

Yusef Wray - 23693925

Bike Locations



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"""
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Template program for CSci 127 Honors: citibike map
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"""
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```
#Import pandas for reading the data and folium for making the map:
```

```
import pandas as pd
```

```
import folium
```

```
#Read directly from the citibike feed (can be replaced by static file):
```

```
stations = pd.read_json('https://feeds.citibikenyc.com/stations/stations.json')
```

```
#Create a map, centered in NYC with a simple tile set:
```

```
mapBikes = folium.Map(location=[40.75, -73.99],tiles="Cartodb Positron",zoom_start=14)
```

```
#For each row of data:
```

```
for i,row in stations.iterrows():
```

```
    #Pull out the station info:
```

```
    beanList = row['stationBeanList']
```

```
    #Get the lat and lon to map the location
```

```
    lat = beanList['latitude']
```

```
    lon = beanList['longitude']
```

```
    #Check if the stations is not in service:
```

```
    if beanList['statusValue'] == 'Not In Service':
```

```
        name = beanList['stationName'] + ": Not In Service"
```

```
        i = folium.Icon(color='lightgray')
```

```
    #If it is, then can set color based on number of bikes:
```

```
    else:
```

```
        name = beanList['stationName'] + ": " + str(beanList['availableBikes']) + " bikes available of " +
```

```
str(beanList['totalDocks']) + " total bikes"
```

```
        if (beanList['availableBikes']/beanList['totalDocks']) < 0.25:
```

```
            #if beanList['availableBikes'] < 2:
```

```
                i = folium.Icon(color='red')
```

```
            else:
```

```
                i = folium.Icon(color='green')
```

```
        if beanList['totalDocks'] != 0:
```

```
            full= ((beanList['availableBikes']/beanList['totalDocks']) *100)//1*(1/100)
```

```
            name = name + " " +str(full*100) + "% (percent) of docks are full"
```

```
    #Print to the console the name of the station to be added to the map:
```

```
    print('Adding to map: ', name)
```

```
    #Add to the map:
```

```
    folium.Marker([lat,lon],popup = name,icon = i).add_to(mapBikes)
```

```
#Create the html file with the map:
```

```
mapBikes.save(outfile='bikeLocations.html')
```

```
#Modify the popup message to give the percent full the station is (i.e. the percentage of docks full at a station). ¥
```

```
#Hint: compute the percentage and then add it to your message-- remember to cast/convert it to string.
```

```
#Modify the program to only show a red marker if there are less than 25% of the bikes available ¥
```