Cuisine-Specific Map – Italian Restaurants Documentation

Step 1 - Installing **folium** module. You can do it inside Jupyter Notebook as shown below

```
!pip install folium
```

```
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: folium in c:\users\deepraj\appdata\roaming\python\python312\site-packages (0.19.5)
Requirement already satisfied: branca>=0.6.0 in c:\users\deepraj\appdata\roaming\python\python312\site-packages (from folium) (0.8.1)
Requirement already satisfied: jinja2>=2.9 in c:\programdata\anaconda3\lib\site-packages (from folium) (3.1.4)
Requirement already satisfied: numpy in c:\programdata\anaconda3\lib\site-packages (from folium) (1.26.4)
Requirement already satisfied: requests in c:\programdata\anaconda3\lib\site-packages (from folium) (2.32.3)
Requirement already satisfied: xyzservices in c:\programdata\anaconda3\lib\site-packages (from folium) (2022.9.0)
Requirement already satisfied: MarkupSafe>=2.0 in c:\programdata\anaconda3\lib\site-packages (from jinja2>=2.9->folium) (2.1.3)
Requirement already satisfied: charset-normalizer<4,>=2 in c:\programdata\anaconda3\lib\site-packages (from requests->folium) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in c:\programdata\anaconda3\lib\site-packages (from requests->folium) (3.7)
Requirement already satisfied: urllib3<3,>=1.21.1 in c:\programdata\anaconda3\lib\site-packages (from requests->folium) (2.2.3)
Requirement already satisfied: certifi>=2017.4.17 in c:\programdata\anaconda3\lib\site-packages (from requests->folium) (2024.12.14)
```

Step 2 - Installing **IPython** module. You can do it inside Jupyter Notebook as shown below

```
!pip install IPython
```

```
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: IPython in c:\programdata\anaconda3\lib\site-packages (8.27.0)
Requirement already satisfied: decorator in c:\programdata\anaconda3\lib\site-packages (from IPython) (5.1.1)
Requirement already satisfied: jedi>=0.16 in c:\programdata\anaconda3\lib\site-packages (from IPython) (0.19.1)
Requirement already satisfied: matplotlib-inline in c:\programdata\anaconda3\lib\site-packages (from IPython) (0.1.6)
Requirement already satisfied: prompt-toolkit<3.1.0,>=3.0.41 in c:\programdata\anaconda3\lib\site-packages (from IPython) (3.0.43)
Requirement already satisfied: pygments>=2.4.0 in c:\programdata\anaconda3\lib\site-packages (from IPython) (2.15.1)
Requirement already satisfied: stack-data in c:\programdata\anaconda3\lib\site-packages (from IPython) (0.2.0)
Requirement already satisfied: traitlets>=5.13.0 in c:\programdata\anaconda3\lib\site-packages (from IPython) (5.14.3)
Requirement already satisfied: colorama in c:\programdata\anaconda3\lib\site-packages (from IPython) (0.4.6)
Requirement already satisfied: parso<0.9.0,>=0.8.3 in c:\programdata\anaconda3\lib\site-packages (from jedi>=0.16->IPython) (0.8.3)
Requirement already satisfied: wcwidth in c:\programdata\anaconda3\lib\site-packages (from prompt-toolkit<3.1.0,>=3.0.41->IPython) (0.2.5)
Requirement already satisfied: executing in c:\programdata\anaconda3\lib\site-packages (from stack-data->IPython) (0.8.3)
Requirement already satisfied: asttokens in c:\programdata\anaconda3\lib\site-packages (from stack-data->IPython) (2.0.5)
Requirement already satisfied: pure-eval in c:\programdata\anaconda3\lib\site-packages (from stack-data->IPython) (0.2.2)
Requirement already satisfied: six in c:\programdata\anaconda3\lib\site-packages (from asttokens->stack-data->IPython) (1.16.0)
```

Step3 - Reading the csv data into a dataframe.

```
# Importing the Dataset
df = pd.read_csv("zomato_data_final.csv")
```

Step 3 - Import required library - **folium and IPython**

```
# Importing Libraries
import pandas as pd
from folium.plugins import MarkerCluster
import folium
from IPython.display import IFrame
```

Step 4 - Cuisine-Specific Map – Italian Restaurants

1.Objective

The main aim is to visualize restaurant locations on a map to understand their density in a city.

2.Filter the Data

Select only those restaurants from the dataset that offer **Italian cuisine**.

3. Create the Map

Initialize a map centered on the city (e.g., Bangalore) to plot Italian restaurants.

4.Add Restaurant Markers

Loop through the filtered data and place a **purple marker** for each Italian restaurant using its latitude and longitude.

5.Show Restaurant Details

Each marker displays a popup with details like:

- City name
- Type of cuisine (Italian and possibly others)

6.Save the Map

The map is saved as an HTML file so it can be opened and viewed in any browser.

```
italian_df = df[df['cuisines'].str.contains("Italian", na=False)]

map4 = folium.Map(location=[12.9716, 77.5946], zoom_start=12)
for i, row in italian_df.iterrows():
    folium.Marker(
        location=[row['Latitude'], row['Longitude']],
        popup=f"{row['listed_incity']}<br>Cuisine: {row['cuisines']}",
        icon=folium.Icon(color='purple')
    ).add_to(map4)

map4.save("italian_spots_map.html")
```

Step 5- Displaying the Map in a Notebook

1.Purpose

To view the saved interactive restaurant density map directly within a Jupyter Notebook.

2.Use IFrame

The `IFrame` function from `IPython.display` is used to embed the HTML file (`restaurant_density.html`) into the notebook.

3.Set Dimensions

The width and height are specified to control how large the map appears in the output cell.

```
from IPython.display import IFrame

# Display the map in the notebook
IFrame('italian_spots_map.html', width=1000, height=800)
```

Output