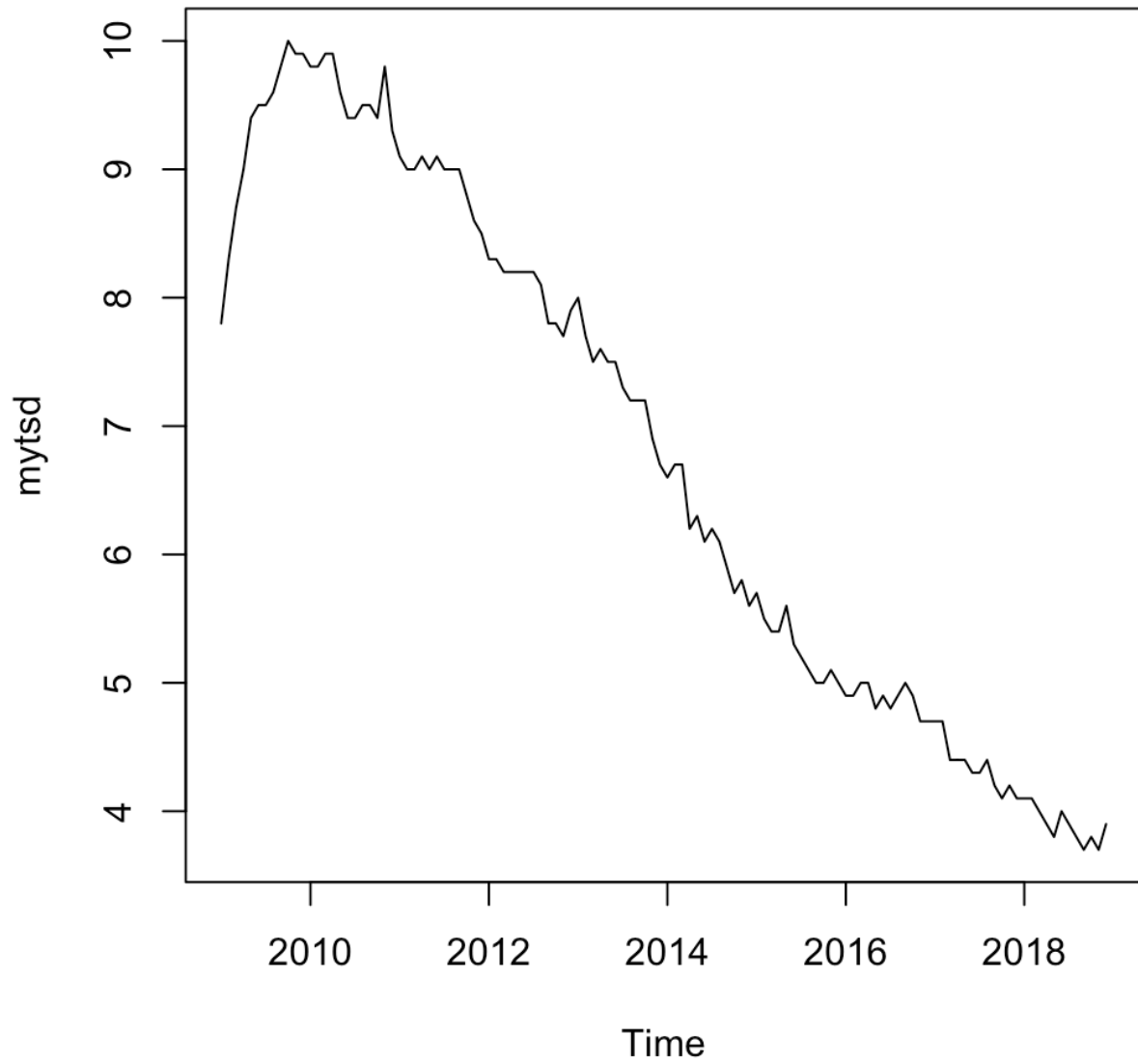


## Hw20

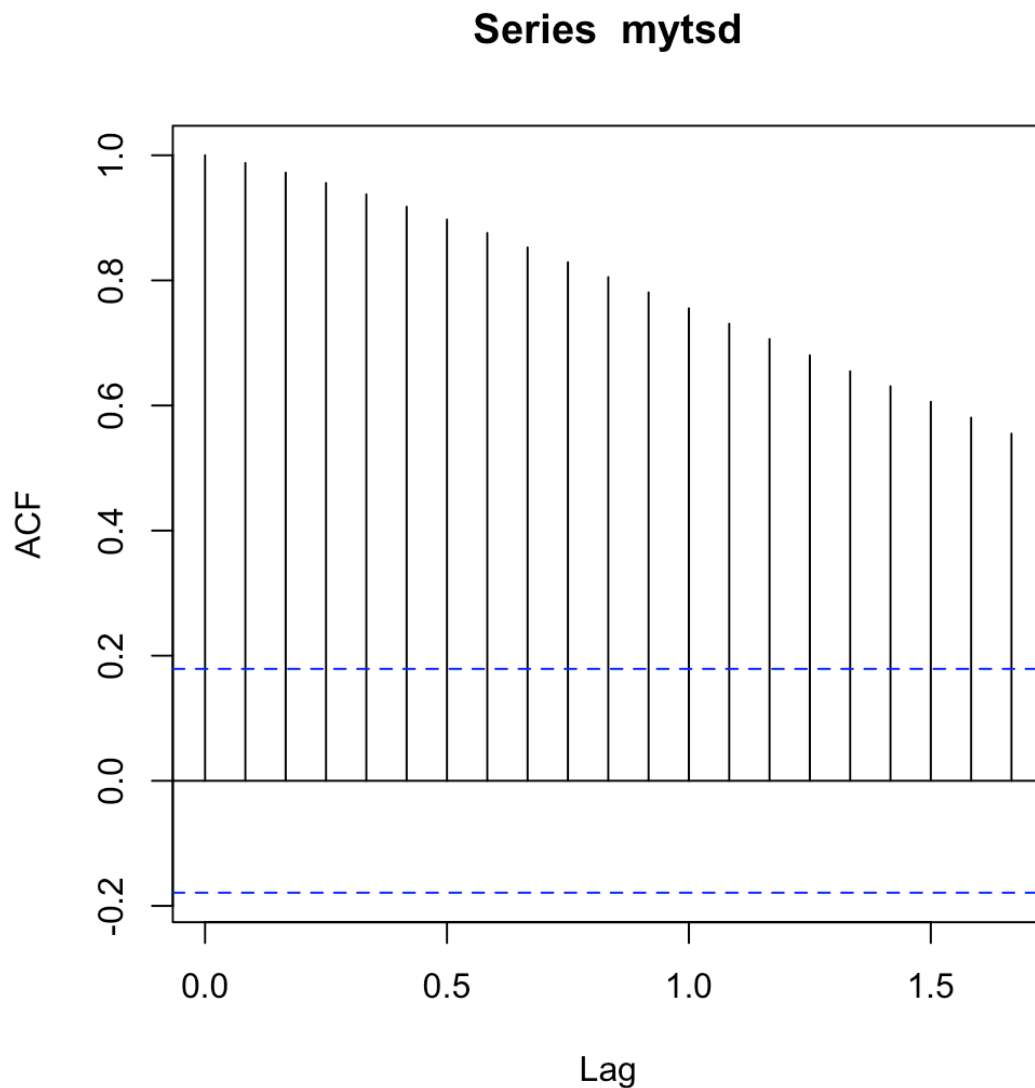
20150056 국윤범

### Problem 1

(b)



(c)



Since the graph is slowly decreasing, I can conclude that this data is non stationary.

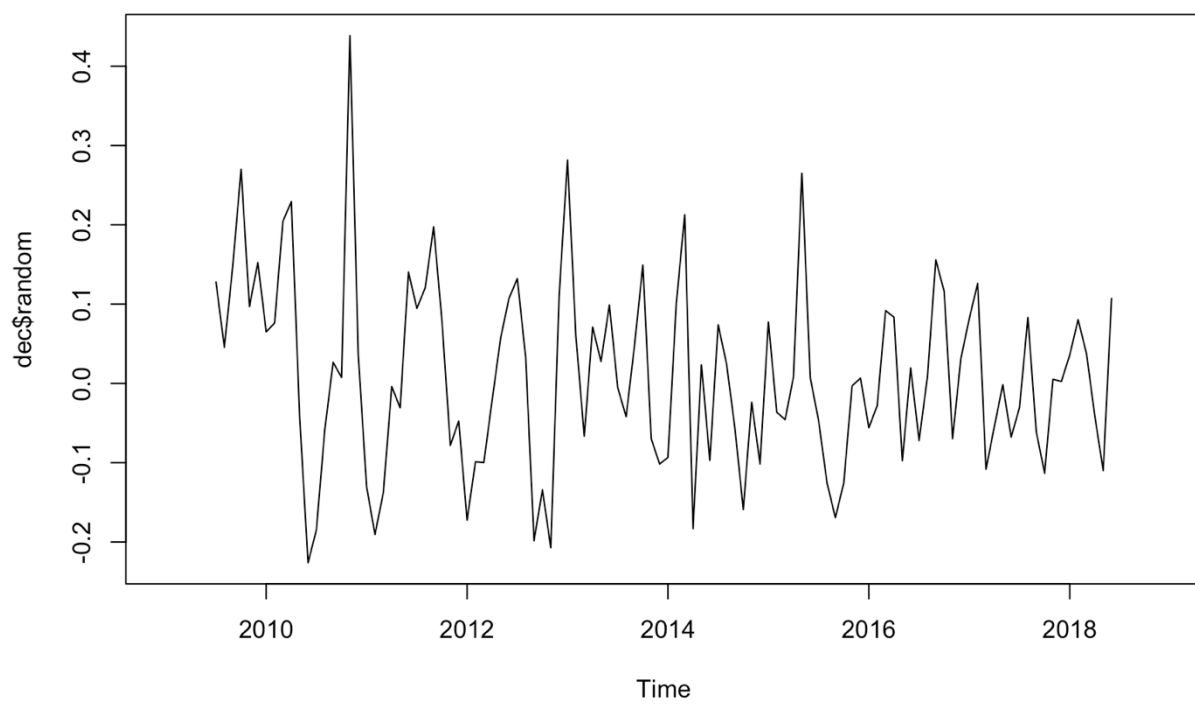
```
> kpss.test(mytsd) # Not stationary
```

```
      KPSS Test for Level  
      Stationarity
```

```
data: mytsd  
KPSS Level = 2.434,  
Truncation lag parameter =  
4, p-value = 0.01
```

Also, as p-value is smaller than 0.05, we can reject the null hypothesis that the time series data is stationary. Hence, we can say the time series data is not stationary.

(d)



(e)

## Holt-Winters filtering

