Homework 11&12

MSDS 6306 DOING DATA SCIENCE

Section 403

Instructor: Thomas Tibbett

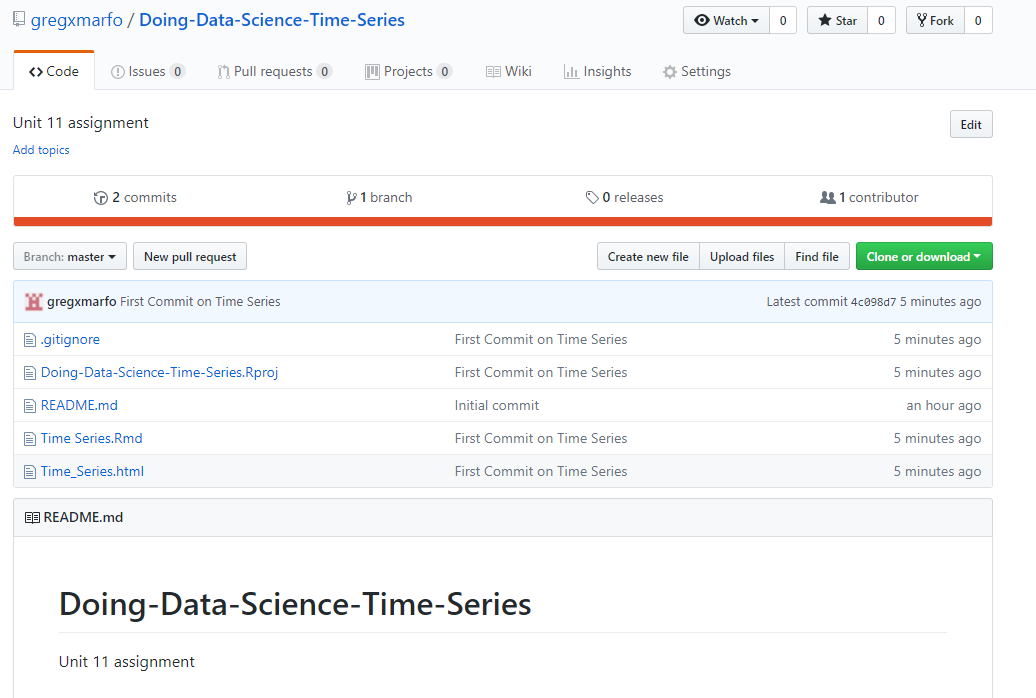
Gregory Asamoah

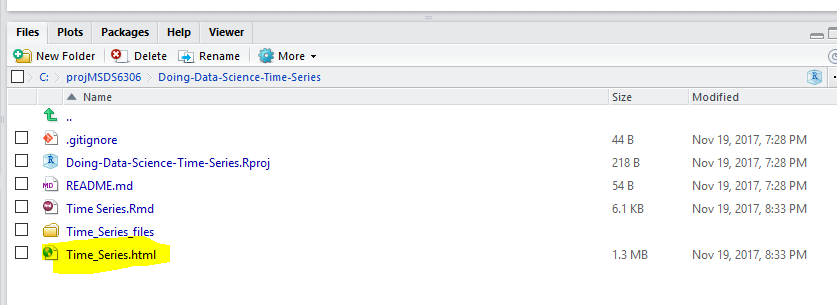
DOING DATA SCIENCE

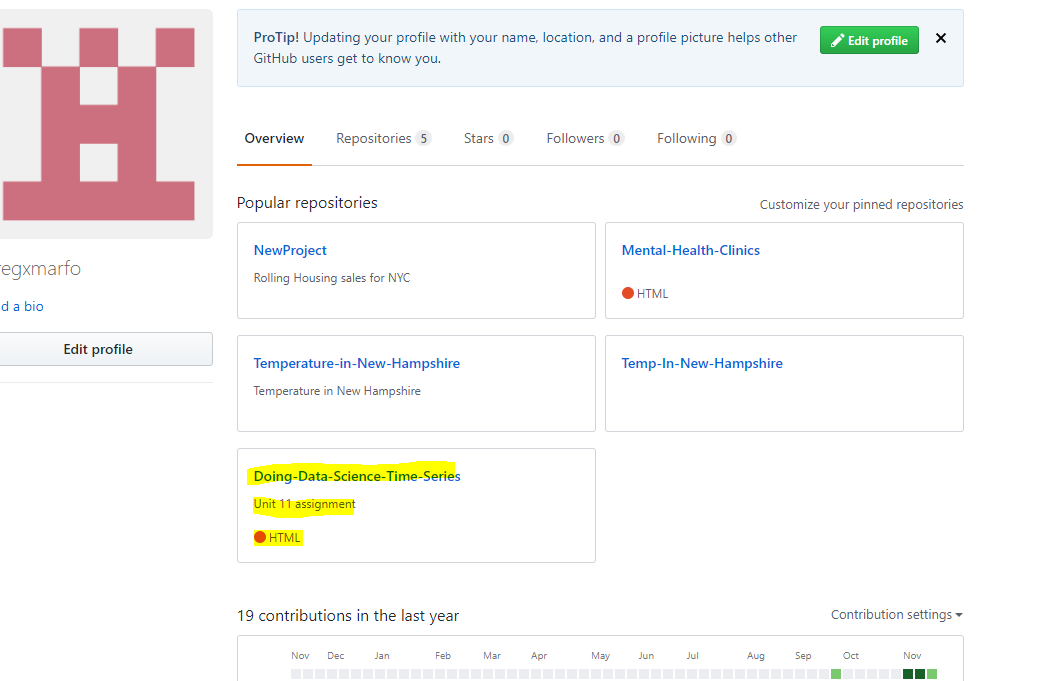
Date: 11/13/2017

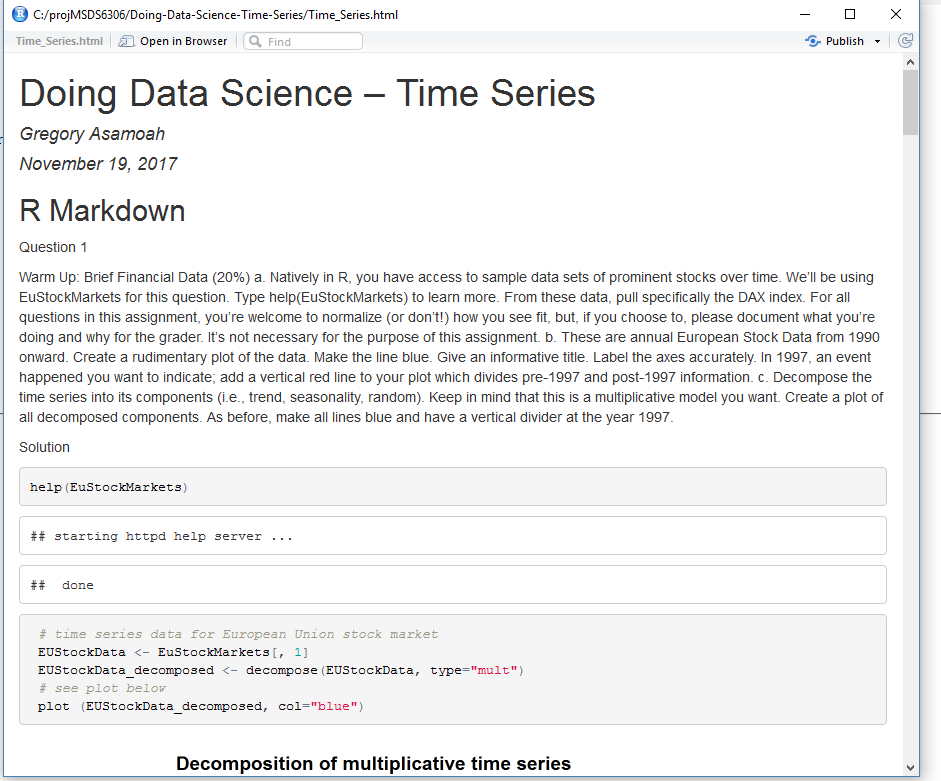
Github Url

Url: <https://github.com/gregxmarfo/Doing-Data-Science-Time-Series>









1 a

help(EuStockMarkets)



b

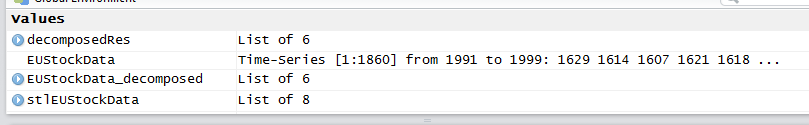
> help(EuStockMarkets)

> EUStockData <- EuStockMarkets[, 1] # time series data for European Union stock market

> EUStockData\_decomposed <- decompose(tsData, type="mult")

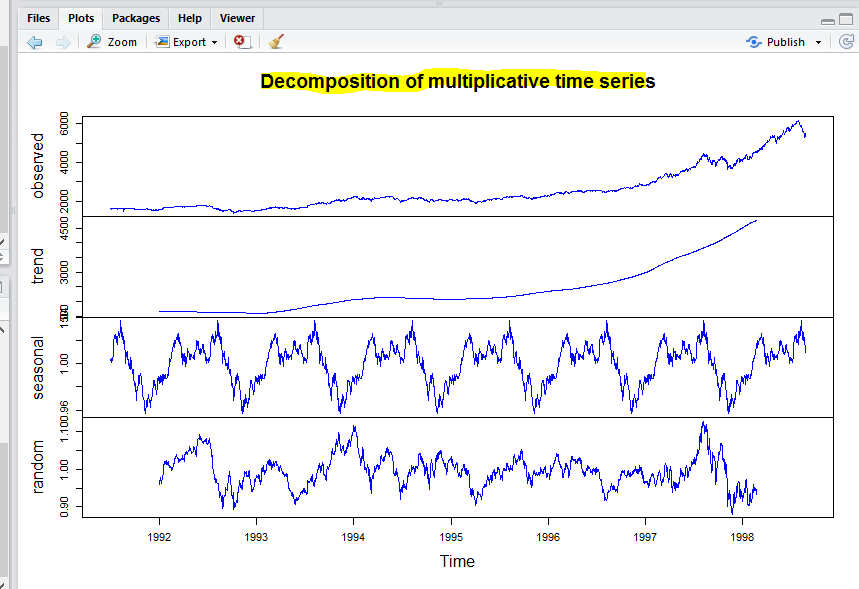
> plot (EUStockData\_decomposed, col="blue")

> stlEUStockData <- stl(tsData, s.window = "periodic")



C

plot (EUStockData\_decomposed, col="blue")

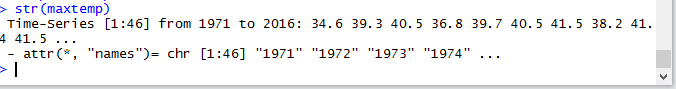


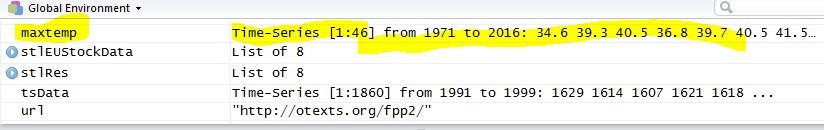
2.

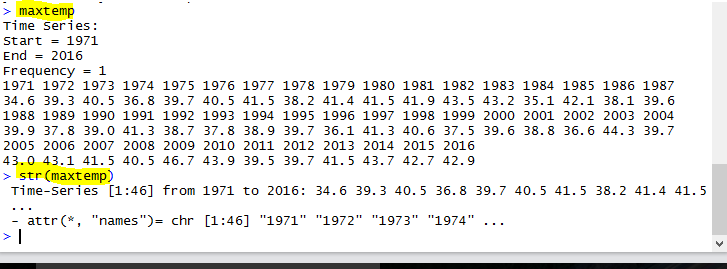
library(fpp2)

help(maxtemp)







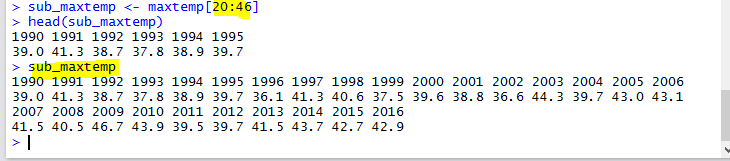


b. Subset the dataset from 1990 to 2016

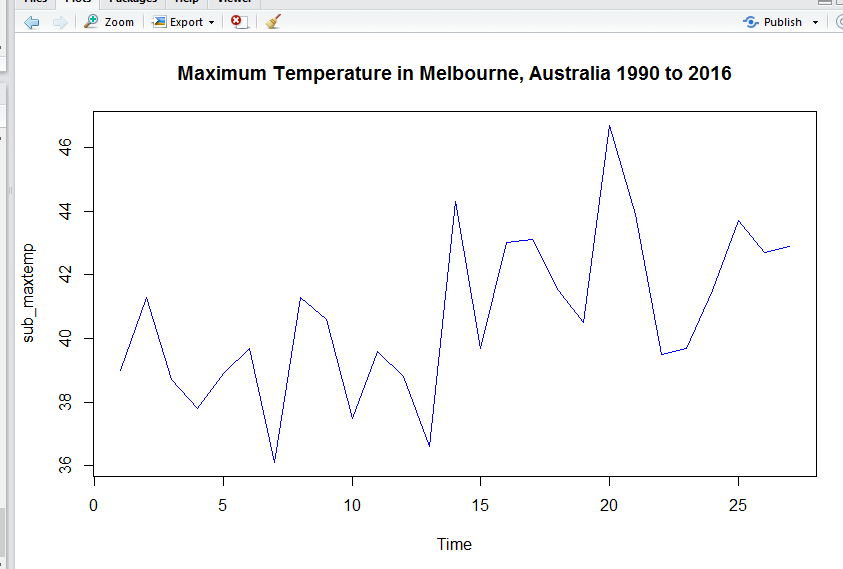
sub\_maxtemp <- maxtemp[20:46]

> head(sub\_maxtemp)

> sub\_maxtemp

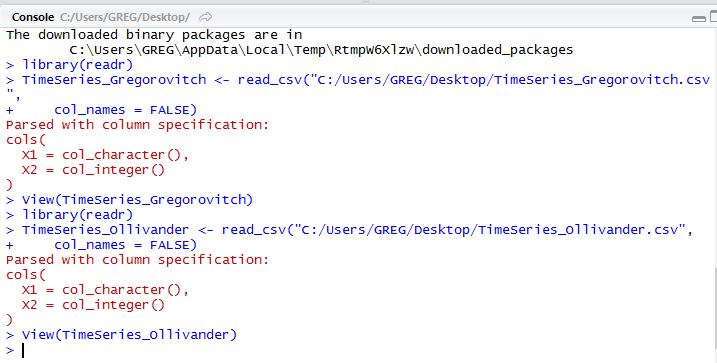


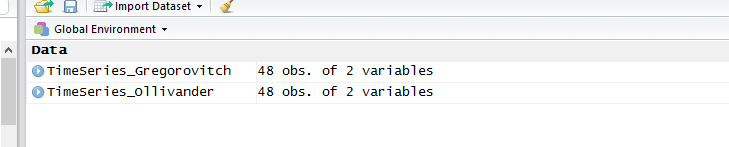
ts.plot(sub\_maxtemp,col="blue",main="Maximum Temperature in Melbourne, Australia 1990 to 2016")



3.

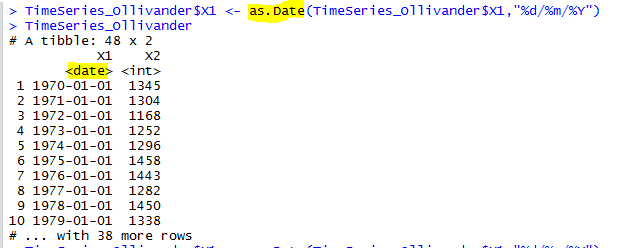
a



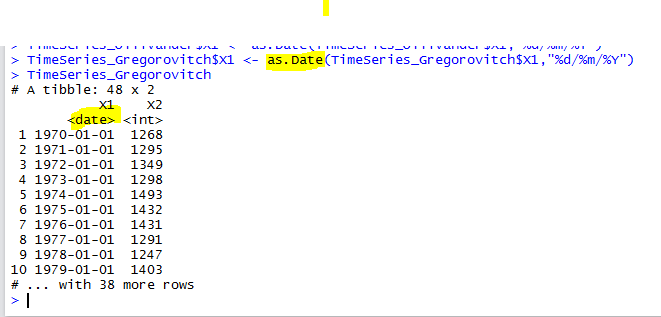


b.

TimeSeries\_Ollivander$X1 <- as.Date(TimeSeries\_Ollivander$X1,"%d/%m/%Y")



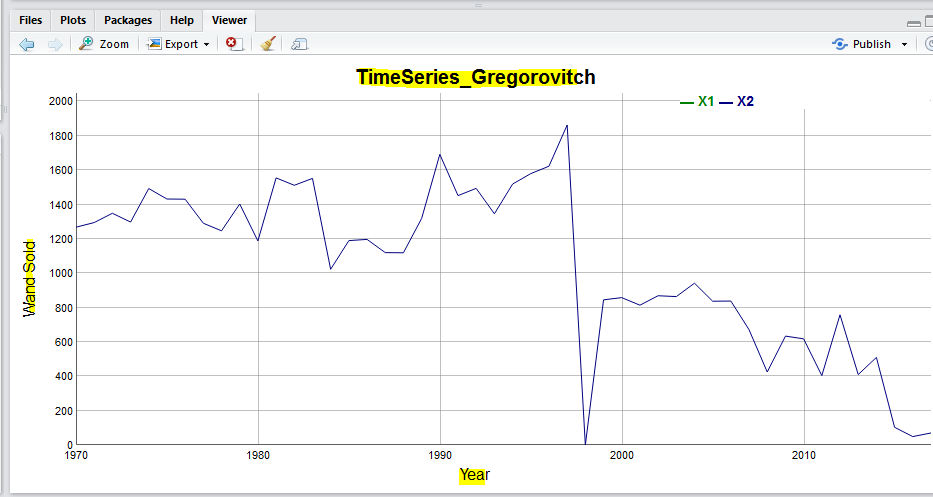
TimeSeries\_Gregorovitch$X1 <- as.Date(TimeSeries\_Gregorovitch$X1,"%d/%m/%Y")



c.

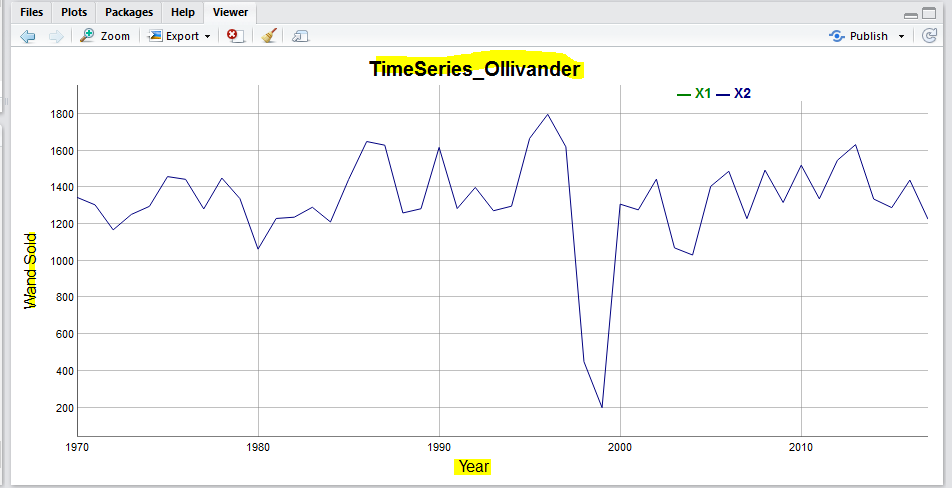
TimeSeries\_Gregorovitch\_order <- xts(TimeSeries\_Gregorovitch, order.by = TimeSeries\_Gregorovitch$X1) #make xts

dygraph(TimeSeries\_Gregorovitch\_order,main="TimeSeries\_Gregorovitch",xlab="Year", ylab="Wand Sold") #now plot



TimeSeries\_Ollivander\_order <- xts(TimeSeries\_Ollivander, order.by = TimeSeries\_Ollivander$X1) #make xts

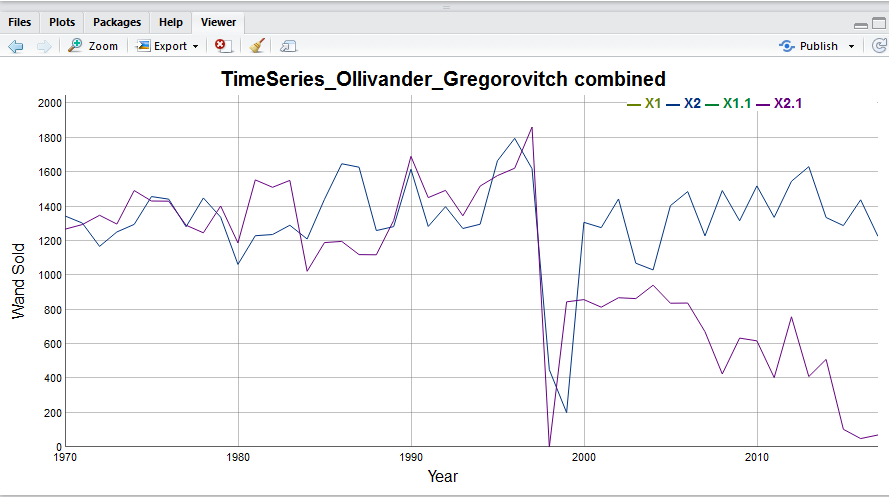
dygraph(TimeSeries\_Ollivander\_order,main="TimeSeries\_Ollivander",xlab="Year", ylab="Wand Sold") #now plot



d. #The two dataframe combined using Cbind

Gregorovitch\_Ollivander <- cbind(TimeSeries\_Ollivander\_order, TimeSeries\_Gregorovitch\_order)

dygraph(Gregorovitch\_Ollivander, main="TimeSeries\_Ollivander\_Gregorovitch combined",xlab="Year", ylab="Wand Sold")



dygraph(Gregorovitch\_Ollivander) %>%

dySeries("X1", label = "Gregorovitch") %>%

dySeries("X2", label = "Gregorovitch") %>%

dySeries("X1.1", label = "Ollivander") %>%

dySeries("X2.1", label = "Ollivander") %>%

dyOptions(stackedGraph = TRUE) %>%

dyRangeSelector(height = 250)

