Project Description

The tradingview lite application allows users to pull up a stock's chart with the click of a button. In addition, users can take trades on their favorite stocks and track their portfolio with access to portfolio metrics. In addition to this, the trading view lite application gives users access to polynomial regression models and a power stock prediction AI right at their fingertips.

How to run the project

1. Open the project's files, you should have
    a. iex.py
    b. tp.py
    c. cmu_112_graphics.py
    d. Datasets folder
2. Save each file just in case
    a. Crtl-S each file just in case
3. Make sure the Datasets folder is in the same folder that each of the other files are in
    a. This is essential to ensure that the program can read the datasets in the folder!
4. Open iex.py and fill in your iex token value
    a. This is pre-filled for the TAs/Professors grading this, but otherwise, you will need to fill in your own token value for the IEX Cloud API to work!
        i. If you don't have an IEX Cloud account, go to iexcloud.io and create an account (it's free) and fill in your token
5. Run the **tp.py** file to run the program
6. Enjoy the stock market game!
    a. Use the Green buttons on the chart page to move to right and advance a day in the game
        i. You might need to click it a couple of times because of a graphics bug (something I can't fix)
    b. Use the Red button on the chart page to move to the left and go back a day in the game
        i. You might need to click it a couple of times because of a graphics bug again (something I can't fix)
    c. Click the green button at the bottom left of the chart page to enter a new stock
        i. Once you are done entering your ticker, press enter and press the green button with your stock's name in it to render a new chart!
    d. P.S. If you want some inspiration, go to the screeners tab to find some stocks that might go up soon!

Libraries needed to run the file

Because it is based on an API, the project itself needs quite a few modules and libraries in order to run and access the data. Here's a list of the modules needed categorized by the file they are needed in!

- iex.py
    - Requests
        - For API access
    - Pandas
        - To handle the yahoo API data (stored in the datasets folder)
    - OrderedDict from collections
        - To more easily order json data from requests
    - Datetime
        - In order to calculate the number of days needed to display the charts
    - Os
        - Needed to access the datasets in the datasets folder
    - Numpy
        - Needed for the Regression and AI prediction
    - Sklearn.tree
        - Needed for the AI Prediction
    - Sklearn.model_selection
        - Needed for the AI Prediction
- Tp.py
    - Iex
        - To access the functions and the class built in the iex file from above
    - Cmu_112_graphics
        - To display everything in the app!
    - Datetime
        - To run some datetime calculations
    - Dateutil.relativedelta
        - To do some calculations with dates
    - Math
        - To do some math! (mainly to use the absolute value functions)
    - Sklearn.linear_model
        - To run Linear Regression!
    - Sklearn.preprocessing
        - To run polynomial regression!
    - Pandas
        - To run some functions on dataframes returned from functions in iex
        - Also used to set up some app variables
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