

MSiA 422 – Fall 2022

Homework # 3

DUE: 10/14/2022 (Friday)

Exercise 1 – Web API

Write a python program to do the following:

1. Get one month of historical weather data (i.e. temperatures). In specific: one month of data for 50 distinct locations.
2. You can use any WEB service available for free (tested site: <http://api.worldweatheronline.com>) make sure to get an API-KEY if required.
3. Build a data summary table that summaries max, min, and mean values of the temperature during that month for each location selected.
4. Plot a graph that shows your data for the selected locations (to be used as comparative tool).
5. Submit 2 versions of your code one sequential and one utilizing threading.
6. Provide comparisons for both versions execution times.

Exercise 2 – Web Scraping

Scrape the Sample Address web site for the following data set.

<https://www.summet.com/dmsi/html/codesamples/addresses.html>

Extract the following data set:

Last Name	First Name	City	State	Zip Code	Phone
-----------	------------	------	-------	----------	-------

Submit your solution as follows:

- Do not use RegEx instead use BeautifulSoup.
- Create your own data types as class/objects.
- Provide a plot showing the count by state

*The only libraries to use for this exercise are: BeautifulSoup, matplotlib, requests, threading, time-it, time and python built-in data types.