



IntRoduction

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Install Required Packages

- `install.packages("fpp", dependencies=TRUE)`
- `install.packages("forecast", dependencies=TRUE)`
- `install.packages("Matrix", dependencies=TRUE)`
- `install.packages("tseries", dependencies=TRUE)`



Getting Help with R

- # Search for terms
`help.search("forecasting")`
- # Detailed help
`help(forecast)`
- # Worked examples
`example("forecast.ar")`
- # Similar names
`apropos("forecast")`
- # Help on package
`help(package="fpp")`



Εισαγωγή δεδομένων

#make a new vector

- `x<-c(7437115, 7483934, 7551117, 7647675,
7743831, 7824909, 7912398, 7996861)`
- `read.table(file, sep = "", skip = 0)`
- `read.csv(file, header = TRUE, sep = ",", dec =
".", fill = TRUE)`
- `xts<-ts(x,frequency = 3) #more at help`



Απεικόνιση δεδομένων

- `plot(x, type="l", main=example, col = "blue")`
- `plot(xts.naive$mean, type="l", main=example, col = "blue")`



Αποεποχικοποίηση

- #decomposition of xts
- `xts.decomp<-decompose(xts, type = c("multiplicative"))`)
- #take seasonal indices
- `xts.decomp$seasonal`
- #Take the deseasonilised ts and seasonalise
- `xts.deseason<- seasadj(decompose(xts,"multiplicative"))`
- `xts.seasonalindices<-xts.decomp$seasonal[(1:8)]`
- `xts.deseason*(xts.seasonalindices)`



Πρόβλεψη

- `xts.naive<-naive(xts, h=3)`
- `xts.naive$mean`
- `plot(xts.naive)`
- `mean(xts)`
- `summary(xts.naive)`
- `plot(summary(xts.naive))`



Πρόβλεψη

- *#damped*
- *xts.damped <- holt(xts, h=3, level=c(80,95), initial=c("optimal","simple"), damped=TRUE, alpha=NULL, beta=NULL)*
- *xts.damped\$mean*
- *xts.damped\$residuals*
- *xts.damped\$fitted*



Πρόβλεψη - #lrl

- `forecastingHorizon<-3`
- `aaperiod=c(1: length(xts)) #dianusma time (1, 2, 3,4,5,...,261)`
- `aaperiodforecast=c((length(xts)+1):(length(xts)+forecastingHorizon)) #dianusma provlepsewn`
- `lrlresults <- lm(formula = xts ~ aaperiod) #ti mpainei sto arg formula tis lm`
- `a=lrlresults$coefficients[1]`
- `b=lrlresults$coefficients[2]`
- `Insamplelrl<- a+b*aaperiod`
- `Forecastlrl<- a+b*aaperiodforecast #it is just a numeric vector nothing more`



Εξαγωγή δεδομένων (.csv)

- *#make a table to export*
- *forecasttable<-matrix(data=NA, nrow=5, ncol=3)*
- *forecasttable[1,] <- xts.naive\$mean*
- *forecasttable[2,] <- xts.ses\$mean*
- *forecasttable[3,] <- xts.holt\$mean*
- *forecasttable[4,] <- xts.damped\$mean*
- *forecasttable[5,] <- ForecastIrl*
- *write.table(forecasttable, file = "C:/Users/zabbeta/Desktop/seminaR0.csv", append = FALSE, quote = TRUE, sep = ",", row.names = TRUE, col.names = TRUE,dec = ".")*



Ευχαριστώ για την παρουσίασή σας!

zabbeta@fsu.gr / lesson@fsu.gr / electra@fsu.gr

