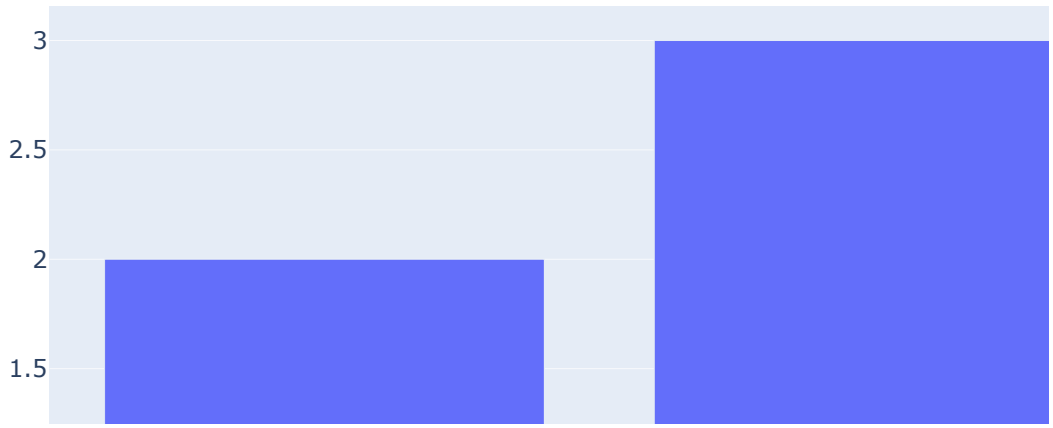
In [1]:

```
import plotly.graph_objects as go
import numpy as np
import pandas as pd
fig = go.Figure(data=go.Bar(y=[2, 3, 1]))
fig.show()
```



In [6]:

```
data = pd.read_excel("Blue_Bucket_data_2015-Aug2021.xlsx")
data
```

Out[6]:

	Cleanup ID	Zone	State	Country	GPS	Cleanup Type	Cleanup Date	Month	Year
0	120220	San Mateo County, CA, USA	California, USA	United States	37.65187, -122.484	Land (beach, shoreline and inland)	2020-05-12	5	2020
1	120222	San Mateo County, CA, USA	California, USA	United States	37.65174, -122.484	Land (beach, shoreline and inland)	2020-05-12	5	2020
2	122555	San Mateo County, CA, USA	California, USA	United States	37.5992, -122.50073	Land (beach, shoreline and inland)	2020-05-15	5	2020
3	122565	San Mateo County, CA, USA	California, USA	United States	37.64923, -122.49027	Land (beach, shoreline and inland)	2020-05-15	5	2020
4	122580	San Mateo County, CA, USA	California, USA	United States	37.6516, -122.48413	Land (beach, shoreline and inland)	2020-05-15	5	2020
...	...	...	...	...	...	...	...	...	...
3408	177692	Monterey County, CA, USA	California, USA	United States	36.60046, -121.88872	Land (beach, shoreline and inland)	2021-07-31	7	2021
3409	177700	Monterey County, CA, USA	California, USA	United States	36.60049, -121.88882	Land (beach, shoreline and inland)	2021-07-31	7	2021
3410	177718	San Mateo County, CA, USA	California, USA	United States	37.4985, -122.46657	Land (beach, shoreline and inland)	2021-07-31	7	2021
3411	177747	San Mateo County, CA, USA	California, USA	United States	37.57875, -122.50652	Land (beach, shoreline and inland)	2021-07-31	7	2021
3412	177719	San Mateo County, CA, USA	California, USA	United States	37.5888953, -122.3609298	Land (beach, shoreline and inland)	2021-07-31	7	2021

3413 rows × 69 columns

In [7]:

```
import plotly.express as px
from jupyter_dash import JupyterDash
from dash import dcc
from dash import html
from dash.dependencies import Input, Output
import plotly.graph_objs as go
```

In [8]:

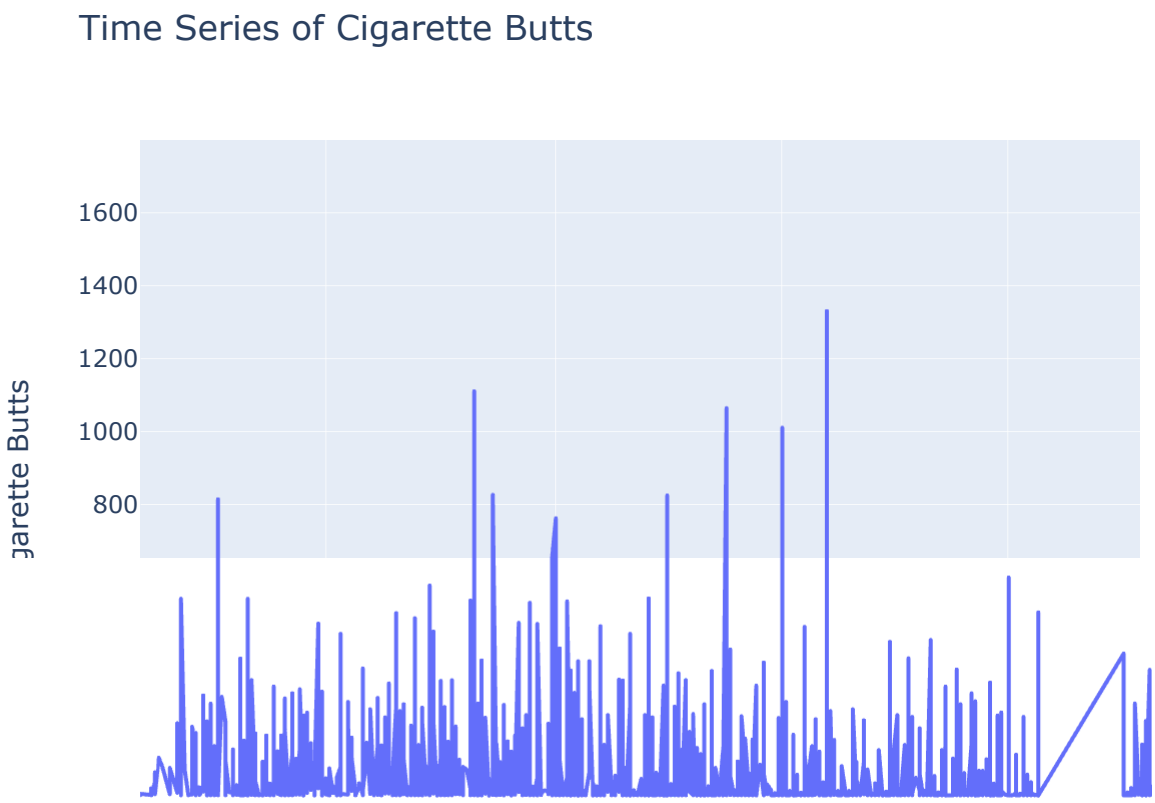
```
import dash
from dash import html
external_stylesheets = ['https://codepen.io/chriddyp/pen/bWLwgP.css']

app = dash.Dash(__name__, external_stylesheets=external_stylesheets)
```

Cigarette butts time series

In [9]:

```
data2 = data.sort_values(by="Cleanup Date")
plot = px.line(data2, x="Cleanup Date", y="Cigarette Butts", title="Time Series
 of Cigarette Butts")
plot.show()
```



Single use plastics time series

In [10]:

```
from datetime import datetime

data = pd.read_csv('Tides_and_Blue_Bucket_Data.csv')

datetime.strptime(data['Cleanup Date'][30000], "%Y-%m-%d %H:%M:%S")

data['Cleanup Timestamp'] = pd.to_datetime(data['Cleanup Date'], format="%Y-%m-%
d %H:%M:%S")
df = data.groupby('Cleanup Timestamp').agg('sum')
df['log Plastic Pieces'] = np.log(df['Plastic Pieces'])

import seaborn as sns
from matplotlib import pyplot as plt

plt.rcParams["figure.figsize"] = (20,15)

sns.lineplot(x="Cleanup Timestamp", y="Plastic Pieces", data=df)
```

```
/Users/ichchitaa/opt/anaconda3/lib/python3.7/site-packages/IPython/c
ore/interactiveshell.py:3063: DtypeWarning:

Columns (1) have mixed types.Specify dtype option on import or set l
ow_memory=False.

/Users/ichchitaa/opt/anaconda3/lib/python3.7/site-packages/pandas/co
re/series.py:679: RuntimeWarning:

divide by zero encountered in log


---------------------------------------------------------------------
-------
ValueError                                Traceback (most recent cal
l last)
<ipython-input-10-2e1b902335dc> in <module>
     14 plt.rcParams["figure.figsize"] = (20,15)
     15
---> 16 sns.lineplot(x="Cleanup Timestamp", y="Plastic Pieces", data
=df)

~/opt/anaconda3/lib/python3.7/site-packages/seaborn/relational.py in
lineplot(x, y, hue, size, style, data, palette, hue_order, hue_norm,
sizes, size_order, size_norm, dashes, markers, style_order, units, e
stimator, ci, n_boot, seed, sort, err_style, err_kws, legend, ax, **
kwargs)
   1129         dashes=dashes, markers=markers, style_order=style_or
der,
   1130         units=units, estimator=estimator, ci=ci, n_boot=n_bo
ot, seed=seed,
-> 1131         sort=sort, err_style=err_style, err_kws=err_kws, leg
end=legend,
   1132     )
   1133

~/opt/anaconda3/lib/python3.7/site-packages/seaborn/relational.py in
__init__(self, x, y, hue, size, style, data, palette, hue_order, hue
_norm, sizes, size_order, size_norm, dashes, markers, style_order, u
nits, estimator, ci, n_boot, seed, sort, err_style, err_kws, legend)
    698
    699         plot_data = self.establish_variables(
--> 700             x, y, hue, size, style, units, data
    701         )
    702

~/opt/anaconda3/lib/python3.7/site-packages/seaborn/relational.py in
establish_variables(self, x, y, hue, size, style, units, data)
    140                 if isinstance(var, str):
    141                     err = "Could not interpret input '{}'".f
ormat(var)
--> 142                     raise ValueError(err)
    143
    144             # Extract variable names

ValueError: Could not interpret input 'Cleanup Timestamp'
```

In [11]:

```
#data2 = data.sort_values(by="Cleanup Date")
#plot = px.line(data2, x="Cleanup Date", y="Cigarette Butts", title="Time Series
of Cigarette Butts")
#plot.show()
chart1 = dcc.Graph(
    id = 'graph1',
    figure = plot,
    className="graphs"
)
```

In [12]:

```
header = html.H2(children="Dashboard")
row = html.Div(children = [chart1])
setup = html.Div(children=[header], style={"text-align": "center"})
```

In [15]:

```
app = dash.Dash(__name__, meta_tags=[{"name": "viewport", "content":"width=devic
e-width"}])
#
```

In [18]:

```
app.layout = html.Div([
dcc.Graph(id = 'chart1', config={'displayModeBar': 'hover'}
        , className='graph_container')])


@app.callback(Output('chart1', 'figure'),
              [Input('data','value')])

def update_graph(data):
    total_pounds = sum(data['Pounds'])
    total_trips = len(data)

    return {
        'data': [go.Bar(
            #labels=['Confirmed', 'Death', 'Recovered', 'Active'],
            x= data["Cleanup Date"],
            y= data["Cigarette Butts"],
            name="Time Series of Cigarette Butts",
            marker=dict(color='orange'),
            hoverinfo='text'
            #hovertext=
            #'<b>Date</b>: ' + covid_data_3['date'].tail(30).astype(str) + '<br
>' +
            #'<b>Daily Confirmed Cases</b>: ' + [f'{x:,.0f}' for x in covid_data
_3['daily confirmed'].tail(30)] + '<br>' +
            #'<b>Country</b>: ' + covid_data_3['Country/Region'].tail(30).astype
(str) + '<br>'

        )],

        'layout': go.Layout(
            title={'text': 'Total Cases: ' + (data),
                   'y': 0.93,
                   'x': 0.5,
                   'xanchor': 'center',
                   'yanchor': 'top'},
            titlefont={'color': 'white',
                       'size': 20},
            font=dict(family='sans-serif',
                      color='white',
                      size=12),
            hovermode='closest',
            paper_bgcolor='#1f2c56',
            plot_bgcolor='#1f2c56',
            legend={'orientation': 'h',
                    'bgcolor': '#1f2c56',
                    'xanchor': 'center', 'x': 0.5, 'y': -0.7}


        )
    }
```

In [ ]:

```
if __name__ == "__main__":
    app.run_server()
```

```
Dash is running on http://127.0.0.1:8050/

Dash is running on http://127.0.0.1:8050/

Dash is running on http://127.0.0.1:8050/

Dash is running on http://127.0.0.1:8050/

 * Serving Flask app "__main__" (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a product
ion deployment.
   Use a production WSGI server instead.
 * Debug mode: off


 * Running on http://127.0.0.1:8050/ (Press CTRL+C to quit)
127.0.0.1 - - [13/Nov/2021 18:16:25] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [13/Nov/2021 18:16:26] "GET /_dash-layout HTTP/1.1" 20
0 -
127.0.0.1 - - [13/Nov/2021 18:16:26] "GET /_dash-dependencies HTTP/
1.1" 200 -
127.0.0.1 - - [13/Nov/2021 18:16:26] "GET /_dash-component-suites/da
sh/dcc/async-graph.js HTTP/1.1" 200 -
127.0.0.1 - - [13/Nov/2021 18:16:26] "GET /_dash-component-suites/da
sh/dcc/async-plotlyjs.js HTTP/1.1" 200 -
```

In [ ]: