Project Assignment

In this Project assignment, you would experiment with some python functionalities like (file reading, Dictionary, functions, plotting libraries, etc).

Instructions

- You are provided with 3 files(**divine_freedom.txt, network_type.txt, and showers.txt**). These files contain information about countries that people are connecting from when joining Deeper Life global crusades.
- You can use Pycharm or any other python IDE for this assignment.
- Submission deadline. Tuesday, **June 17, 2022.**
- Feel free to use Google, Documentations, and **talking with friends who know python (highly encouraged)**.
- The objective of this project is to teach you and encourage you into **Problem-Solving!**

Question 1

Write a function that reads the **divine_freedom.txt** file into a variable in memory in python (you can try out "with open…"). Extract out the country codes (they are the 2 letters in capital in a bracket, eg GB, AT, DE… etc). Then return each country code and their associated counts using a data structure of your choice(perhaps using a dictionary)

Question 2

Write a function that takes in country code and its associated count (the one you got from question 1). Converts this to a properly formatted country and count eg.

We want: {"GB" : 424, "US" : 234, "IN" : 200, …} to become {"United Kingdom" : 424, "United States" : 234, "India" : 200,...}

Finally, the function should return the top 20 countries sorted in descending order.

Feel free to use this API . It is a Json mapping from country code to full country name. Try if you can call the API directly in your python code (see this). Otherwise, don't stress it. You can just copy the dictionary information in the API when you open the API link and store that in a variable in python.

Question 3

Plot the top 20 countries and their count on a bar chart. check out these libraries (Matplotlib and Seaborn. You can check their documentation to see how it's being used. Usually, you would need to load it and use the needed methods from it. Write/save your plot to file.

Question 4

Read and plot the network type and their count from the network_type.txt file

Question 5

Perform Q1 and 2 on the data showers.txt