llt.R

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llt<-function()  
{  
 #Program used to Log linear trend and cycles for SP500 & NASDAQ index  
 # Praba Siva  
 # praba@umich.edu  
 # @prabasiva  
setwd("/Users/sivasp1/Documents/2016/Personal/Praba/MATH599/program")  
fspcom=read.table('fspcom.dat')  
year=fspcom[,2]  
tsfspcom=ts(log(fspcom[,5]),start=year[1],  
 end=c(year[length(year)],12),frequency=12)  
loglinear=stl(log(tsfspcom),s.window=5)  
  
plot(loglinear,main="Log linear plot of S&P 500",col='red')  
  
setwd("/Users/sivasp1/Documents/2016/Personal/Praba/MATH599/program")  
dat <- read.csv(file="nasdaq\_ready.csv",head=TRUE,sep=",")  
year=dat[,1]  
dat=dat[,3]  
tsnasdaq=ts(dat,start=year[1],  
 end=c(year[length(year)]-1,12),frequency=12)  
nloglinear=stl(log(tsnasdaq),s.window=5)  
plot(nloglinear,main="Log linear plot of NASDAQ",col="blue")  
  
strend=loglinear$time.series[,2]  
ntrend=nloglinear$time.series[,2]  
plot(year[1:length(strend)],strend[1:length(strend)],col='blue',type='l',ylim=range(strend,ntrend))  
lines(year[1:length(ntrend)],ntrend[1:length(ntrend)],col='red',type='l')  
  
}  
  
intro <-function()  
{  
  
plot(stl(nottem, "per"))  
plot(stl(nottem, s.window = 7, t.window = 50, t.jump = 1))  
  
plot(stllc <- stl(log(co2), s.window = 21))  
summary(stllc)  
## linear trend, strict period.  
plot(stl(log(co2), s.window = "per", t.window = 1000))  
  
## Two STL plotted side by side :  
stmd <- stl(mdeaths, s.window = "per") # non-robust  
summary(stmR <- stl(mdeaths, s.window = "per", robust = TRUE))  
op <- par(mar = c(0, 4, 0, 3), oma = c(5, 0, 4, 0), mfcol = c(4, 2))  
plot(stmd, set.pars = NULL, labels = NULL,  
 main = "stl(mdeaths, s.w = \"per\", robust = FALSE / TRUE )")  
plot(stmR, set.pars = NULL)  
# mark the 'outliers' :  
(iO <- which(stmR $ weights < 1e-8)) # 10 were considered outliers  
sts <- stmR$time.series  
points(time(sts)[iO], 0.8\* sts[,"remainder"][iO], pch = 4, col = "red")  
par(op) # reset  
  
}