This problem set is the culmination of everything we covered so far. It is a smaller scale rehearsal for your project. Working with the same dataset you have used for previous problem sets to forecast non-farm employment for Florida for January 2020.

1) Drop data from before 1990 or after December 2019, so we are all dealing with just the 30 years from 1990 through 2019 for model estimation.
2) Add January 2020, blank but for time information, to the dataset so you can forecast it. I suggest doing this right after you tsset your data to a monthly date and before creating the monthly dummy variables. If you do it that way, the relevant part of your do file will look something like:

```
tsset date
tsappend, add(1)
generate month=month(dofm(date))
```

   Depending on just what you have named things and just how you have handled dates, your code may vary a bit here.
3) Use GSREG to consider a wide range of models. Use the last 2 years of data for the out of sample RMSE. Set the index weights to be equal across the AIC, BIC, and out of sample RMSE. Make sure all models are compared with the same sample. Fix the 11-month indicators. Think carefully about which variables to include to keep the search manageable.
4) Select what you consider the best 3 models from the GSREG output. These need not be the top 3 according to the GSREG index. For example, if the 7th is simpler than the 2nd and fits almost as well and makes more sense, you might choose it. Explain your choices though.
5) Use the rolling window technique to choose the best model and window size from among these three. Modify the parameters regarding window widths and dates to fit the problem.
6) With the best model and window size, run the rolling window routine (the version that does not compare different windows) to obtain the full set of out of sample predictions and residuals. Calculate the RMSE and percentiles 2.5 and 97.5 of the residual distribution.
7) Run the best model on the last window and generate the predicted value for the difference in the log of nonfarm employment. This should produce a forecast for January 2020.
8) Produce point and interval forecasts for nonfarm employment for January 2020 using both the normal and the empirical approach. Make the appropriate corrections when transforming from natural logs back to the non-transformed values.
9) Produce charts illustrating the fit of your model "in sample" and showing the point and forecast interval, for both the normal and empirical versions.
10) Do the normal and empirical versions differ? If so, which is better to rely on? Why?
11) Write up a professional report explaining your analysis and presenting the results. Take time to make neat well labeled tables and figures, and to write well. Treat it like you are to present it to your company's management team.