Homework # 4

No extensions or exceptions will be granted for late or incomplete work. This includes, but is not limited to, technology issues or uploading incorrect material. Be sure you read all parts of this assignment document and complete as requested.

Please complete the following and upload reproducible code on your Github issue at Issues. Your code must be reproducible and results visible without downloading or the need to run anything. The easiest way to do this is with the `reprex` R package.

1. Choose 4 *seasonally adjusted* time series from the US Census Bureaus M3 survey. Two students should not choose the same series so fill out which you choose here: M3 sheet

2. Discuss the series you picked, describe the series descriptions, and what part of the economy is describes.

3. Do some empirical analysis and discuss the features you see.

4. Fit a VAR(1) model and a VAR(p) model with $p > 1$.

5. Compare the two fits and decide with is better.

6. Produce a one month a head forecast of the series.

7. Use your fitted model and discuss the Granger causality between the series.

8. Now use the `BigVAR` package to fit a sparse VAR model. Describe which sparsity structure you picked and what the results tell you.

9. Submit a PDF file on UB learns with an summary of your results from each bullet above.

10. Put a link to your Github issue code here: M3 sheet