Application: Block Party

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Group #: 37

Contributions: Each member contributed equally on all aspects of the project including code, poster, and demo. This was possible because any physical alterations made to the code or the poster were done in person, as a group. Although there was lots of discussion outside of meetings, we made sure to work together on any changes so our files and ideas weren’t getting mixed up between the group and the code.

Code Explanation: We used two API’s to create a digital cryptography portfolio. The first one, from Blockchain.info, provides a real-time analysis of the blockchain to aid the user in making currency decisions. The information was displayed through a clean data frame for simple viewing. The second API used was sourced from CoinMarketCap, fetching real time currency statistics (24hr volume, percent change over time, price points etc.) and returning them as a JSON dictionary for each currency that was used. The user inputs a currency selecting from the master list provided in the application, and by using if/else statements in a while loop, the selected currency pulls the data from CoinMarketCap’s API and appends it to our empty list. The while loop allows the user to add as many currencies from the list as desired. Once the selections have been made and the user inputs “stop”, the JSON data is appended into the empty list. We then used Pandas to create a data frame of the information returned. This data frame was used to plot four different graphs that we felt were most relevant to the user’s choices. These include the total currency volume over 24 hours, and price percent change over the time intervals 1 hour, 1 day, and 7 days.

* Inputs:
  + Desired currencies to be added to the portfolio from the master list
* Outputs:
  + Blockchain analysis (updated each time the app is run)
  + Data frame including the currency selections made
  + 4 graphs
    - 24 Hour Volume (USD)
    - Percent change (1 hour)
    - Percent change (1 day)
    - Percent change (7 days)
* Algorithm:
  + Display “Block Party!”, currency master list, and blockchain analysis data frame
  + Ask user for input of what currencies should be added to the portfolio. When done, user enters “stop” to build portfolio.
    - Invoke While loop so multiple currencies can be added
    - For each one entered, invoke if/elif loops to fetch JSON data from CoinMarketCap
    - Append currencies to empty list
    - Create data frame from list
  + Return data frame with currency selections
  + Display all 4 graphs for user interpretation

Adjustments: We adjusted our idea from the original proposal by eliminating the amount purchased, date of purchase, and the price of the coin when purchased because it wasn’t a part of the free API. To properly implement those features it would have required a paid version of the API, and intricate knowledge of setting up a WebSocket for consistent updates. In the future, these additions can be added to our application to create a more robust and useful currency analysis.