

Date: 23 MAY 2020

Course: PYTHON

Topic: Python Revision, Python Code Challenge

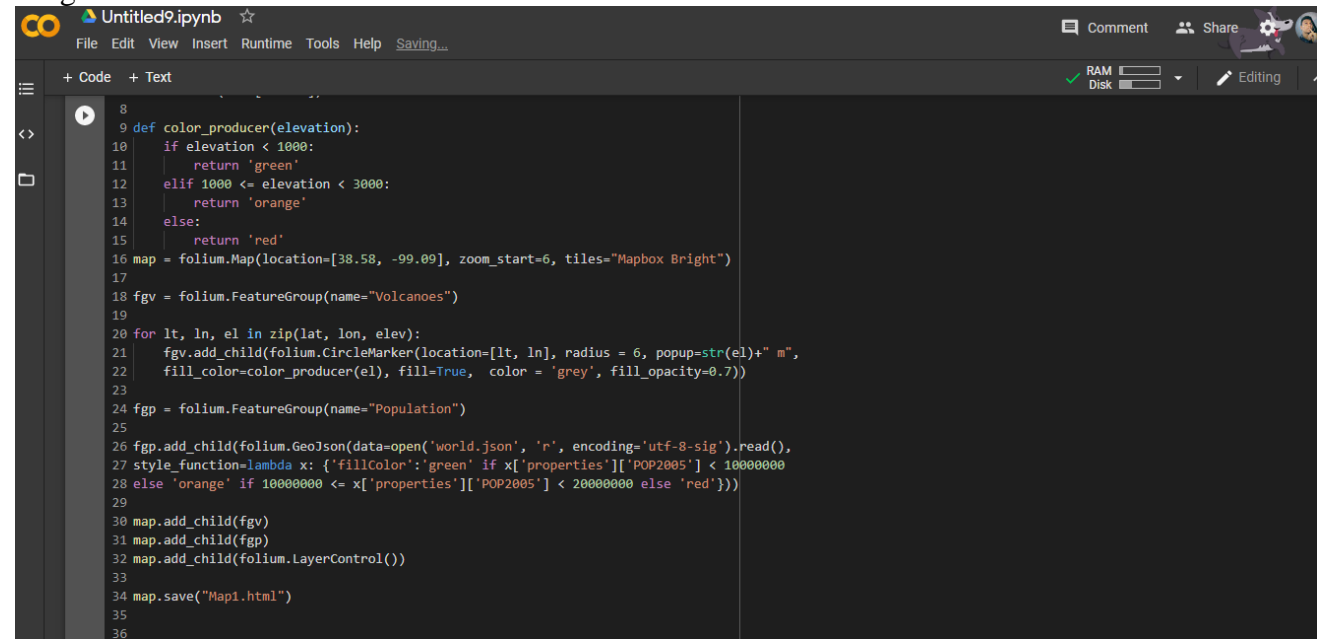
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Semester & Section: 6 B

AFTERNOON SESSION DETAILS

Image of session



The screenshot shows a Jupyter Notebook interface with a dark theme. The notebook is titled 'Untitled9.ipynb'. The code is written in Python and uses the Folium library to create a map. The code defines a function 'color_producer' that takes 'elevation' as input and returns a color ('green', 'orange', or 'red') based on the elevation range. It then creates a map centered at [38.58, -99.09] with a zoom start of 6 and 'Mapbox Bright' tiles. A feature group named 'Volcanoes' is created, and a loop adds circle markers for each location in a zip of latitude, longitude, and elevation. The markers are styled with a radius of 6, a popup containing the location name, and a fill color determined by the 'color_producer' function. A second feature group named 'Population' is created, and a GeoJson layer is added to the map with a style function that colors the features based on their population. The map is saved as 'Map1.html'.

```
8
9 def color_producer(elevation):
10     if elevation < 1000:
11         return 'green'
12     elif 1000 <= elevation < 3000:
13         return 'orange'
14     else:
15         return 'red'
16 map = folium.Map(location=[38.58, -99.09], zoom_start=6, tiles="Mapbox Bright")
17
18 fgv = folium.FeatureGroup(name="Volcanoes")
19
20 for lt, ln, el in zip(lat, lon, elev):
21     fgv.add_child(folium.CircleMarker(location=[lt, ln], radius = 6, popup=str(el)+" m",
22     fill_color=color_producer(el), fill=True, color = 'grey', fill_opacity=0.7))
23
24 fgp = folium.FeatureGroup(name="Population")
25
26 fgp.add_child(folium.GeoJson(data=open('world.json', 'r', encoding='utf-8-sig').read(),
27 style_function=lambda x: {'fillColor':'green' if x['properties']['POP2005'] < 10000000
28 else 'orange' if 10000000 <= x['properties']['POP2005'] < 20000000 else 'red'})))
29
30 map.add_child(fgv)
31 map.add_child(fgp)
32 map.add_child(folium.LayerControl())
33
34 map.save("Map1.html")
35
36
```

Report –

```
import folium
```

```
import pandas
```

```
data = pandas.read_csv("Volcanoes.txt")
```

```
lat = list(data["LAT"])
```

```
lon = list(data["LON"])
```

```
elev = list(data["ELEV"])
```

```
def color_producer(elevation):
```

```
    if elevation < 1000:
```

```
        return 'green'
```

```
    elif 1000 <= elevation < 3000:
```

```
        return 'orange'
```

```
    else:
```

```
        return 'red'
```

```
map = folium.Map(location=[38.58, -99.09], zoom_start=6, tiles="Mapbox Bright")
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```
fgv = folium.FeatureGroup(name="Volcanoes")
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for lt, ln, el in zip(lat, lon, elev):
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```
    fgv.add_child(folium.CircleMarker(location=[lt, ln], radius = 6, popup=str(el)+ " m",
```

```
    fill_color=color_producer(el), fill=True, color = 'grey', fill_opacity=0.7))
```

```
fgp = folium.FeatureGroup(name="Population")
```

```
fgp.add_child(folium.GeoJson(data=open('world.json', 'r', encoding='utf-8-sig').read(),
```

```
style_function=lambda x: {'fillColor':'green' if x['properties']['POP2005'] < 10000000
```

```
else 'orange' if 10000000 <= x['properties']['POP2005'] < 20000000 else 'red'}))
```

```
map.add_child(fgv)
```

```
map.add_child(fgp)
```

```
map.add_child(folium.LayerControl())
```

```
map.save("Map1.html")
```

Python Code Challenge

```
trial=0
while trial<3:
    username=input('Enter your username : ')
    password=input('Enter your password : ')
    if username=='Micheal' and password=='e3$WT89x':
        print('You have successfully login')
        break
    else:
        print('Invalid username or password')
        trial+=1
if trial==3:
    print('Account locked')
```