Assignment #3

If the data for your final project has a time component, use your own data for this assignment. If there is no time component to your data, use series 'y' in the simulated data I have provided in the homework folder of the GitHub repository. Complete the assignment using R.

1. Add a date to the series with the format mm/dd/yyyy. The start and end date, as well as the interval between dates is not important. Choose whatever you think is appropriate.
2. Create a basic line plot of the series and write 1-2 sentences of any significant features such as how strongly it trends, what is the series mean, etc.
3. Test the series for white noise.
4. Model the dynamics of the series. Use ACF and PACF plots. Fit an appropriate ARMA model based on the ACF and PACF plots. Based on the residuals of the model, how well does it fit the data?
5. Using the dynlm function from the dynlm package, fit an autoregressive distributed lag model based on your findings in step 4. Include independent variables with an appropriate number of lags if using your own data. If using the simulated data, include the 'x' variables as a control. Summarize your findings in 1-2 sentences.