'], y=df_US['title_length'], edgecolors="#000000", linewidth=1)
_ = ax.set(xlabel="Views", ylabel="Title Length")
```



Views vs Likes

In [38]:

```
fig, ax = plt.subplots()
_ = plt.scatter(x=df_US['view_count'], y=df_US['likes'], edgecolors="#000000", linewidths=0
_ = ax.set(xlabel="Views", ylabel="Likes")
```

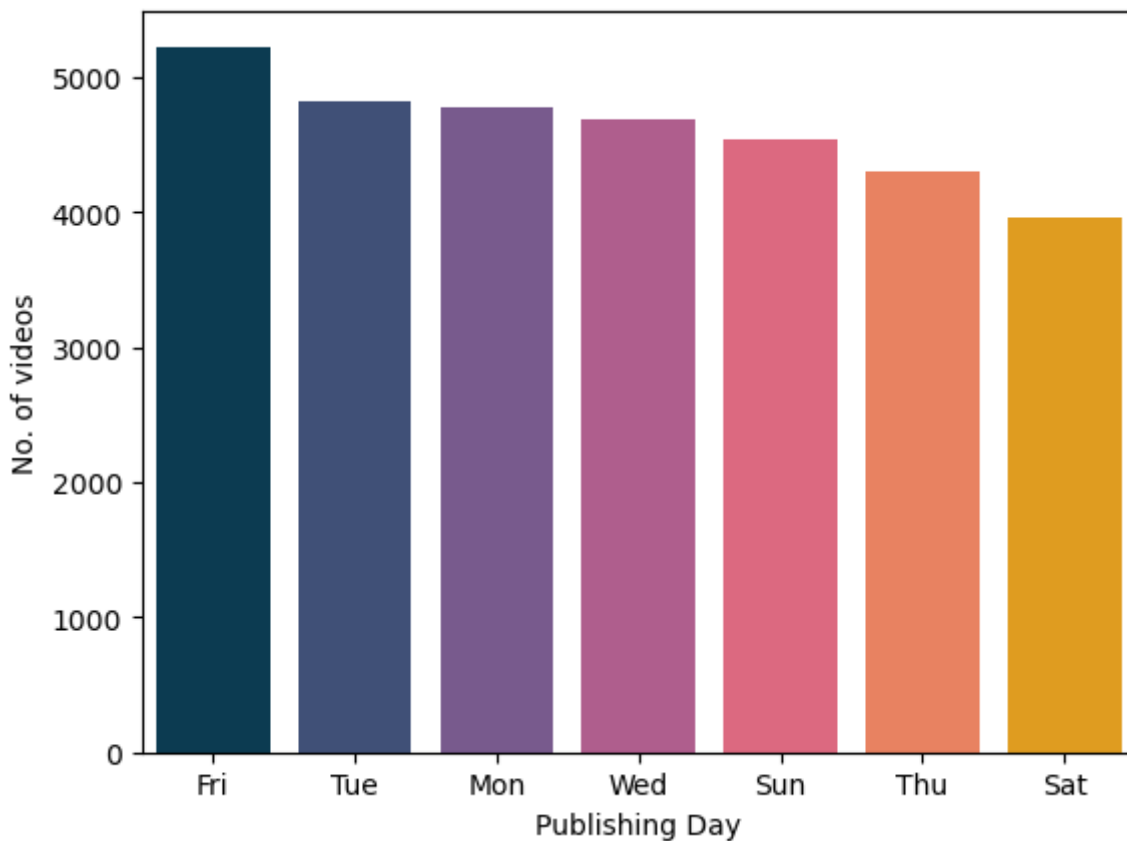


In [40]:

```
df_US["publishing_day"] = df_US["publishedAt"].apply(lambda x: datetime.datetime.strptime(x, "%Y-%m-%dT%H:%M:%S%Z").strftime("%A"))
df_US["publishing_hour"] = df_US["publishedAt"].apply(lambda x: x[11:13])
df_US.drop(labels='publishedAt', axis=1, inplace=True)
```

In [41]:

```
cdf = df_US["publishing_day"].value_counts()\
      .to_frame().reset_index().rename(columns={"index": "publishing_day", "publishing_da": "No_of_videos"})
fig, ax = plt.subplots()
_ = sns.barplot(x="publishing_day", y="No_of_videos", data=cdf,
                palette=sns.color_palette(['#003f5c', '#374c80', '#7a5195', '#bc5090', '#ef5675', '#ff764a', '#ffa600'], n_colors=7))
_ = ax.set(xlabel="Publishing Day", ylabel="No. of videos")
```



In [42]:

```
cdf = df_US["publishing_hour"].value_counts().to_frame().reset_index()\
      .rename(columns={"index": "publishing_hour", "publishing_hour": "No_of_videos"})
fig, ax = plt.subplots()
_ = sns.barplot(x="publishing_hour", y="No_of_videos", data=cdf,
               palette=sns.cubehelix_palette(n_colors=24), ax=ax)
_ = ax.set(xlabel="Publishing Hour", ylabel="No. of videos")
```

