

## Programming Challenge

Estimated Duration: 1.5 - 2 hours.

Deadline: Saturday, December 18, 2021 at 12:00pm (noon) PST

### Objective

The goal of this programming exercise is to demonstrate your ability to design a solution to a problem and implement this solution in **Python** using software engineering best practices.

The specific task will be to collect a dataset and perform first analysis on it. To build this application, you will crawl Telegram messages, filter non-English messages, and compute the average sentiment over time.

### Requirements

1. **Create** a **GitHub** repo with a **Python 3.6+** environment for this project and start a requirements.txt file to capture the packages required to run your code. This repository is where you can upload all the files pertaining to your submission.
2. **Export** the Telegram messages from <https://t.me/CryptoComOfficial> from May 1 to and including May 15, 2021. Export this data as JSON. No coding is required here, but include the JSON file with your submission. ***Warning:** Telegram may make you wait a period of time before allowing you to export the chat messages. You should start the process of downloading these messages immediately upon receiving this assignment.*
3. **Pre-process** the data. Remove non-English messages. From these, keep only messages that mention either "SHIB" or "DOGE." Use the [tqdm](#) package to display progress on the terminal. Use [PEP8 Style Guide](#) for your python code.
4. **Compute** the sentiment of each message. We encourage you to use an off-the-shelf library, but you may create your own if you feel it is appropriate. Document your choice of sentiment analysis approach in your summary.
5. **Plot** the number of messages per day and the average sentiment per day using the [plotly](#) visualization library. Please include a screenshot of this plot in your deliverable.
6. Create a **README.md** file with a **summary of your results** and provide high-level documentation of your code as well as instructions on how to run your code in order to reproduce the results.

When you're done, please submit a link to the GitHub repository containing your solution, a screenshot of the resulting visualization from Requirement 5, and all supporting documentation at <https://forms.gle/5G3Fuk9etn59SQKT9>.