Time series Analysis & Modeling

DATS 6450

Homework # 9- Order estimation using GPAC Table

In this homework, you will apply the GPAC code developed in the LAB # 9 to estimate the order of ARMA model for the term project dataset. Here are items required for each dataset:

1- Pick only the dependent variable. You don't need to involve features (independent variables) for this homework.
2- Perform an ADF test to see if the dependent variable is stationary. (95% confidence)
3- If the data set is stationary skip to step 5.
4- If the data set is not stationary the you need to make it stationary using the techniques learned in class. Skip to step 5, once the data set passes the ADF test.
5- Estimate the ACF and plot the ACF for 20 lags.
6- Display the GPAC table for k=8 and j=8 in your report.
7- Estimate the na and nb by looking at the GPAC table. You need to come up with at least one set for na and nb (it is possible to see more than one pattern). Highlight the potential pattern(s).

Be ready to upload the **report (as a single pdf**) plus **the .py file and the dataset** through BB by the due date. **Make sure to include your dataset in your submission.**