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In [1]: # Import Labraries, packages and modules

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

from PIL import Image

from pandas.plotting import autocorrelation_plot

from math import sqrt

import plotly_express as px

from statsmodels.tsa.ar_model import AutoReg
from statsmodels.tsa.stattools import adfuller
from statsmodels.tsa.seasonal import seasonal_decompose

from sklearn.metrics import mean_squared_error

from statsmodels.tsa.arima.model import ARIMA
from pmdarima.arima import auto_arima
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In [2]: # Read worldwide csv file into a dataframe
worldwide_df = pd.read_csv('polarity_monkeypox.csv')
```

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In [3]: # View the dataframe
worldwide_df
```

Out[3]:

	Unnamed: 0	Date	Username	Location	Verified	Hashtag	Tw
0	0	2022-08-17 23:57:12+00:00	darkcobrabws	NaN	False	NaN	@eastcoastHur @GovCanHea You guys are ob
1	1	2022-08-17 23:46:13+00:00	CMANN66	Winnipeg	False	NaN	@MBGov need 10 compliance on Monkey
2	2	2022-08-17 23:31:58+00:00	1215Deb	Virginia, USA	False	NaN	@ajwhitewolf S friend, who is g and is
3	3	2022-08-17 23:27:07+00:00	marlborhoe666	NWI	False	NaN	Anyone else ha insane anxi about monkey
4	4	2022-08-17 23:27:01+00:00	RatherBeGulfin	Bunnyville Station	False	NaN	Where I live n the monkey p vaccine is o
...
33764	33764	2022-04-01 12:59:45+00:00	FrunkChristine	NaN	False	NaN	Reliance Monkeys COVID19 Vacc Expe
33765	33765	2022-04-01 12:33:52+00:00	monkey_leader	La Canada Flintridge, CA	False	NaN	Fauci should prepared to h no one liste
33766	33766	2022-04-01 12:27:07+00:00	PooBouy	Antarctica	False	NaN	@_lil_woo Does this me you don't supp
33767	33767	2022-04-01 05:14:17+00:00	JHolden77262914	Mars Congressional Republic	False	NaN	@Njv251Nj @kymburle @thehill Even if
33768	33768	2022-04-01 04:32:31+00:00	AlanSubie4Life	San Diego, CA	False	NaN	@g6 @deeptabhatta @msdiamondl don'

33769 rows × 13 columns

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In [4]: # Drop duplicates if any
worldwide_df = worldwide_df.drop_duplicates()
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In [5]: # view data types in the dataframe
worldwide_df.info()
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<class 'pandas.core.frame.DataFrame'>
Int64Index: 33769 entries, 0 to 33768
Data columns (total 13 columns):
#   Column                Non-Null Count  Dtype
---  -
0   Unnamed: 0             33769 non-null  int64
1   Date                   33769 non-null  object
2   Username               33769 non-null  object
3   Location               21233 non-null  object
4   Verified               33769 non-null  bool
5   Hashtag                1710 non-null   object
6   Tweet                 33769 non-null  object
7   extracted_hashtags     33769 non-null  object
8   clean_tweet            33769 non-null  object
9   sentiment_results      33769 non-null  object
10  polarity               33769 non-null  float64
11  subjectivity           33769 non-null  float64
12  sentiment              33769 non-null  object
dtypes: bool(1), float64(2), int64(1), object(9)
memory usage: 3.4+ MB
```

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In [10]: # Create a function to plot world map.
# Map will display with data from columns in the dataframe per country
def plot_map(df,col):
    df = df[df[col]>-1]
    fig = px.choropleth(df, locations="Location", locationmode='country names',
                        color=col, hover_name="Location",
                        title=col, hover_data=[col], height=500,width=900, color_continuous_scale=
    fig.show()
```

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In [11]: # Plot a map showing confirmed cases per country
plot_map(worldwide_df, 'polarity')
```

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In [9]: img = Image.open('newplot.png')
plt.figure(figsize=(12, 6))
plt.imshow(img);
```

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FileNotFoundError                                Traceback (most recent call last)
<ipython-input-9-f73a81bc3fbd> in <module>
----> 1 img = Image.open('newplot.png')
      2 plt.figure(figsize=(12, 6))
      3 plt.imshow(img);

~\anaconda3\anacnoda3\lib\site-packages\PIL\Image.py in open(fp, mode, formats)
    2889
    2890     if filename:
-> 2891         fp = builtins.open(filename, "rb")
    2892         exclusive_fp = True
    2893

FileNotFoundError: [Errno 2] No such file or directory: 'newplot.png'
```

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In [ ]:
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