Homework

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2022-09-20

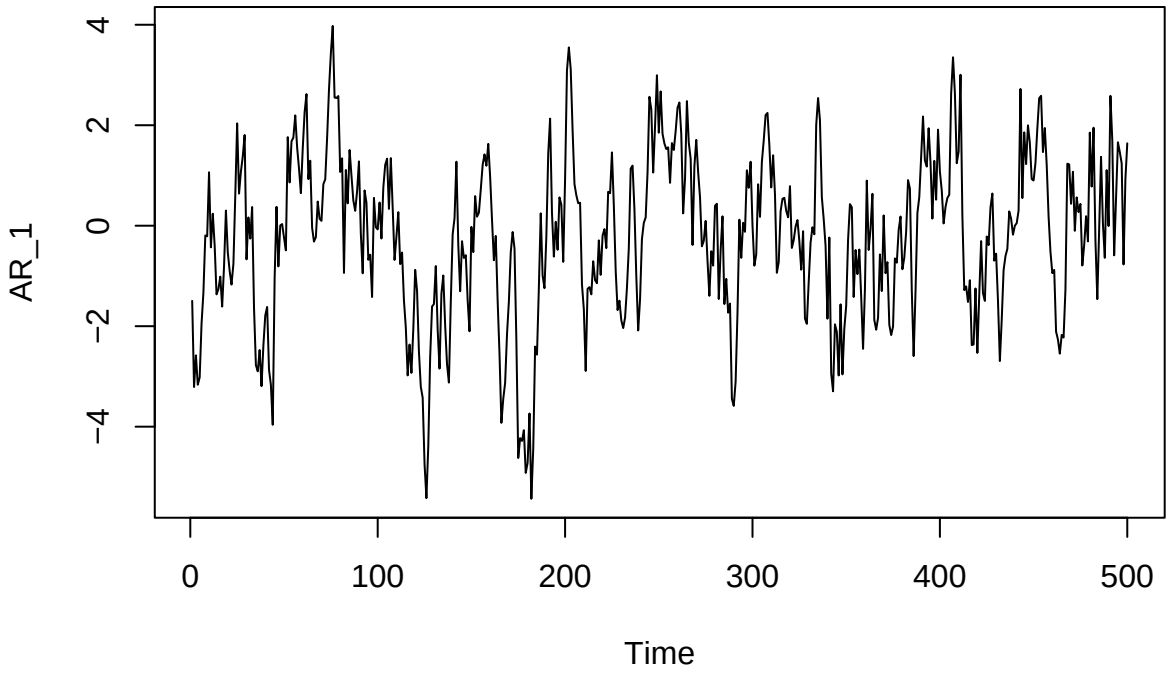
R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS W

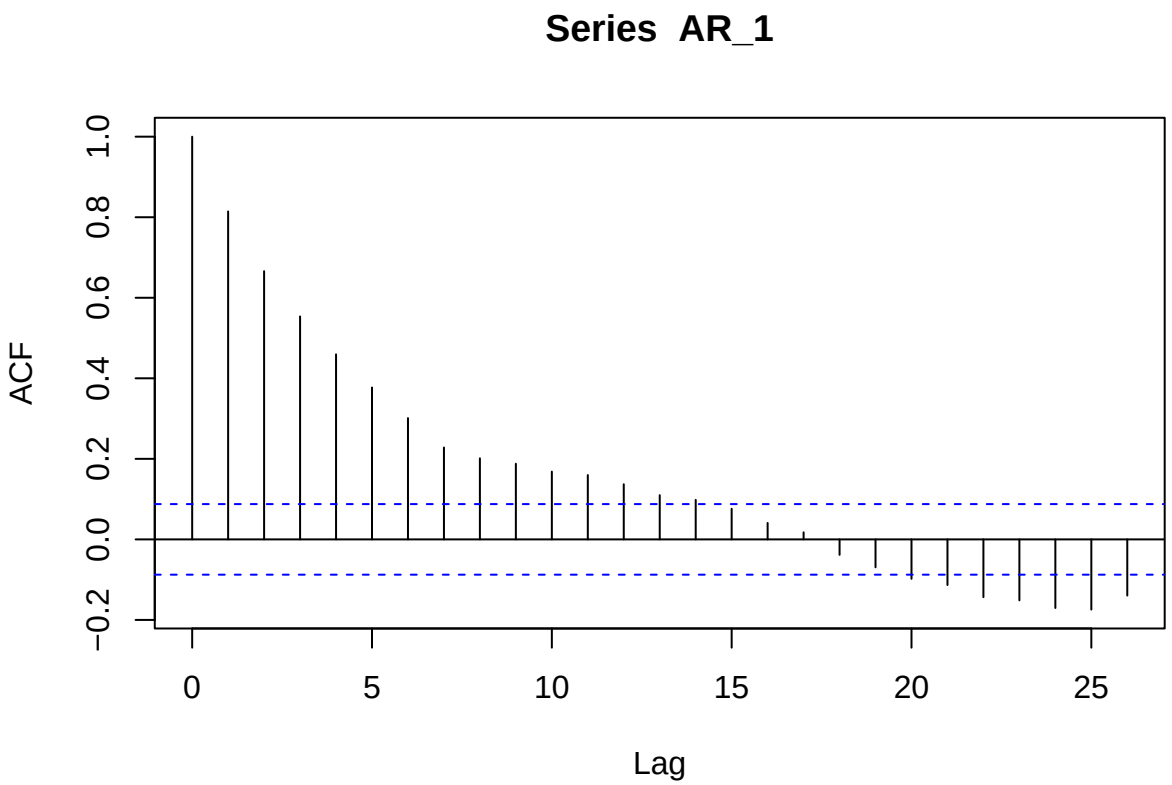
When you click the **Knit** button a document will be generated that includes both content as well as t

```
AR_1 <- arima.sim(model=list(ar=c(0.8)),n = 500)

ts.plot(AR_1)
```

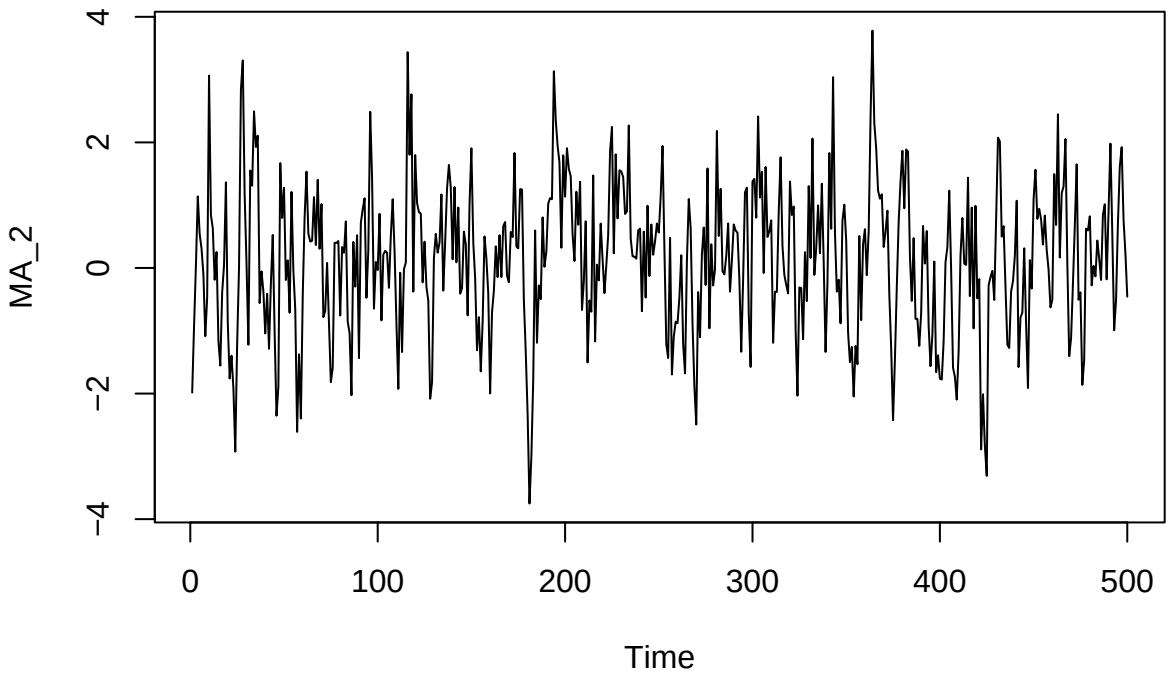



```
acf(AR_1)
```

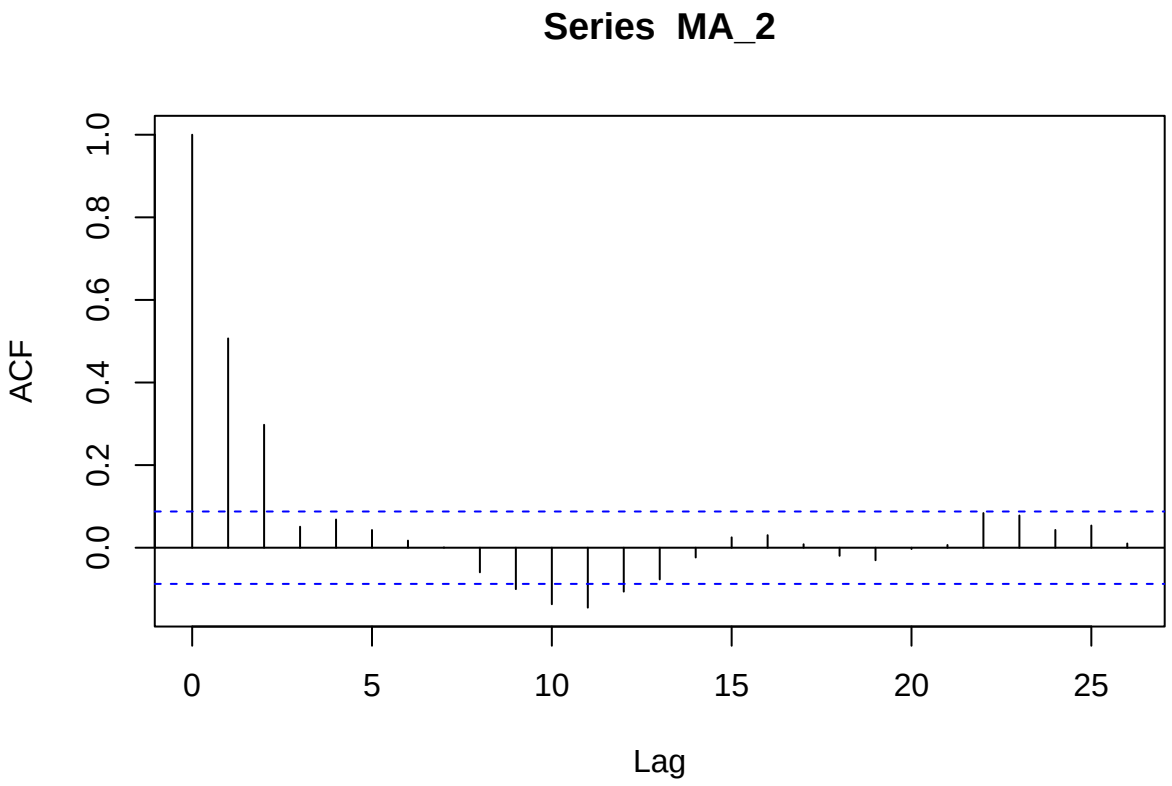



```
#Since  absoltute value of lambda is less than 1, it looks stationary
#the acf is decreasing in the long term
```

```
MA_2 <- arima.sim(n=500, model=list(ma=c(0.5,0.4)))
ts.plot(MA_2)
```



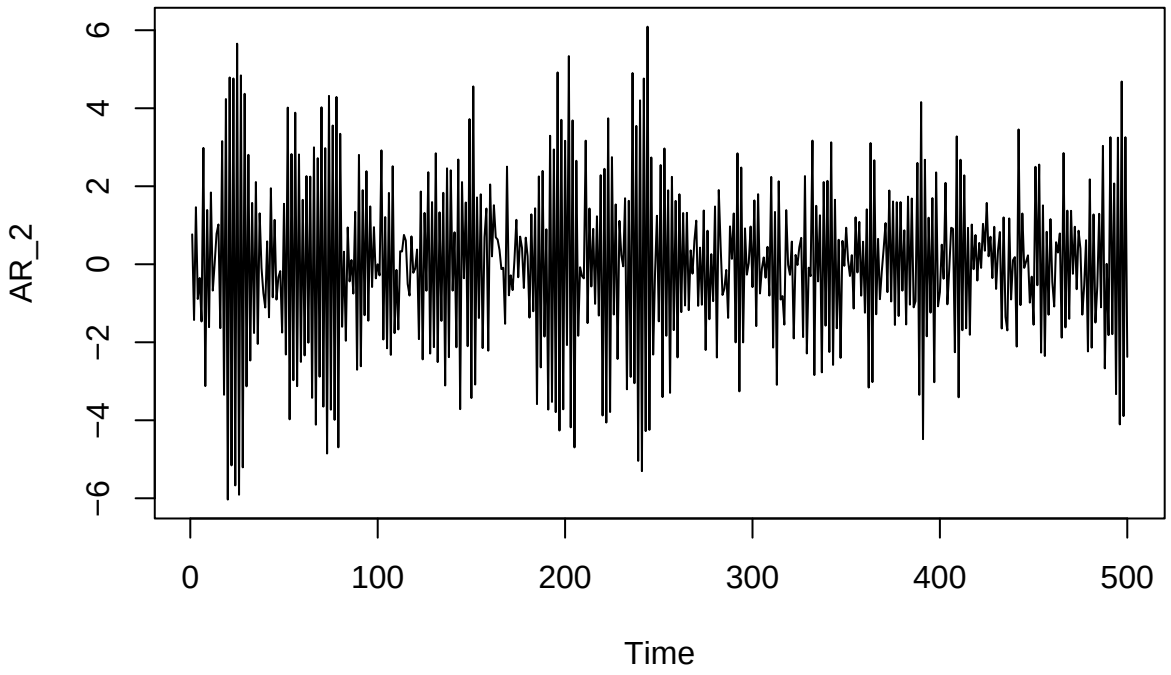
```r
acf(MA_2)
```



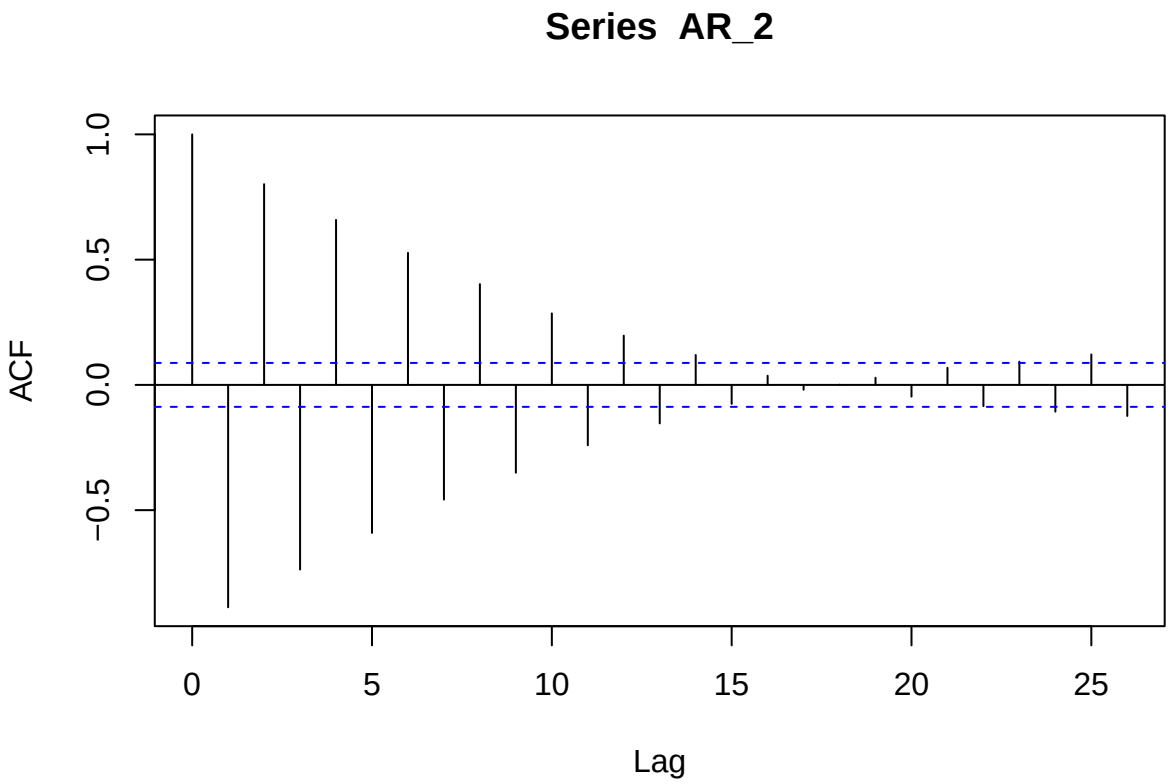

```r
##the absolute value of the second coefficient is less than zero and other two

##conditions satisfied for invertibility
#for the theoretical acf,for lag greater than 2, the acf is supposed to be 0,
# and for 1 and 2 it's supposed to be a value above 0, which is what I have
```

```r
AR_2 <- arima.sim(model=list(ar=c(-0.85,0.1)), n=500)
ts.plot(AR_2)
```

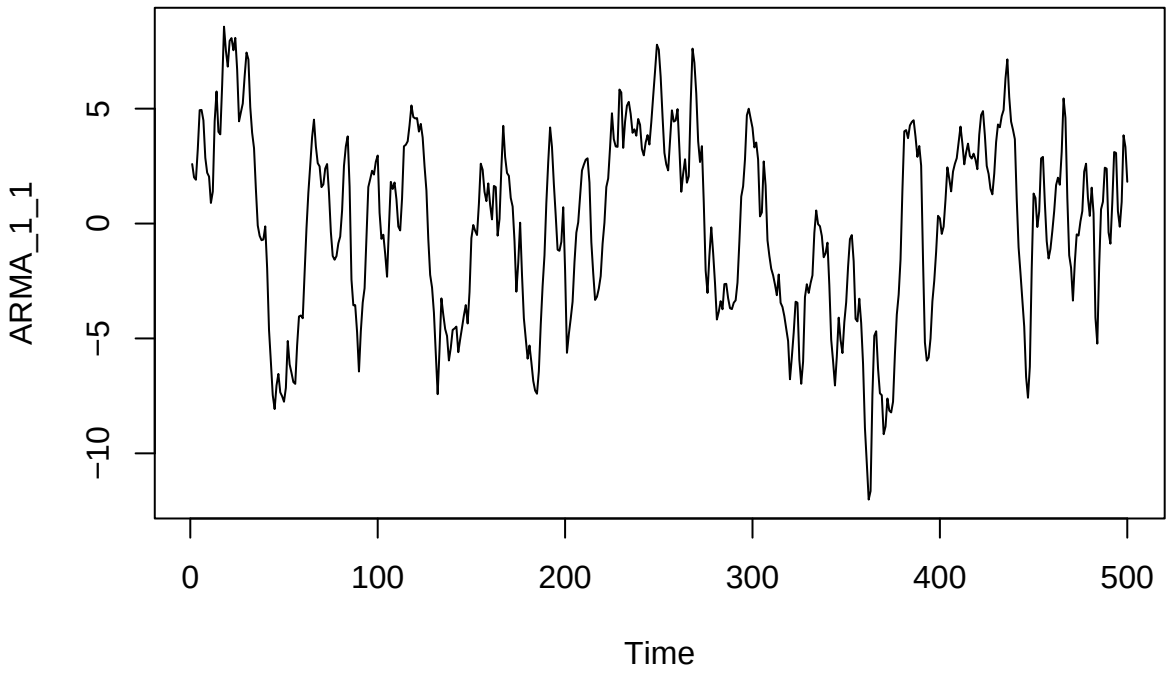



```
acf(AR_2)
```

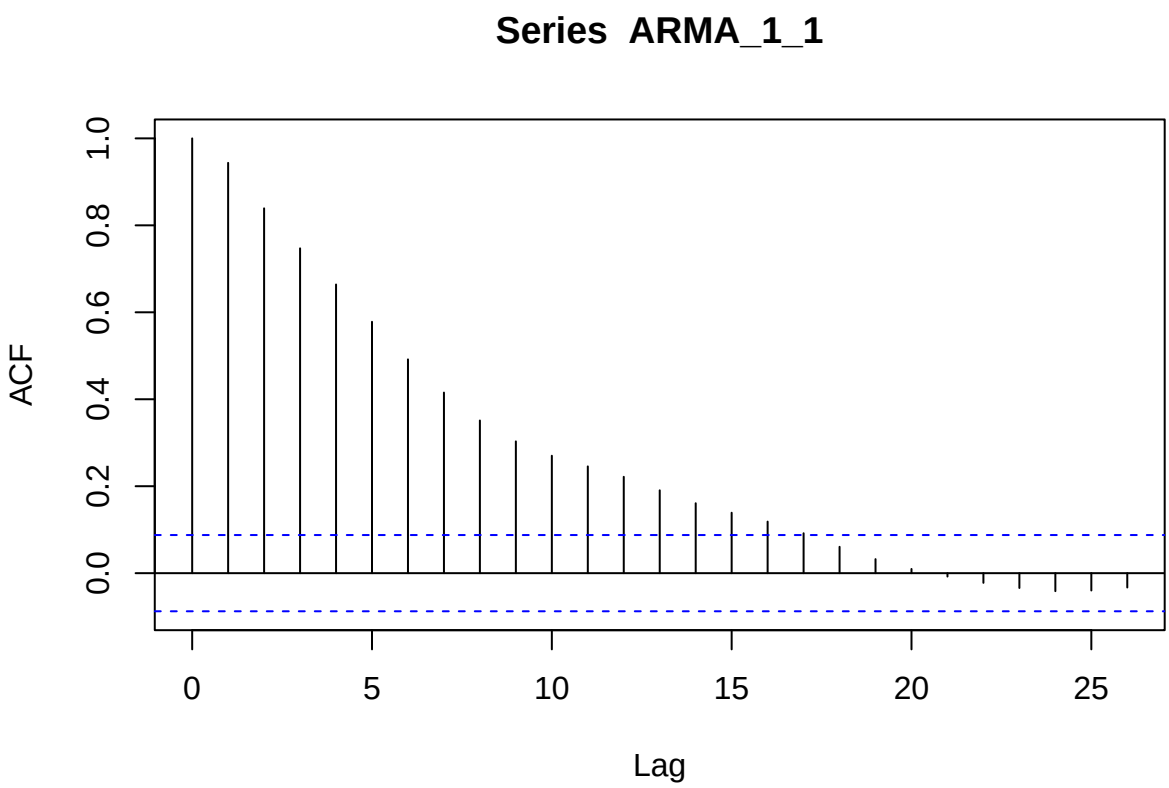



```
#looks stationary
#acf as expected
```

```
ARMA_1_1 <- arima.sim(n=500,model=list(ar=c(0.9),ma= c(0.8)))
ts.plot(ARMA_1_1)
```




```
acf(ARMA_1_1)
```




```
#looks pretty much stationary
#acf decays as expected
```