Data Analysis and Visualization of Starbucks Locations

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Introduction

- This presentation explores Starbucks store locations worldwide using Python.
- Libraries such as NumPy, Pandas, Matplotlib, Seaborn, and Basemap are used.

Importing Libraries

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from mpl_toolkits.basemap import Basemap
import seaborn as sns
```

Explanation: These libraries are essential for data handling and visualization.

Loading and Inspecting Data

```
df = pd.read_csv('Starbucks.csv')
df.head()
df.info()
```

Explanation: Reads the Starbucks dataset and displays basic information.

Checking Unique Countries

```
df.Country.unique()
```

Explanation: Retrieves a list of unique countries where Starbucks stores are located.

Top 10 Countries by Store Count

```
df.Country.value_counts().head(10)
```

Explanation: Identifies the top 10 countries with the most Starbucks locations.

Bar Plot of Top 10 Countries

```
top10 = df.Country.value_counts().head(10)
fig, ax = plt.subplots(figsize=(10,5))
ax = sns.barplot(y=top10.index, x=top10.values, ax=ax,
    orient="h", palette="summer")
ax.set_title('Top 10 Countries with most Starbucks
    stores', fontsize=16)
```

Explanation: Creates a horizontal bar chart showing Starbucks store distribution.

Top 10 Cities in the UK

```
GB = df[df['Country']=='GB']
GB['City'].value_counts().head(10)
```

Explanation: Filters data for the UK and lists the top 10 cities with Starbucks stores.

Global Starbucks Store Locations - Map

```
plt.figure(figsize=(10, 10))
m = Basemap(projection='ortho', lat_0=5,
    lon_0=3, resolution=None)
m.bluemarble(scale=0.5)
plt.show()
```

Explanation: Uses Basemap to create a world map showing Starbucks locations.

World Map with Country Borders

```
plt.figure(figsize=(16,12))
m = Basemap(projection='mill', llcrnrlat
    =-80, urcrnrlat=80, llcrnrlon=-180,
    urcrnrlon=180, resolution='i')
m.drawcoastlines()
m.drawcountries(color='g')
m.drawmapboundary(fill_color='white')
plt.show()
```

Explanation: Displays Starbucks stores on a detailed world map.

Starbucks Stores in the UK

```
plt.figure(figsize=(10, 20))
m = Basemap(llcrnrlon=-10.5, llcrnrlat
    =49.5, urcrnrlon=3.5, urcrnrlat=59.5,
    resolution='i', projection='cass',
    lon_0=-4.36, lat_0=54.7)
m.drawcountries()
m.fillcontinents(color='#0070C0')
x, y = m(list(GB["Longitude"].astype(float
    )), list(GB["Latitude"].astype(float))
    )
m.plot(x, y, 'o', color='#6AF6AD',
    markersize=2)
plt.title("Starbucks Stores UK Locations",
     fontsize=16)
plt.show()
```

Explanation: Plots Starbucks stores in the UK using geographic coordinates.

Conclusion

- We analyzed Starbucks locations worldwide.
- Data visualization techniques, including bar charts and maps, provided insights.
- The UK-specific analysis showed store distribution in various cities.