

☐ Show the 5 recent tweets:

- 1) Justice Ginsburg was a trailblazer who devoted her entire career to fighting for equal justice for women, because she knew it would improve life for
- 2) My dad was the “real” Bill Gates. He was everything I try to be and I will miss him every day.
<https://t.co/OnAEsmoNp>
- 3) Thank you to the heroes everywhere working to keep us safe. I hope their stories inspire you just as much as they have me: <https://t.co/DYFUYMEPK7> h
- 4) These heroes represent the best of who we can be. Their efforts to solve the world’s challenges demonstrate our values as a society and they serve a
- 5) RT @OurWorldInData: Some countries responded successfully to the pandemic – and more broadly, some are much more successful in protecting t...

```
# Create a dataframe with a column called Tweets
df = pd.DataFrame([tweet.full_text for tweet in posts], columns=['Tweets'])
# Show the first 5 rows of data
df.head()
```

☐ **Tweets**

0	Justice Ginsburg was a trailblazer who devoted...
1	My dad was the “real” Bill Gates. He was every...
2	Thank you to the heroes everywhere working to ...
3	These heroes represent the best of who we can ...
4	RT @OurWorldInData: Some countries responded s...

☐ **Tweets**

0	Justice Ginsburg was a trailblazer who devoted...
1	My dad was the “real” Bill Gates. He was every...
2	Thank you to the heroes everywhere working to ...
3	These heroes represent the best of who we can ...
4	: Some countries responded successfully to the...
...	...
95	Extreme physical distancing measures will make...
96	There's no question the United States missed t...
97	I'm inspired by the generosity of everyone who...
98	One of the questions I am most often asked abo...
99	This impressive new tool from _UW will help ho...

100 rows × 1 columns

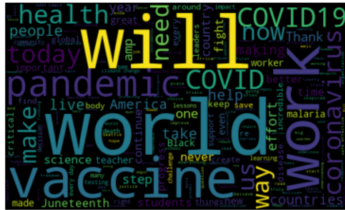
☐

	Tweets	Subjectivity	Polarity
0	Justice Ginsburg was a trailblazer who devoted...	0.458333	0.166667
1	My dad was the “real” Bill Gates. He was every...	0.300000	0.200000
2	Thank you to the heroes everywhere working to ...	0.350000	0.350000
3	These heroes represent the best of who we can ...	0.615152	0.509091
4	: Some countries responded successfully to the...	0.642500	0.512500
...
95	Extreme physical distancing measures will make...	0.338624	-0.046759
96	There's no question the United States missed t...	0.666667	0.100000
97	I'm inspired by the generosity of everyone who...	0.950000	0.300000
98	One of the questions I am most often asked abo...	0.550000	0.600000
99	This impressive new tool from _UW will help ho...	0.504242	0.337273

100 rows × 3 columns

```
# word cloud visualization
allWords = ' '.join([twts for twts in df['Tweets']])
wordCloud = WordCloud(width=500, height=300, random_state=21, max_font_size=110).generate(allWords)

plt.imshow(wordCloud, interpolation="bilinear")
plt.axis('off')
plt.show()
```



	Tweets	Subjectivity	Polarity	Analysis
0	Justice Ginsburg was a trailblazer who devoted...	0.458333	0.166667	Positive
1	My dad was the "real" Bill Gates. He was every...	0.300000	0.200000	Positive
2	Thank you to the heroes everywhere working to ...	0.350000	0.350000	Positive
3	These heroes represent the best of who we can ...	0.615152	0.509091	Positive
4	: Some countries responded successfully to the...	0.642500	0.512500	Positive
...
95	Extreme physical distancing measures will make...	0.338624	-0.046759	Negative
96	There's no question the United States missed t...	0.666667	0.100000	Positive
97	I'm inspired by the generosity of everyone who...	0.950000	0.300000	Positive
98	One of the questions I am most often asked abo...	0.550000	0.600000	Positive
99	This impressive new tool from _UW will help ho...	0.504242	0.337273	Positive

100 rows x 4 columns

```
# Printing positive tweets
print('Printing positive tweets:\n')
j=1
sortedDF = df.sort_values(by=['Polarity']) #Sort the tweets
for i in range(0, sortedDF.shape[0]):
    if( sortedDF['Analysis'][i] == 'Positive'):
        print(str(j) + ' ' + sortedDF['Tweets'][i])
        print()
        j= j+1
```

Printing positive tweets:

- 1) Justice Ginsburg was a trailblazer who devoted her entire career to fighting for equal justice for women, because she knew it would improve life for
- 2) My dad was the "real" Bill Gates. He was everything I try to be and I will miss him every day.
- 3) Thank you to the heroes everywhere working to keep us safe. I hope their stories inspire you just as much as they have me:
- 4) These heroes represent the best of who we can be. Their efforts to solve the world's challenges demonstrate our values as a society and they serve a
- 5) : Some countries responded successfully to the pandemic – and more broadly, some are much more successful in protecting t...
- 6) Clinical trials are critical to helping researchers better understand Alzheimer's. Improving how we identify and enroll participants in those trials
- 7) I tackle every big new problem by asking two questions: Who has dealt with this problem well? And what can we learn from them? will help to fill th
- 8) Of all the things I've learned from Warren Buffett (and there have been a lot), the most important might be what friendship is all about. Here's why
- 9) Happy 90th birthday, Warren!
- 10) ., thank you for making the world a healthier and more equitable place. Your understanding of how we can improve global prosperity, through support
- 11) : 6 months ago, Africa confirmed its first case of COVID19. Since then, there have been 1 million cases, affecting every country on...

```

# Printing negative tweets
print('Printing negative tweets:\n')
j=1
sortedDF = df.sort_values(by=['Polarity'],ascending=False) #Sort the tweets
for i in range(0, sortedDF.shape[0] ):
    if( sortedDF['Analysis'][i] == 'Negative'):
        print(str(j) + ' ') +sortedDF['Tweets'][i])
        print()
        j=j+1

```

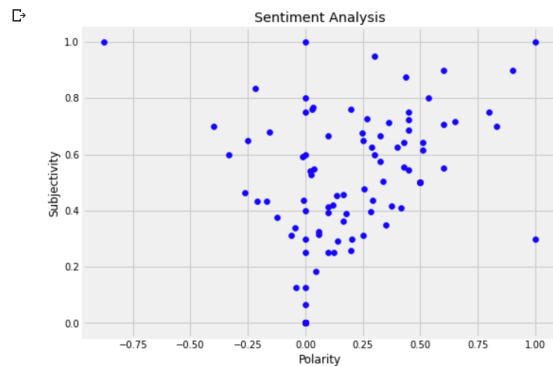
Printing negative tweets:

- 1) Because of long-standing barriers that are made worse by COVID-19, hundreds of thousands of students with promise may never start college. This would...
- 2) : Three lessons that have been central to the COVID19 response in South Africa, Liberia, & other countries:
 ♦ Screening...
- 3) Globally, a lack of medical oxygen-needed to treat pneumonia, malaria, and other diseases-leads to hundreds of thousands of deaths each year. found...
- 4) : "It's that clarity of language about the VALUE of black life in America that distinguishes Juneteenth as emancipation...
- 5) : "Only those feigning blindness fail to see the body of work we are, and the work of body we have done.
 Everything is what it is...
- 6) : Juneteenth recognizes & celebrates Black people's freedom and the end of slavery in the US! 19 Jun 1865 Union Army Genera...
- 7) _Nyongco: 1. This is Opal Lee, the force behind the movement to make Juneteenth a national holiday. Also known as Freedom Day, it...
- 8) ...in policing, criminal justice, education, health care, housing, the workplace and all other areas of their lives.
- 9) The horrifying killings of George Floyd, Ahmaud Arbery, Breonna Taylor and far too many other Black people-and the protests they sparked-are shining...
- 10) : The video of George Floyd's brutal death broke my heart. I've watched the protests that followed and have felt overwhelme...

```

# Plotting
plt.figure(figsize=(8,6))
for i in range(0, df.shape[0]):
    plt.scatter(df["Polarity"][i], df["Subjectivity"][i], color='Blue')
# plt.scatter(x,y,color)
plt.title('Sentiment Analysis')
plt.xlabel('Polarity')
plt.ylabel('Subjectivity')
plt.show()

```



```
[16] # Print the percentage of positive tweets
ptweets = df[df.Analysis == 'Positive']
ptweets = ptweets['Tweets']
ptweets

round( (ptweets.shape[0] / df.shape[0]) * 100 , 1)
```

64.0

```
[17] # Print the percentage of negative tweets
ntweets = df[df.Analysis == 'Negative']
ntweets = ntweets['Tweets']
ntweets

round( (ntweets.shape[0] / df.shape[0]) * 100, 1)
```

15.0

```
# Show the value counts
df['Analysis'].value_counts()
```

```
Positive    64
Neutral     21
Negative     15
Name: Analysis, dtype: int64
```

```
# Plotting and visualizing the counts
plt.title('Sentiment Analysis')
plt.xlabel('Sentiment')
plt.ylabel('Counts')
df['Analysis'].value_counts().plot(kind = 'bar')
plt.show()
```

