In this project you will scrape a table from a webpage and store the results in a data frame. (Let's call it DF1.) This table must have at least 30 records.

You will then use the values from ONE column of this dataframe as parameters to make requests to a relevant API of your choice. On each request the API must return at least 5 pieces of information for that query value. That is, if there are 50 values in the data frame column, you will make 50 different requests to the API - one for each value in the column. Store the 5 pieces of data returned from the API in another data frame. (Let's call it DF2). Be sure to give all data frame columns appropriate names.

Merge the two data frames horizontally (side by side) into a third data frame. (let's call it DF3). DF3 will contain information from both DF1 and DF2.

Let's consider the **following example** for this project.
-Scrape a table which has data for the most populated cities in the world. This table will probably have the name of the city, the population, the total land area, and country. Store this data in a data frame.

-Use the names of the cities in the table you just scraped as query values for the weather API. That is, for each city in the table you just scraped, make a call to the weather API to get the relevant max temperature, min temperature, rainfall amount, humidity, and UV index for that particular city. Store this data in a separate data frame

-Combine the two data frames into a third data frame

-Display/Print the combined data frame

-Print the description statistics for the combined data frame.

-Export the combined data frame to a csv file.

-Submit your code, csv file, and a one page report explaining how your analysis would be helpful towards solving a relevant problem.

Note: Don't limit yourself to the WEATHER API! Here's a list of other APIs available: https://apilist.fun/

YOU ARE NOT REQUIRED TO USE A PREMIUM API SERVICE! THAT IS, YOU SHOULD NOT BE SPENDING MONEY IN ORDER TO COMPLETE THIS PROJECT!!

Other ideas include:

- Scraping a table of all companies (via wikipedia) traded on the S&P 500 and then using the Yahoo finance API to get stock price information on those companies

- Scraping a list of songs from the Billboard website and then using the Spotify API to get streaming information (downloads, number of streams, etc) for each song listed

Submission
Submit your code, csv file, and one page report via Blackboard.

Due: May 25, 2021 11:59PM EST.

There will be no extensions of the deadline regarding this project.

LATE SUBMISSIONS WILL RECEIVE A 20% PENALTY!

All submissions are final.

You have approximately 4 weeks to complete this project. START YOUR WORK EARLY!