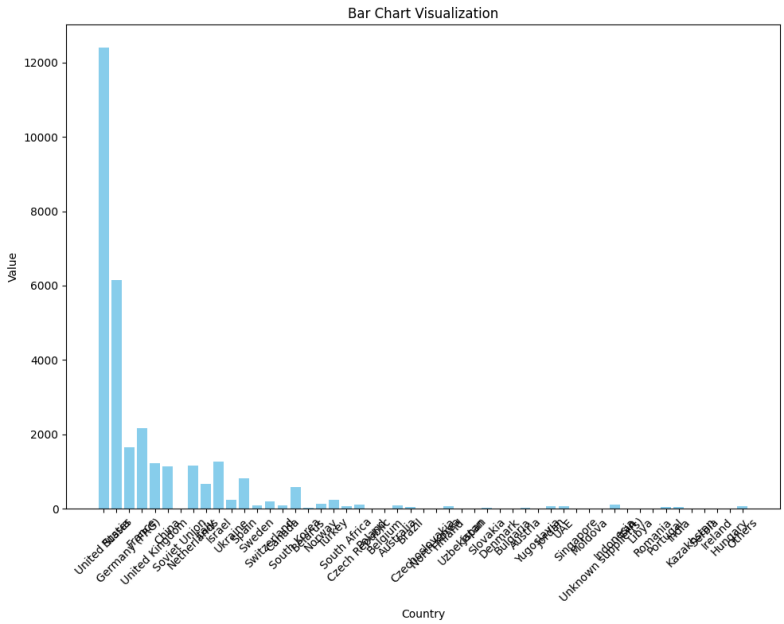
```
import pandas as pd
import matplotlib.pyplot as plt


# Load data from the CSV file
data = pd.read_csv('https://sf-flow-tos.oceanengine.io/
```

Mục mới

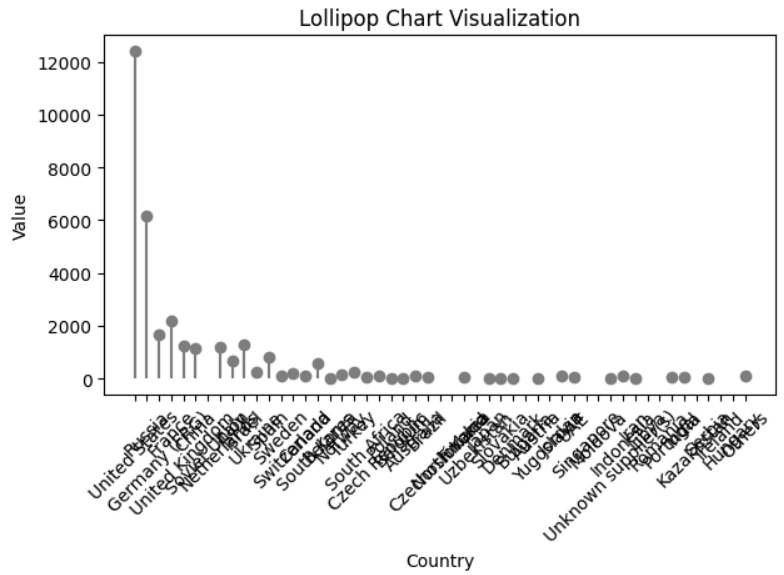
```
# Bar Chart
plt.figure(figsize=(10, 8))
plt.bar(data['Country'], data['Value'], color='skyblue'
plt.title('Bar Chart Visualization')
plt.xlabel('Country')
plt.ylabel('Value')
plt.xticks(rotation=45)
plt.tight_layout()  # Adjust layout to fit labels
plt.show()
```




```
# Lollipop Chart
plt.figure(figsize=(10, 8))
```

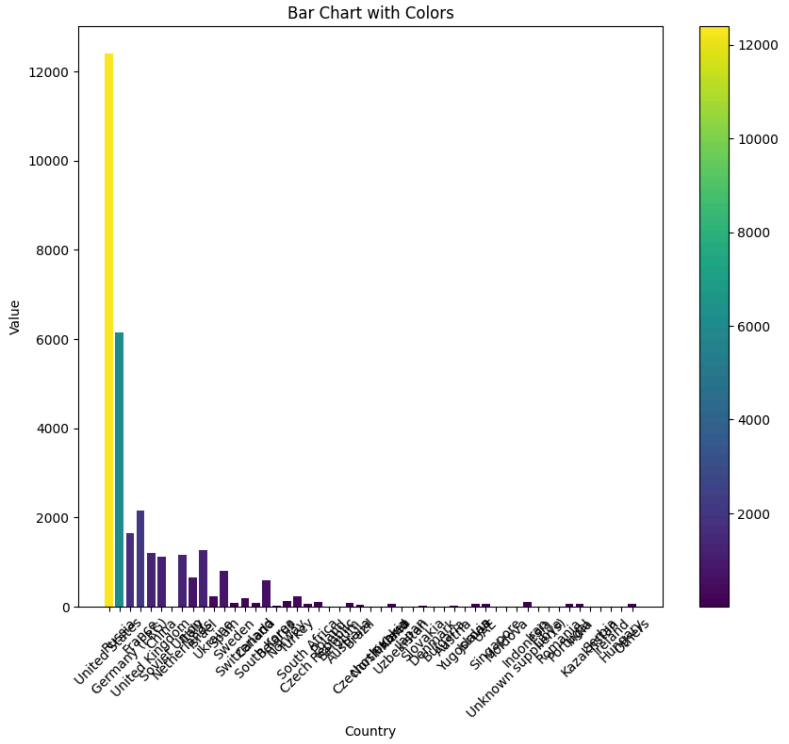
```
<Figure size 1000x800 with 0 Axes>
<Figure size 1000x800 with 0 Axes>
```

```
# Use basefmt=' ' to remove the baseline in the stem fu
plt.stem(data['Country'], data['Value'], linefmt='grey'
plt.title('Lollipop Chart Visualization')
plt.xlabel('Country')
plt.ylabel('Value')
plt.xticks(rotation=45)
plt.tight_layout()  # Adjust layout to fit labels
plt.show()
```



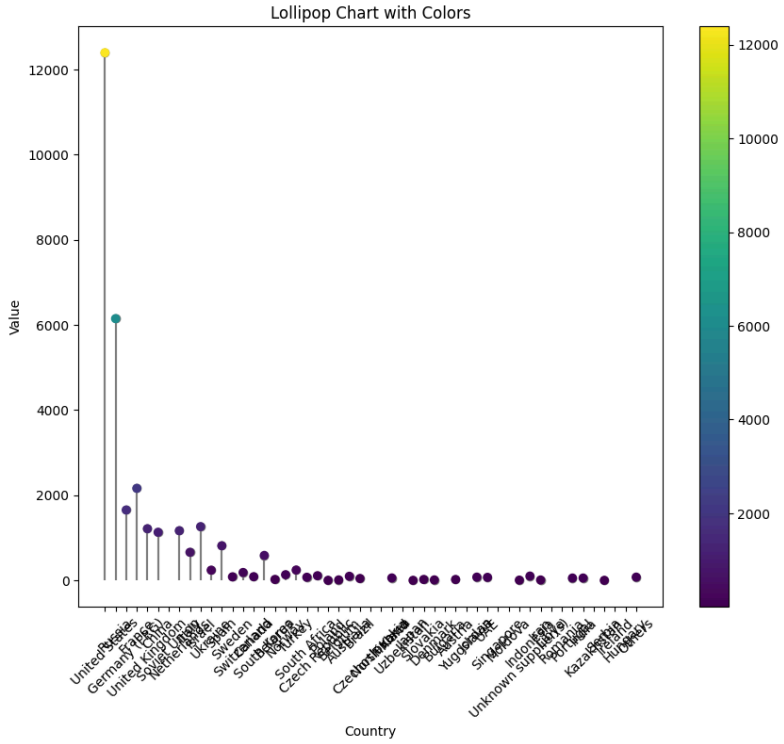

```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np


url = '7_OneCatOneNum.csv'
data = pd.read_csv(url)


# Set a color for each bar based on value
norm = plt.Normalize(data['Value'].min(), data['Value']
colors = plt.cm.viridis(norm(data['Value']))


# Bar Chart
plt.figure(figsize=(10, 8))
plt.bar(data['Country'], data['Value'], color=colors)
plt.title('Bar Chart with Colors')
plt.xlabel('Country')
plt.ylabel('Value')
plt.xticks(rotation=45)
plt.colorbar(plt.cm.ScalarMappable(norm=norm, cmap='vir
plt.show()
```

```
<ipython-input-9-bbb533265768>:8: MatplotlibDeprecat
  plt.colorbar(plt.cm.ScalarMappable(norm=norm, cmap
```

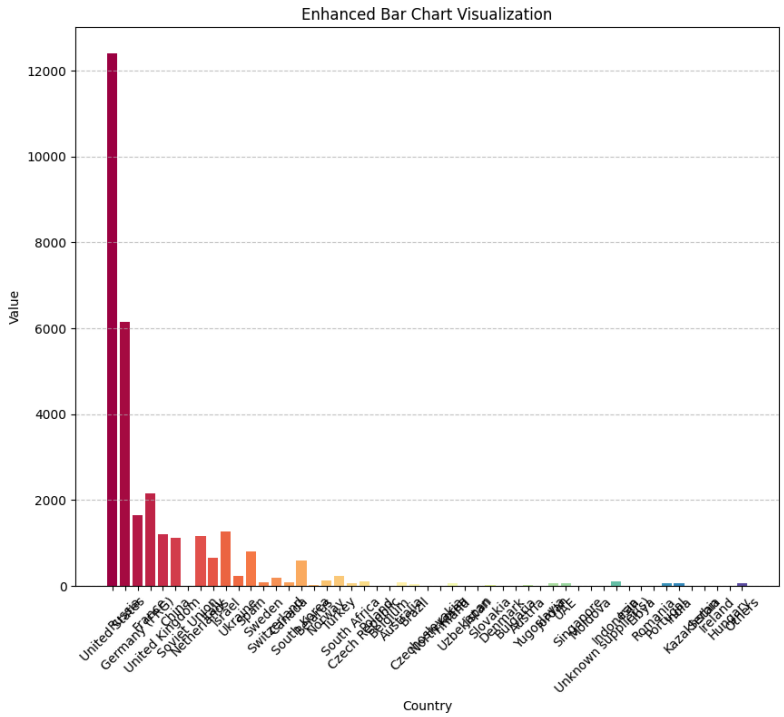



```
# Lollipop Chart
plt.figure(figsize=(10, 8))
plt.stem(data['Country'], data['Value'], linefmt='grey',
plt.scatter(data['Country'], data['Value'], color=colors,
plt.title('Lollipop Chart with Colors')
plt.xlabel('Country')
plt.ylabel('Value')
plt.xticks(rotation=45)
plt.colorbar(plt.cm.ScalarMappable(norm=norm, cmap='virid
plt.show()
```

```
<ipython-input-10-2d1b6fd1bef7>:9: MatplotlibDeprec
  plt.colorbar(plt.cm.ScalarMappable(norm=norm, cma
```

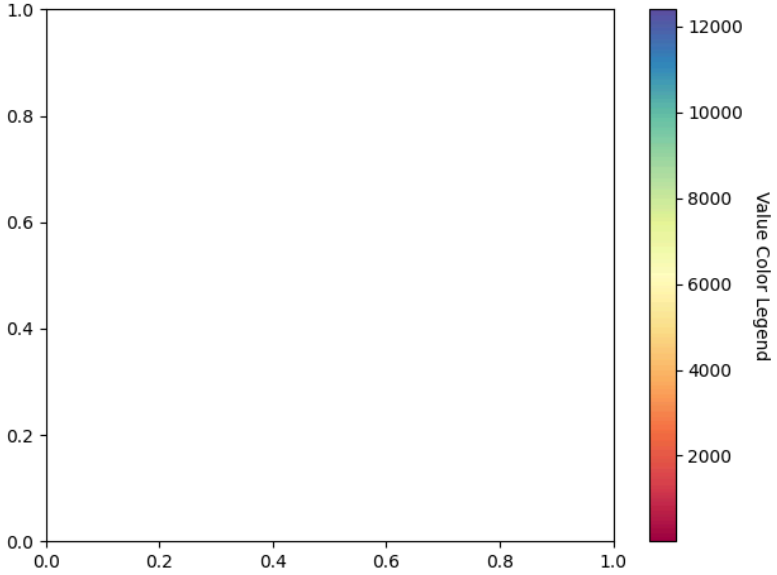



```
colors = plt.cm.Spectral(np.linspace(0, 1, len(data)))


# Bar Chart
plt.figure(figsize=(10, 8))
bars = plt.bar(data['Country'], data['Value'], color=co
plt.title('Enhanced Bar Chart Visualization')
plt.xlabel('Country')
plt.ylabel('Value')
plt.xticks(rotation=45)
plt.grid(axis='y', linestyle='--', alpha=0.7)  # add ho
```




```
sm = plt.cm.ScalarMappable(cmap=plt.cm.Spectral, norm=pl
cbar = plt.colorbar(sm)
cbar.set_label('Value Color Legend', rotation=270, labe
plt.tight_layout()
plt.show()
```

```
<ipython-input-13-bcfd7f61c2e1>:2: MatplotlibDeprec
  cbar = plt.colorbar(sm)
```




```
# Lollipop Chart
plt.figure(figsize=(10, 8))
(markers, stemlines, baselines) = plt.stem(data['Country
plt.setp(baselines, visible=False)  # Hide the baseline
plt.setp(stemlines, 'color', plt.cm.gray(np.linspace(0,
plt.setp(markers, 'color', colors, 'zorder', 3)  # Set z
plt.title('Enhanced Lollipop Chart Visualization')
plt.xlabel('Country')
plt.ylabel('Value')
plt.xticks(rotation=45)
plt.grid(axis='y', linestyle='--', alpha=0.7)
```

```
---------------------------------------------------
--------------------------
ValueError
Traceback (most recent call last)
<ipython-input-14-d17529444f06> in <cell line:
6>()
      4 plt.setp(baselines, visible=False)  #
Hide the baseline
      5 plt.setp(stemlines, 'color',
plt.cm.gray(np.linspace(0, 1, len(data))))
----> 6 plt.setp(markers, 'color', colors,
'zorder', 3)  # Set zorder for markers to be
above the stemlines
      7 plt.title('Enhanced Lollipop Chart
Visualization')
      8 plt.xlabel('Country')

                  6 frames
/usr/local/lib/python3.10/dist-
packages/matplotlib/colors.py in
_check_color_like(**kwargs)
    241     for k, v in kwargs.items():
    242         if not is_color_like(v):
--> 243             raise ValueError(f"{v!r} is
not a valid value for {k}")
    244
    245

ValueError: array([[0.61960784, 0.00392157,
0.25882353, 1.        ],
       [0.66189927, 0.05082661, 0.26881968, 1.
],
       [0.7041907 , 0.09773164, 0.27881584, 1.
],
       [0.74648212, 0.14463668, 0.288812  , 1.
],
       [0.78877355, 0.19154171, 0.29880815, 1.
],
       [0.83106498, 0.23844675, 0.30880431, 1.
],
       [0.8567474 , 0.27566321, 0.30149942, 1.
],
       [0.88058439, 0.31180315, 0.2922722 , 1.
],
       [0.90442138, 0.3479431 , 0.28304498, 1.
],
       [0.93302576, 0.39131103, 0.27197232, 1.
],
       [0.95686275, 0.42745098, 0.2627451 , 1.
],
       [0.96378316, 0.47743176, 0.28581315, 1.
],
       [0.97070358, 0.52741253, 0.3088812 , 1.
],
       [0.97762399, 0.57739331, 0.33194925, 1.
],
```

```
        [0.98454441, 0.62737409, 0.3550173 , 1.
    ],
        [0.99146482, 0.67735486, 0.37808535, 1.
    ],
        [0.9928489 , 0.71695502, 0.4094579 , 1.
    ],
        [0.99377163, 0.76309112, 0.44821223, 1.
    ],
        [0.99454056, 0.80153787, 0.4805075 , 1.
    ],
        [0.9953095 , 0.83998462, 0.51280277, 1.
    ],
        [0.99607843, 0.87843137, 0.54509804, 1.
    ],
        [0.99684737, 0.90226836, 0.58508266, 1.
    ],
        [0.9976163 , 0.92610534, 0.62506728, 1.
    ],
        [0.99838524, 0.94994233, 0.6650519 , 1.
    ],
        [0.99915417, 0.97377932, 0.70503652, 1.
    ],
        [0.99807766, 0.99923106, 0.74602076, 1.
    ],
        [0.97885429, 0.99154171, 0.7160323 , 1.
    ],
        [0.95963091, 0.98385236, 0.68604383, 1.
    ],
        [0.94040754, 0.97616301, 0.65605536, 1.
    ],
        [0.92118416, 0.96847366, 0.6260669 , 1.
    ],
        [0.90196078, 0.96078431, 0.59607843, 1.
    ],
        [0.85659362, 0.94232987, 0.60530565, 1.
    ],
        [0.81122645, 0.92387543, 0.61453287, 1.
    ],
        [0.76585928, 0.90542099, 0.62376009, 1.
    ],
        [0.71141869, 0.88327566, 0.63483276, 1.
    ],
        [0.66528258, 0.86459054, 0.64321415, 1.
    ],
        [0.61222607, 0.8438293 , 0.64398308, 1.
    ],
```

Next steps: Explain error

```
# Repeat the color bar for consistency with the bar chai
plt.colorbar(sm)
plt.tight_layout()
plt.show()
```

```
<ipython-input-15-43f33843c306>:2: MatplotlibDeprec
  plt.colorbar(sm)
```