Correlation Code Documentation

This code is prepared for finding correlation for time series data based on weekly and monthly basis.

Python finalscript.py typeofcorr number1 number2 dataset.csv

Dataset should be in csv format

Typeofcorr can be weekly, monthly

Number1 and number2 are week/month numbers for which you want to find correlation.

E.g., *python finalscript.py weekly 40 46 ptcdata.csv*

For weekly:

For finding correlation between different weeks you can pass values of weeks between 2-52 e.g. first week number can be 4 and second week number can be 5 etc.

For Monthly:

For finding correlation between different months you can pass values of weeks between 2-12 e.g. first month number can be 3 and second month number can be 5 etc.

If your dataset *doesn't have headers* then you can add the headers then you can skip adding headers in the command line arguments although it is an optional argument you can add or skip if you require.

```
Command Prompt

Microsoft Windows [Version 10.0.18363.959]
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C:\Users\Kartik>cd C:\Users\Kartik\Desktop\cognitensor_correlation

C:\Users\Kartik\Desktop\cognitensor_correlation>python finalscript.py weekly 3 5 ptcdata.csv
[           Mon       Tue       Wed      Thrus       Fri       Sat       Sun
Past_Day
Mon      0.451887  0.351468  0.916667  0.305129  0.866667  0.152564  0.301258
Tue      0.663866  0.831933  0.410045  0.680907  0.217575  0.374499  0.747899
Wed      0.882353  0.915966  0.560674  0.766020  0.267785  0.527703  0.882353
Thrus    0.899160  0.932773  0.543938  0.783043  0.251048  0.646861  0.848739
Fri      0.351468  0.435150  0.883333  0.355983  0.816667  0.220371  0.267785
Sat      0.292890  0.510465  0.766667  0.423790  0.833333  0.000000  0.309626
Sun      0.663866  0.831933  0.410045  0.680907  0.217575  0.374499  0.747899]

C:\Users\Kartik\Desktop\cognitensor_correlation>
```

If your *dataset have date and price column* headers then you can add your date column and price column name as the optional arguments like shown below –


```
Command Prompt

C:\Users\Kartik\Desktop\cognitensor_correlation>python finalscript.py weekly 3 5 --datecol date --pricecol price ptcdata.csv
[           Mon       Tue       Wed      Thrus       Fri       Sat       Sun
Past_Day
Mon      0.451887  0.351468  0.916667  0.305129  0.866667  0.152564  0.301258
Tue      0.663866  0.831933  0.410045  0.680907  0.217575  0.374499  0.747899
Wed      0.882353  0.915966  0.560674  0.766020  0.267785  0.527703  0.882353
Thrus    0.899160  0.932773  0.543938  0.783043  0.251048  0.646861  0.848739
Fri      0.351468  0.435150  0.883333  0.355983  0.816667  0.220371  0.267785
Sat      0.292890  0.510465  0.766667  0.423790  0.833333  0.000000  0.309626
Sun      0.663866  0.831933  0.410045  0.680907  0.217575  0.374499  0.747899]

C:\Users\Kartik\Desktop\cognitensor_correlation>
```

Your final results will be saved as a dataframe into an excel file in the same working directory with the name of "typeofcorr_corr_results.xlsx" along with a heatmap figure for the same will be saved in the working directory. Example shown below -