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Homework 2
Report on API

For this assignment I had to import the necessary libraries. I was able to import (1) Requests, (2) json, (3) pandas. These three libraries are the most necessary libraries to be able to go through the API. This API did not need a key! This was a very helpful step as I did not need to create an api account for the website and get a key, but I have learned ways of retrieving an API key. It is a process, and luckily the website I used did not have one!

First I set the variable for the url to the api site. I then created the variables and enabled them into the response as the API documentation had recommended me to do. When using API's it is very important to use their documentation and follow through their recommendations to be able to perform efficiently. From there I then wanted the json library to help me in reading the data. I then used json.dumps where it formats the keys and allows me to indent the data to be able to read the data. Json is very helpful as they are able to help the user to see the data.

I then created empty lists to create the data frame in the end. Creating empty lists allows me to append necessary information when needed. I created a for loop to go through all the values within the data returned in the response and append the information from the json.dumps into columns. This allows us to be able to see the data in a manner that will allow us to see the patterns within the cryptocurrencies. While I am appending these lists with the corresponding information, I am creating them into floats. Creating floats is necessary here as not all the data types are numerical values. This will then help me later on to create the data frame.

I also created a for loop to extract all the different crypto symbols in the data. This allows easy access to see all the different cryptocurrencies within the data.

I then create the data frame by creating the list of zips of all the lists that I had created beforehand. All the lists will now have a new column name! Now that the lists are together, and the data is all nicely in columns, we need columns. I then create column names for each of the columns. I then wanted to see the dataframe, while also indexing it at the Rank. This also removes the index column temporarily as I wanted to index the data frame by the Rank to see what is ranked first and last. This was just for purposes of coding within the kernel. I then checked for the dataframe information and checked the dtypes of each one.Pandas also allows us to get an analysis on the numerical values that we have, it can get and extract patterns that we were not able to see at a first glance. I then did a statistical analysis using the pandas describe command. This returned summed values on all the columns that we have created.

Lastly at the end, I made several api calls, by changing the api url and using it to query the different cryptocurrencies that I would like to search. Given the cryptocurrency then I would be able to contain the information I desired by querying!