

Project2.R

dhruv

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```
library(quantmod)
library(forecast)
library(caret)

#Loading Data
getSymbols("RS", src = "yahoo" , from = Sys.Date()-365*9 , to = Sys.Date())

## [1] "RS"

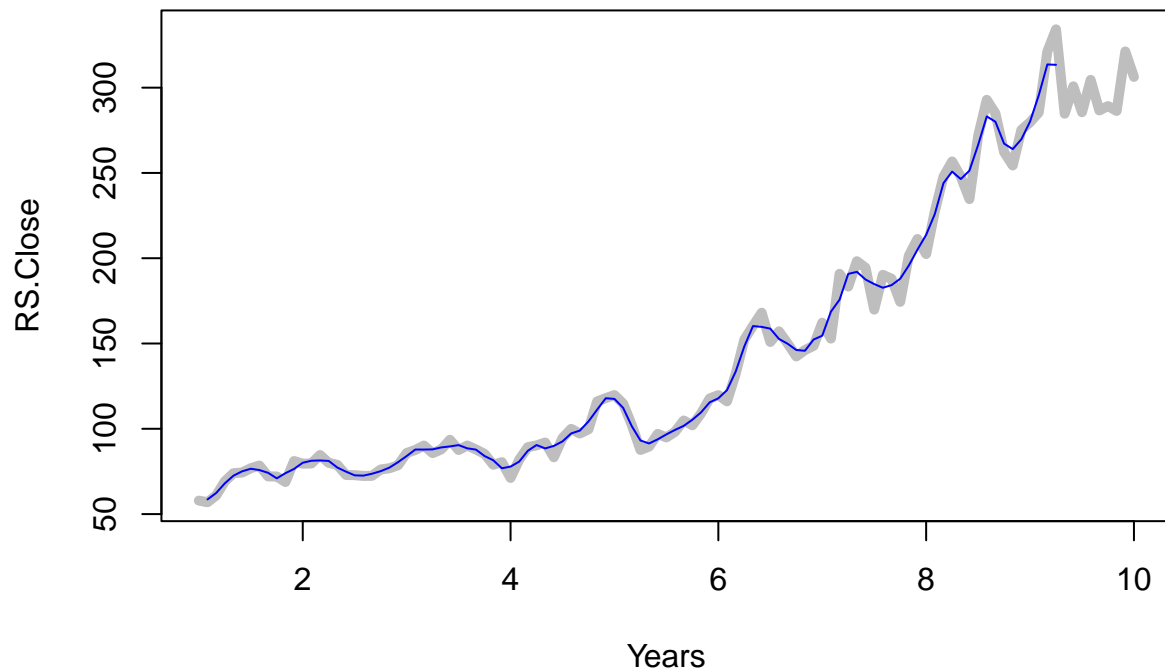
# Converting Data into Monthly Intervals
MADA <- to.monthly(RS)

#Creating Time Series
ts <- ts(Cl(MADA),frequency =12)

# Plotting Data
plot(ts, xlab = "Years", lwd = 5, col = "grey")

# Splitting data for Training and Testing purposes
ts.train <- window(ts, start = 1, end = 9.4)
ts.test <- window(ts, start = 9.5, end = 10 )

# Computing Moving Average
lines(ma(ts.train, order = 3),col = "blue")
```



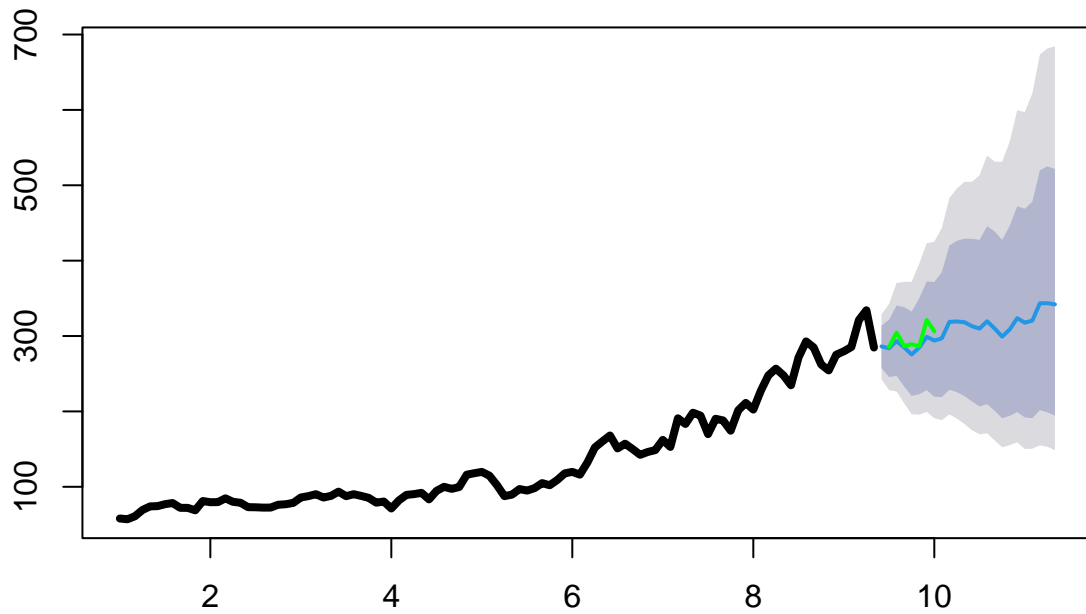
```
# Computing exponential Smoothing Average
ets<- ets(ts.train,model = "MMM")

# Forecasting training data
fcast <- forecast(ets)

# Comparing training forecast and actualdata
plot(fcast, lwd =4 )

lines(ts.test, col = "green", lwd =2)
```

Forecasts from ETS(M,Md,M)



```
accuracy(fcast,ts.test)
```

```
##           ME      RMSE      MAE      MPE      MAPE      MASE      ACF1
## Training set 1.195190 10.70163 7.334831 0.5184541 5.367649 0.2456185 -0.01743692
## Test set    9.250014 11.78113 9.250014 3.0293696 3.029370 0.3097514 -0.41711401
##           Theil's U
## Training set      NA
## Test set         0.6751509
```