R Open Lab - 2016 Oct 26th

For this session, we would make our first foray into time series analysis. It’s a very complex and and involved topic. For today, we will only touch upon the following aspects:

**1. Overview of zoo package**

**2. How to plot time series data**

**3. How to detect trend**

**4. ARIMA forecasting model**

**Zoo Package Quick Reference (Recommended)**

<https://cran.r-project.org/web/packages/zoo/vignettes/zoo-quickref.pdf>

**Zoo Package Documentation**

<https://cran.r-project.org/web/packages/zoo/zoo.pdf>

**More about Time Series Analysis**

<https://onlinecourses.science.psu.edu/stat510/node/47>

**ARIMA/GARCH in R**

<https://talksonmarkets.files.wordpress.com/2012/09/time-series-analysis-with-arima-e28093-arch013.pdf>

**Previous sessions**

Oct.19 R Open Lab

<https://drive.google.com/drive/folders/0B4uO8w_uGtsCZnBBZ2hMaFFVUWc?usp=sharing>

Oct. 12 R Open Lab

<https://drive.google.com/drive/folders/0B4uO8w_uGtsCWDgzbElHZ2ZMYlU?usp=sharing>

Oct. 5 R Open Lab

<https://drive.google.com/drive/folders/0B4uO8w_uGtsCazBabFAxcmc4eXc?usp=sharing>

**Sign up for future workshops**

<http://library.columbia.edu/research/workshops.html>

**Data source**

Walmart Store Sales Forecasting: <https://www.kaggle.com/c/walmart-recruiting-store-sales-forecasting>

**Learning with Swirl**

To install swirl, first install R if you haven’t already and open it. In the command line, type

install.packages("swirl")

and hit Enter. You need a working internet connection. Once R has installed the package, you also need to load it. Type

library(swirl)

and hit Enter. Once you do that, swirl will take over and start giving you instructions (and peppy feedback!) to take you through the basics of R. Have fun!