```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns


from google.colab import drive
drive.mount('/content/drive')
```

    Drive already mounted at /content/drive; to attempt to forcibly remount, call

```python
comments=pd.read_csv("/content/drive/MyDrive/YouTube_Comments_Semtiment_Analysis/US
comments.head()
```

    /usr/local/lib/python3.7/dist-packages/IPython/core/interactiveshell.py:2882:

      exec(code_obj, self.user_global_ns, self.user_ns)
    b'Skipping line 41589: expected 4 fields, saw 11\nSkipping line 51628: expecte
    b'Skipping line 142496: expected 4 fields, saw 8\nSkipping line 189732: expect
    b'Skipping line 388430: expected 4 fields, saw 5\n'
    /usr/local/lib/python3.7/dist-packages/IPython/core/interactiveshell.py:2882:
      exec(code_obj, self.user_global_ns, self.user_ns)

	video_id	comment_text	likes	replies
0	XpVt6Z1Gjjo	Logan Paul it's yo big day !!!!!!	4	0
1	XpVt6Z1Gjjo	I've been following you from the start of your...	3	0
2	XpVt6Z1Gjjo	Say hi to Kong and maverick for me	3	0
3	XpVt6Z1Gjjo	MY FAN . attendance	3	0
4	XpVt6Z1Gjjo	trending 😉	3	0

▾ TextBlob

```python
from textblob import TextBlob
```

```python
TextBlob('Its more accurate to call it the M+ (1000) be...  ').sentiment.polarity
```

    0.45000000000000007

```python
comments.isnull().sum()
```

    video_id   0
    comment_text   25
    likes   0
    replies   0
    dtype: int64

```python
comments.dropna(inplace=True)
```

```python
polarity=[]
for i in comments.comment_text:
    polarity.append(TextBlob(i).sentiment.polarity)
```

```python
comments['polarity']=polarity
```

```python
comments.head(20)
```

	video_id	comment_text	likes	replies	polarity
0	XpVt6Z1Gjjo	Logan Paul it's yo big day !!!!!!	4	0	0.000000
1	XpVt6Z1Gjjo	I've been following you from the start of your...	3	0	0.000000
2	XpVt6Z1Gjjo	Say hi to Kong and maverick for me	3	0	0.000000
3	XpVt6Z1Gjjo	MY FAN . attendance	3	0	0.000000
4	XpVt6Z1Gjjo	trending 😉	3	0	0.000000
5	XpVt6Z1Gjjo	#1 on trending AYYEEEEE	3	0	0.000000
6	XpVt6Z1Gjjo	The end though 😭👍🏻❤️	4	0	0.000000
7	XpVt6Z1Gjjo	#1 trending!!!!!!!!!	3	0	0.000000
8	XpVt6Z1Gjjo	Happy one year vlogaversary	3	0	0.800000
9	XpVt6Z1Gjjo	You and your shit brother may have single hand...	0	0	-0.135714
10	XpVt6Z1Gjjo	There should be a mini Logan Paul too!	0	0	0.000000
11	XpVt6Z1Gjjo	Dear Logan, I really wanna get your Merch but ...	0	0	0.200000
12	XpVt6Z1Gjjo	Honestly Evan is so annoying. Like its not fun...	0	0	-0.023333
13	XpVt6Z1Gjjo	Casey is still better then logan	0	0	0.500000
14	XpVt6Z1Gjjo	aw geez rick this guy is the face of YouTube.	0	0	0.000000
15	XpVt6Z1Gjjo	He happy cause he in a movie	0	0	0.800000
16	XpVt6Z1Gjjo	Ayyyyoooo Logang what up . This was a hard vl...	1	0	-0.291667
17	XpVt6Z1Gjjo	Bro y didnt u give merch to johannes he is ur ...	0	0	0.000000
18	XpVt6Z1Gjjo	It's been fun watching you grow. I'm at 42 day...	3	0	0.250000
19	XpVt6Z1Gjjo	Made a lot of people hate youtube - GJ	0	0	-0.800000

```python
comments_positive=comments[comments['polarity']==1]
```

```python
comments_positive.shape
```

```
(19390, 5)
```

```
comments_positive.head()
```

	video_id	comment_text	likes	replies	polarit
64	XpVt6Z1Gjjo	yu are the best	1	0	1
156	cLdxuaxaQwc	Power is the disease. Care is the cure. Keep...	0	0	1
227	WYYvHb03Eog	YAS Can't wait to get it! I just need to sell ...	0	0	1
307	sjlHnJvXdQs	This is priceless	0	0	1
319	sjlHnJvXdQs	Summed up perfectly	0	0	1

▾ WORD CLOUD

```
from wordcloud import WordCloud
from wordcloud import WordCloud,STOPWORDS
```

```
set(STOPWORDS)
     'their',
     'theirs',
     'them',
     'themselves',
     'then',
     'there',
     "there's",
     'these',
     'they',
     "they'd",
     "they'll",
     "they're",
     "they've",
     'this',
     'those',
     'through',
     'to',
     'too',
     'under',
     'until',
     'up',
     'very',
     'was',
     "wasn't",
     'we',
     "we'd",
     "we'll",
     "we're",
     "we've",
     'were',
     "weren't",
     'what',
     "what's",
```

```
        'when',
        "when's",
        'where',
        "where's",
        'which',
        'while',
        'who',
        "who's",
        'whom',
        'why',
        "why's",
        'with',
        "won't",
        'would',
        "wouldn't",
        'www',
        'you',
        "you'd",
        "you'll",
        "you're",
        "you've",
        'your',
        'yours',
        'yourself',
        'yourselves'}
```

```
stopwords=set(STOPWORDS)
```

▾ Positive Comments

```
total_comments=' '.join(comments_positive['comment_text'])
```

```
wordcloud=WordCloud(width=1000,height=500,stopwords=stopwords).generate(total_comme
```

```
plt.figure(figsize=(15,5))
plt.imshow(wordcloud)
plt.axis('off')
```

```
(-0.5, 999.5, 499.5, -0.5)
```


Negative Comments


```
comments_negative=comments[comments['polarity']==-1]
```



```
total_comments_negative=' '.join(comments_negative['comment_text'])
```



```
wordcloud=WordCloud(width=1000,height=500,stopwords=stopwords).generate(total_comme
plt.figure(figsize=(15,5))
plt.imshow(wordcloud)
plt.axis('off')
```

```
(-0.5, 999.5, 499.5, -0.5)
```


TRENDING TAGS

```
videos=pd.read_csv('/content/drive/MyDrive/YouTube_Comments_Semtiment_Analysis/USvi
```

```
/usr/local/lib/python3.7/dist-packages/IPython/core/interactiveshell.py:2882:
```

```
    exec(code_obj, self.user_global_ns, self.user_ns)
  b'Skipping line 2401: expected 11 fields, saw 21\nSkipping line 2800: expected
```

```
videos.head(20)
```

	video_id	title	channel_title	category_id	
0	XpVt6Z1Gjjo	1 YEAR OF VLOGGING -- HOW LOGAN PAUL CHANGED Y...	Logan Paul Vlogs	24	logan paul vlogllogan pa
1	K4wEI5zhHB0	iPhone X — Introducing iPhone X — Apple	Apple	28	AppleliPhone 10liPh
2	cLdxuaxaQwc	My Response	PewDiePie	22	
3	WYYvHb03Eog	Apple iPhone X first look	The Verge	28	apple iphone x hands on
4	sjlHnJvXdQs	iPhone X (parody)	jacksfilms	23	jacksfilmslparodylparodi
5	cMKX2tE5Luk	The Disaster Artist l Official Trailer HD l A24	A24	1	a24la24 filmsla24 traile
6	8wNr-NQImFg	The Check In: HUD, Ben Carson and Hurricanes	Late Night with Seth Meyers	23	Late nightlSeth M
7	_HTXMhKWqnA	iPhone X Impressions & Hands On!	Marques Brownlee	28	iPhone Xliphor
8	_ANP3HR1jsM	ATTACKED BY A POLICE DOG!!	RomanAtwoodVlogs	22	Roman AtwoodlRoma
9	zgLtEob6X-Q	Honest Trailers - The Mummy (2017)	Screen Junkies	1	screenjunkieslscree
10	Ayb_2qbZHm4	Honest College Tour	CollegeHumor	23	CollegehumorlCH
11	CsdzflTXBVQ	Best Floyd Mayweather Interview l Awkward Puppets	Awkward Puppets	23	inte
		Jennifer			

12	l864IBj7cgw	Lawrence Challenges Jimmy to an Axe T...	The Tonight Show Starring Jimmy Fallon	23	The Tonight Sho
13	4MkC65emkG4	Hand In Hand A Benefit For Hurricane Relief l MTV	MTV	24	mtvlvideolonlineloffic
14	vu_9muoxT50	Colin Cloud: Mind Reader Predicts Your Tweets ...	America's Got Talent	24	America's Got Talent 20
15	1L7JFN7tQLs	iPhone X Hands on - Everything you need to know	Jonathan Morrison	28	AppleliPho
16	ZQK1F0wz6z4	What Do You Want to Eat?!	Wong Fu Productions	24	eatlb
17	T_PuZBdT2iM	getting into a conversation in a language you ...	ProZD	1	skitlkoreanllanguagelcon
18	w8fAellnPns	Juicy Chicken Breast - You Suck at Cooking (ep...	You Suck At Cooking	26	how tolcookinglrecipelki
19	UCrBICYM0yM	Downsizing (2017) - Official Trailer - Paramou...	Paramount Pictures	1	downsizinglpreviewlrele

```
videos['tags']
```

```
0        logan paul vlog|logan paul|logan|paul|olympics...
1        Apple|iPhone 10|iPhone Ten|iPhone|Portrait Lig...
2                                                   [none]
3        apple iphone x hands on|Apple iPhone X|iPhone ...
4        jacksfilms|parody|parodies|iphone|iphone x|iph...
                               ...
7987     sinkhole|how do sinkholes form|sinkhole in wat...
7988     Business Insider|Donald Trump|Hillary Clinton|...
7989     LP|Death Valley|Other People|Lost On You|The M...
7990     YouTube FanFest|#YTFF|Washington DC|USA|YTFF|#...
7991     LIGO|Virgo|collaboration|space|science|nationa...
Name: tags, Length: 7992, dtype: object
```

```
tags_complete=' '.join(videos['tags'])
```

▸ Concatenate the Tags for better processing using Regex

[ ] ↳ *4 cells hidden*

▸ Word Cloud of Trending Tags

[ ] ↳ *2 cells hidden*

▸ Regression Plot for Likes and Dislikes with respect to Views

[ ] ↳ *2 cells hidden*

▸ CO-RELATION MATRIX

[ ] ↳ *3 cells hidden*

▾ EMOJI ANALYSIS

```
comments.head()
```

	video_id	comment_text	likes	replies	polarity
0	XpVt6Z1Gjjo	Logan Paul it's yo big day !!!!!!	4	0	0.0
1	XpVt6Z1Gjjo	I've been following you from the start of your...	3	0	0.0
2	XpVt6Z1Gjjo	Say hi to Kong and maverick for me	3	0	0.0
3	XpVt6Z1Gjjo	MY FAN . attendance	3	0	0.0
4	XpVt6Z1Gjjo	trending 😉	3	0	0.0

```
comments['comment_text'][1]
```

```
'I've been following you from the start of your vine channel and have seen al
l 365 vlogs'
```

```
print('\U0001F600')
```

    😀

```
!pip install emoji
```

    Collecting emoji

```
    Downloading emoji-1.7.0.tar.gz (175 kB)
       |████████████████████████████████| 175 kB 7.4 MB/s
  Building wheels for collected packages: emoji
    Building wheel for emoji (setup.py) ... done
    Created wheel for emoji: filename=emoji-1.7.0-py3-none-any.whl size=171046 s
    Stored in directory: /root/.cache/pip/wheels/8a/4e/b6/57b01db010d17ef6ea9b40
  Successfully built emoji
  Installing collected packages: emoji
  Successfully installed emoji-1.7.0
```

```python
import emoji
```

```python
len(comments)
```

```
    691375
```

```python
comment=comments['comment_text'][1]
comment
```

```
    'I've been following you from the start of your vine channel and have seen al
    l 365 vlogs'
```

```python
[c for c in comment if c in emoji.UNICODE_EMOJI_ENGLISH]
```

```
    /usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:1: DeprecationWar

    'emoji.UNICODE_EMOJI_ENGLISH' is deprecated and will be removed in version 2.0
    To hide this warning, pin/downgrade the package to 'emoji~=1.6.3'

    []
```

```python
str=''
for i in comments['comment_text']:
    list=[c for c in i if c in emoji.UNICODE_EMOJI_ENGLISH]
    for ele in list:
        str=str+ele
```

```
    /usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:3: DeprecationWar

    'emoji.UNICODE_EMOJI_ENGLISH' is deprecated and will be removed in version 2.0
    To hide this warning, pin/downgrade the package to 'emoji~=1.6.3'
```

```python
len(str)
```

```
    294549
```

```python
str
```

'!!!!!!😉😭👍🖤😍💋💙👍👉😂🔥😂😂😂😂👻🖤😂🖤💎😆😆😆😆😆😄😄😄😄😄😄😂😂
😂😭😔👏👏👏👏👏👏👏👏👏🙂🖤👉😂😂😂👌👌🤭👉😂😂😄💔😂👎👎👎👎👎🍎😤😂😂

```
result={}
for i in set(str):
    result[i]=str.count(i)
```

😌🌶😌😌😌😌😌😌😌😌😌🙇😌😌😌😌😌👈😌👻😌😌😌🍎😌😌😌😌😌😌▼▼😤

result

```
'🙃': 4,
'💁': 9,
'🎓': 17,
'💬': 13,
'❤': 71,
'🟡': 40,
'🕰': 6,

'🏆': 24,
'🏛': 4,
'♨': 39,
'🚋': 8,
'☑': 10,
'📝': 19,
'⚾': 22,
'🆘': 15,
'🔌': 14,
'😡': 478,
'🛗': 40,
'✅': 115,
'🛒': 5,
'⚫': 8,
'💁': 7,
'🙃': 253,
'👠': 39,
'🍷': 80,
'🌐': 14,
'🌮': 6,
'💁': 145,
'🙏': 1818,
'◻': 6,
'🐘': 20,
'📙': 8,
'💵': 628,
'✌': 835,
'💗': 2144,
'🌍': 94,
'➖': 11,
'👻': 268,
'⭕': 22,
'💂': 25,
'🐬': 10,
'㊙': 5,
'🐶': 325,
'🚌': 3,
'🔽': 4,
'😝': 413,
'🌑': 4,
'👣': 130,
'🔞': 16,
'🗞': 7,
'👀': 12,
```

```
     : 12,
'🍥': 19,
'🏥': 6,
'🔒': 18,
'☣': 2,
'❄': 3,
'🐸': 124,
...}
```

```
result.items()
```

```
dict_items([('😙', 482), ('🎻', 40), ('🍣', 23), ('🐿', 8), ('✳', 14), ('🐟', 5'
```

```
final={}
for key ,value in sorted(result.items(), key=lambda item:item[1]):
    final[key]=value
```

```
final
```

```
'🤚': 193,
'👅': 194,
'💣': 197,
'⭐': 198,
'😹': 201,
'👉': 204,
'❄': 206,
'🅱': 207,
'‼': 211,
'🧑': 212,
'🍁': 223,
'🐐': 224,
'🧕': 231,
'📱': 231,
'🔪': 235,
'😪': 249,
'🍓': 252,
'🙄': 253,
'🍕': 258,
'🐝': 261,
'😜': 266,
'👻': 268,
'👱': 270,
'🟢': 274,
'😵': 277,
'😓': 280,
'🤦': 282,
'🎵': 284,
'😖': 287,
'✊': 289,
'〰': 290,
'🐗': 303,
'🤡': 305,
'🙊': 312,
'💎': 316,
'🐶': 325,
'🍗': 327,
'🐺': 334,
'😰': 335,
'😌': 338,
```

```
        '💥': 344,
        '🤕': 354,
        '🐗': 354,
        '🌈': 359,
        '🎤': 360,
        '😞': 364,
        '🤧': 378,
        '👊': 379,
        '🐢': 380,
        '😣': 381,
        '🐓': 382,
        '😋': 389,
        '🙍': 390,
        '🦄': 391,
        '😈': 393,
        '😳': 398,
        '😝': 413,
        ...}
```

```
keys=[*final.keys()]
```

```
keys
```

```
        '👏',
        '👅',
        '💣',
        '⭐',
        '😹',
        '👉',
        '❄',
        '🅱',
        '‼',
        '👦',
        '🍁',
        '🐐',
        '🤕',
        '📱',
        '🔪',
        '😪',
        '🍓',
        '🙃',
        '🍕',
        '🐝',
        '🙂',
        '👻',
        '🙍',
        '🤢',
        '😵',
        '😓',
        '🙇',
        '🎵',
        '😣',
        '🙌',
        '〰',
        '🐗',
        '🤡',
        '🙊',
        '💎',
        '🙈',
```

```
      '🍗',
      '🦃',
      '😨',
      '😌',
      '💥',
      '😗',
      '🍂',
      '🌈',
      '🎤',
      '😒',
      '🤧',
      '👊',
      '🐢',
      '😣',
      '🐓',
      '😋',
      '🤦',
      '🦄',
      '😈',
      '😳',
      '😝',
      ...]
```

```
values=[*final.values()]
```

```
values
```

```
      193,
      194,
      197,
      198,
      201,
      204,
      206,
      207,
      211,
      212,
      223,
      224,
      231,
      231,
      235,
      249,
      252,
      253,
      258,
      261,
      266,
      268,
      270,
      274,
      277,
      280,
      282,
      284,
      287,
      289,
      290,
```

```
       303,
       305,
       312,
       316,
       325,
       327,
       334,
       335,
       338,
       344,
       354,
       354,
       359,
       360,
       364,
       378,

       379,
       380,
       381,
       382,
       389,
       390,
       391,
       393,
       398,
       413,
       ...]
```

```
df=pd.DataFrame({'chars': keys[-20:],'num': values[-20:]})
```
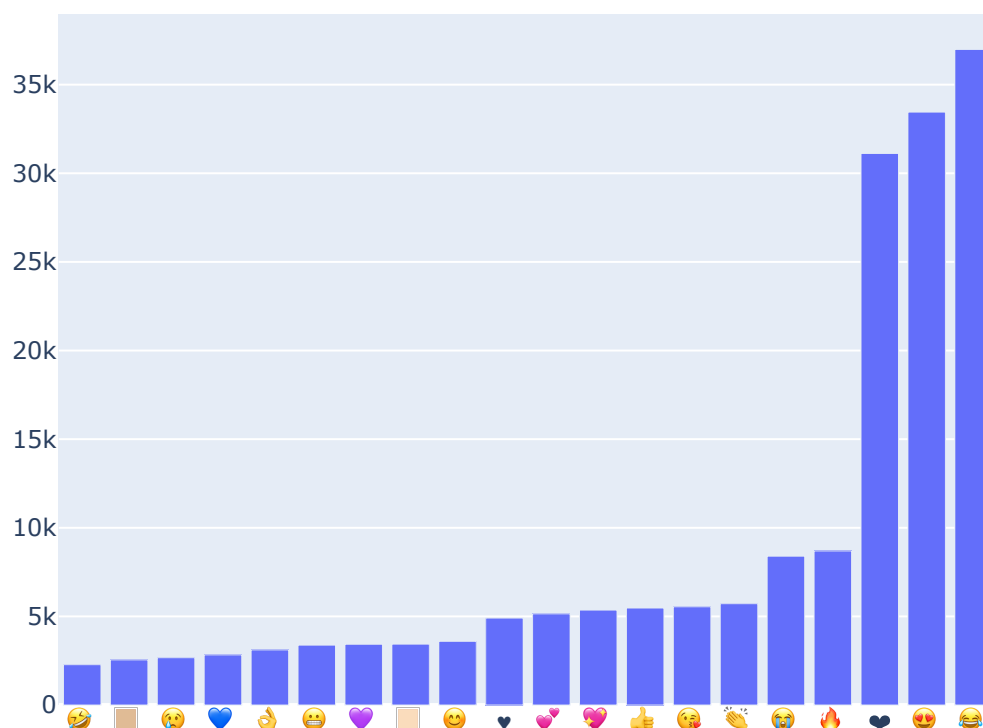
```
df
```

	chars	num
0	🤣	2279
1	🟫	2549
2	🥺	2672
3	💙	2831
4	👌	3112
5	😬	3381

```python
import plotly.graph_objs as go
from plotly.offline import iplot
```

▾ Plot of - Emoji vs Number of Occurences

```python
trace=go.Bar(
    x=df['chars'],
    y=df['num']
)

iplot([trace])
```

✓ 0s   completed at 20:13   ● ✕