Case Study-Covid19

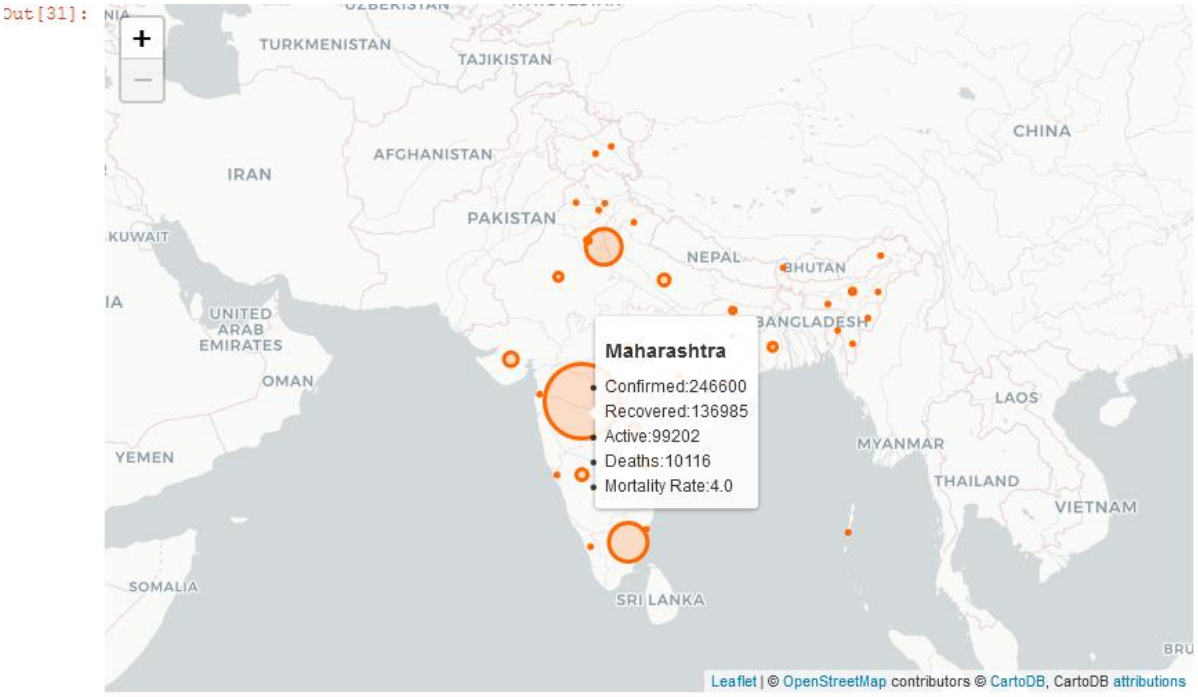
Note: Purpose of this case study to explore some untouched features of panda's library and learn how to use geographical visualization using Folium. Expected final output requires basic understanding of HTML, Hope all of you will enjoy solving it.

1. Import pandas and read in the *india_statewise.json* file into a dataframe called covid.
2. Normalize the dataframe with 'data' as column and 'statewise' as row and rename it as df_india
3. Now make 'state' column as reset
4. Now Identify a row which is not a valid state and drop it
5. Calculate the Mortality rate (deaths/confirmed) for each state and identify top 5 sates with highest mortality rate.
6. Now add the latitude and longitude information of each state in the df_india dataframe using the dictionary dataset (named locations) given below:

```
locations = {
   "Kerala" : [10.8505,76.2711],
   "Maharashtra" : [19.7515,75.7139],
   "Karnataka": [15.3173,75.7139],
   "Telangana": [18.1124,79.0193],
   "Uttar Pradesh": [26.8467,80.9462],
   "Rajasthan": [27.0238,74.2179],
   "Gujarat":[22.2587,71.1924],
   "Delhi" : [28.7041,77.1025],
   "Punjab":[31.1471,75.3412],
   "Tamil Nadu": [11.1271,78.6569],
   "Haryana": [29.0588,76.0856],
   "Madhya Pradesh":[22.9734,78.6569],
   "Jammu and Kashmir":[33.7782,76.5762],
   "Ladakh": [34.1526,77.5770],
   "Andhra Pradesh":[15.9129,79.7400],
   "West Bengal": [22.9868,87.8550],
   "Bihar": [25.0961,85.3131],
   "Chhattisgarh":[21.2787,81.8661],
   "Chandigarh":[30.7333,76.7794],
   "Uttarakhand":[30.0668,79.0193],
   "Himachal Pradesh":[31.1048,77.1734],
   "Goa": [15.2993,74.1240],
   "Odisha":[20.9517,85.0985],
   "Andaman and Nicobar Islands": [11.7401,92.6586],
   "Puducherry":[11.9416,79.8083],
   "Manipur":[24.6637,93.9063],
   "Mizoram":[23.1645,92.9376],
```

```
    "Assam":[26.2006,92.9376],
    "Meghalaya":[25.4670,91.3662],
    "Tripura":[23.9408,91.9882],
    "Arunachal Pradesh":[28.2180,94.7278],
    "Jharkhand" : [23.6102,85.2799],
    "Nagaland": [26.1584,94.5624],
    "Sikkim": [27.5330,88.5122],
    "Dadra and Nagar Haveli and Daman and Diu":[20.1809,73.0169],
    "Lakshadweep":[10.5667,72.6417],
}
```

7. Now plot this data using folium map. The expected output should be is shown below:



Please Note: Folium map is not available by default in Anaconda. Kindly install folium in your pc by following steps:

- Go to start Menu
- Type Anaconda Prompt on the Start Menu. Right Click & Run as Administrator.
- Please check and make sure that the user must be **system32** & not your system user name.
- Type command and press enter

conda install -c conda-forge folium

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