https://finance.yahoo.com/quote/GOOG/history?p=GOOG

# R programs for Math Finance class

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#######################################################################

get.stock.data <- function( symbol, start.date=c(1,1,2008),

stop.date=c(12,31,2008), print.info=TRUE ) {

# get stock data from yahoo.com for specified symbol in the

# specified time period. The result is a data.frame with columns for:

# Date, Open, High, Low, Close,Volume, Adj.Close

url <- paste("https://finance.yahoo.com/quote/GOOG/history?p=GOOG",

start.date[1]-1,"&b=",start.date[2],"&c=",start.date[3],

"&d=",stop.date[1]-1,"&e=",stop.date[2],"&f=",stop.date[3],"&s=",

symbol,sep="")

x <- read.csv(url)

# data has most recent days first, going back to start date

n <- length(x$Date); date <- as.character(x$Date[c(1,n)])

if (print.info) cat(symbol,"has", n,"values from",date[2],"to",date[1],"\n")

# data is in reverse order from the read.csv command

x$Date <- rev(x$Date)

x$Open <- rev(x$Open)

x$High <- rev(x$High)

x$Low <- rev(x$Low)

x$Close <- rev(x$Close)

x$Volume <- rev(x$Volume)

x$Adj.Close <- rev(x$Adj.Close)

return(x) }

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get.stock.price <- function( symbol, start.date=c(1,1,2008),

stop.date=c(12,31,2008), print.info=TRUE ) {

# gets adjusted closing price data from yahoo.com for specified symbol24 John P. Nolan

x <- get.stock.data(symbol,start.date,stop.date,print.info)

return(x$Adj.Close) }

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get.portfolio.returns = function( symbols, start.date=c(1,1,2008),

stop.date = c(12,31,2008) ){

# get a table of returns for the specified stocks in the stated time period

n = length(symbols)

for (i in 1:n) {

t1 = get.stock.data( symbols[i], start.date=start.date, stop.date=stop.date)

# need to merge columns, possibly with mismatching dates

a = data.frame(t1$Date,t1$Adj.Close)

names(a) = c("Date",symbols[i])

if (i == 1) {b=a}

else {b = merge(b,a,sort=FALSE)}

}

# leave off the date column

nn = dim(b)[1]

cat(" ",nn,"dates with values for all stocks,",nn-1,"returns calculated\n")

b = b[,2:ncol(b)]

bb = data.frame(apply(b,2,"log.ratio"))

names(bb) = symbols

return(bb) }