HFT Quants Developer Home Assignment

Description & Objective

Please create a C++ app subscribing to a Coinbase ticker by websockets

- Parses trade price from ticker JSON data.
- Calculate mean/median/range (high/low) of the trade price over a 5 minutes sliding window. Eventhough this exercise is for 5 minutes, the design should be able to do the same calculations for a longer duration like 1 hr as well.
- Log time, trade_id, trade_price, calculated values to a CSV file.
- Write a few testcases for mean/median/range sliding window calculations.

Please provide us with the logs of your test for verification.

> **Note 1**: You can use any third-party libraries for WS and JSON parsing.
> **Note 2**: You don't actually need API keys to subscribe to Coinbase's public data. It's publicly available even if the docs say that the auth is required.

Requirements

Please send the solution as a zip. file or as a private GitHub repo with access shared with **m.lisitsin@sparkland-trading.com**

Evaluation Criteria

Please consider memory requirements and speed for the calculations, and consider the code to be a part of latency sensitive path. No need to optimise JSON parsing or WS receive path.