**2nd Brain Stumper**

**Question:**

Our Federal Reserve Governors scrutinize today’s and yesterday’s data (CPI and other measures) and adjust the money supply by raising or lowering interest rates in the expectation that in the future the data will be aligned with target values.

The effect of their actions today will be evidenced, if successful, in the future.

Given this re-evaluate the data series correlations accounting for the time lag effect.

 This [post](https://medium.com/@dreamferus/how-to-synchronize-time-series-using-cross-correlation-in-python-4c1fd5668c7a#id_token=eyJhbGciOiJSUzI1NiIsImtpZCI6ImU4NDdkOTk0OGU4NTQ1OTQ4ZmE4MTU3YjczZTkxNWM1NjczMDJkNGUiLCJ0eXAiOiJKV1QifQ..oB3P5pE4Y5iQoA1d9m3HuCC9dfXpe9HTg_1bn8GGsiIiUWKKD2RTmXhfTBEjig5bwLkREdlAfNXL-GhhGaPXtg9zE4NItyV5OyJ1WJ8KlsQEEQfeAd0sMllrkSKW9zr_-DSo2VIxvExWrUA6123mEC_j62ekCBTb-Nikn-UAAR0LHp6tWGu__HFY0AnlCM6bUH42d-jJG5Xg5gqSoMCnoWosNwA8TStobeYI9yQP5iDgAlRzph_e-MrnqOcuGMGkMkLLHXCmRXnZgVZdLmipI1kgT6VzihADJ7c_PWM1uty5qShdbhYNeevCbULSQObhrvtZg56dNT6HIAgtc1B_uw) may prove helpful in solving this Brain Stumper.

**Answer:**

I believe that the cross-correlation was able to validate my original results and logic that as inflation goes up, the Fed Fund rates will tend to go up as well.

After doing some data clean up and wrangling with the Fed Fund and CPI series, I was able to get a correlation of around 0.71, very strong and positive.

Additionally, after shifting both series as explained on the link you provided and performing a cross-correlation, I was able to get very similar results, a correlation between 0.68 and 0.71.

Github Link:

<https://github.com/CUNY-SPS-Data-Science-Program/set-up-rnivas2028/tree/BrainStumpers>