군집별 시계열 CO

```
load("../../refinedata/analysis/analysis_total_Fixed.rda")
analysis_total<-analysis_total_Fixed
library(dplyr)
```

```
## Warning: package 'dplyr' was built under R version 3.6.3
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

1 군집

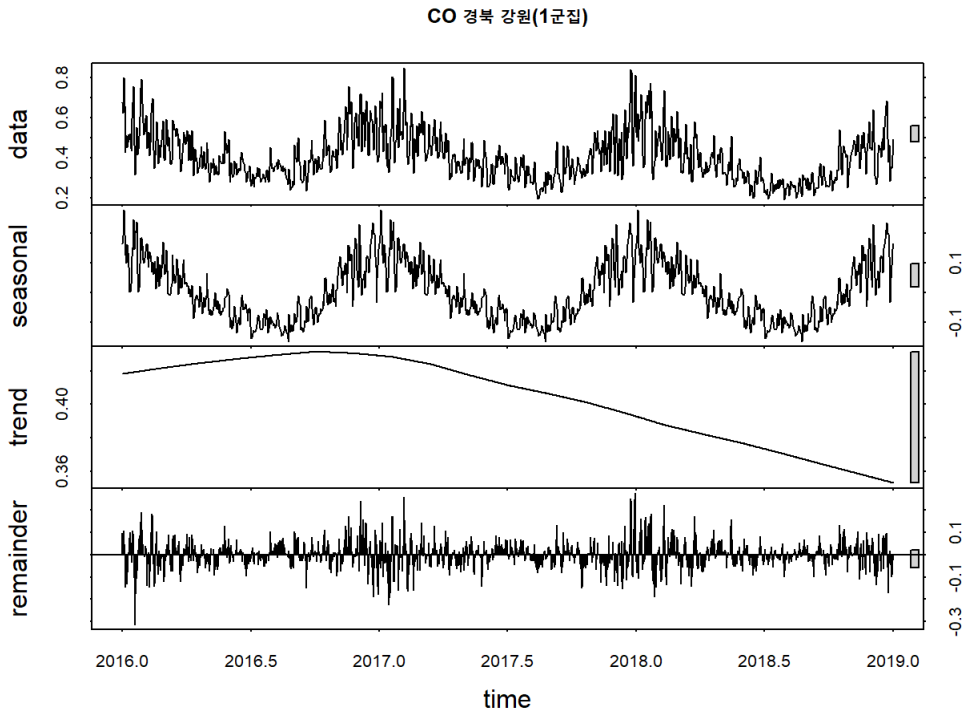
```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('경북', '강원'))  %>% group_by(일시) %>% summarise(
CO = mean(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 경북 강원(1군집)')
```



2 군집

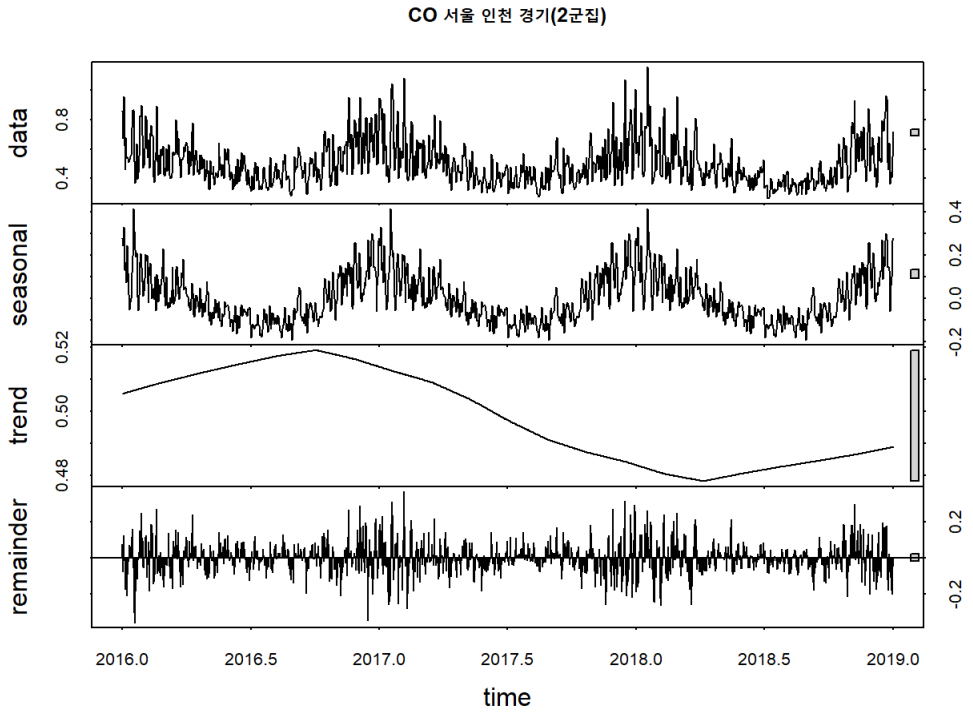
```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('서울','인천','경기'))  %>% group_by(일시) %>% summa
rise(CO = mean(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 서울 인천 경기(2군집)')
```



3 군집

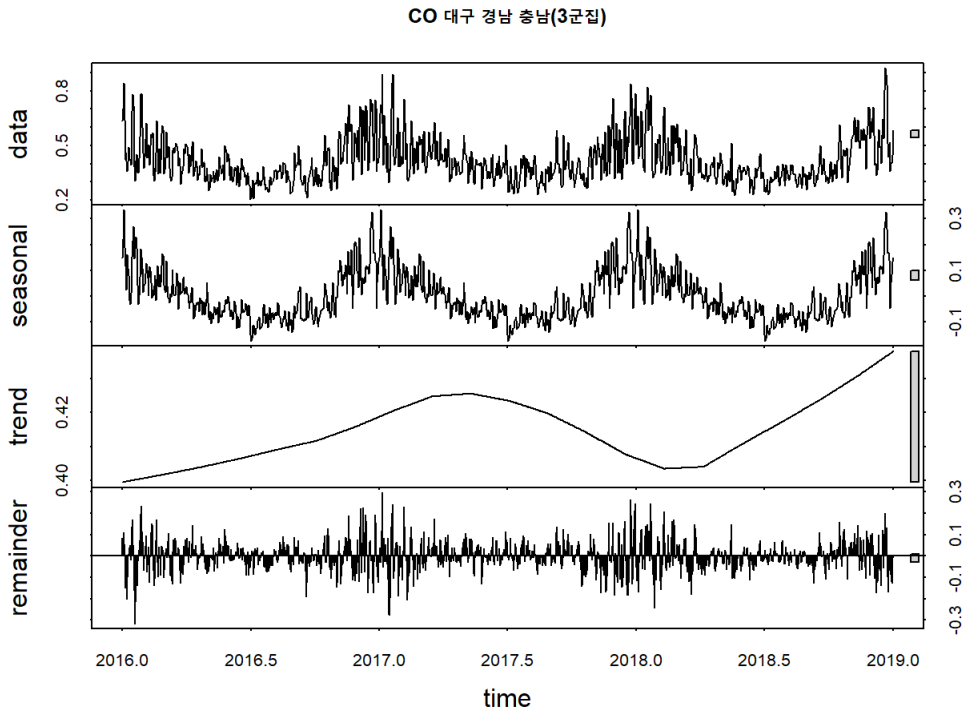
```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('대구','경남','충남'))  %>% group_by(일시) %>% summa
rise(CO = mean(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 대구 경남 충남(3군집)')
```



4 군집

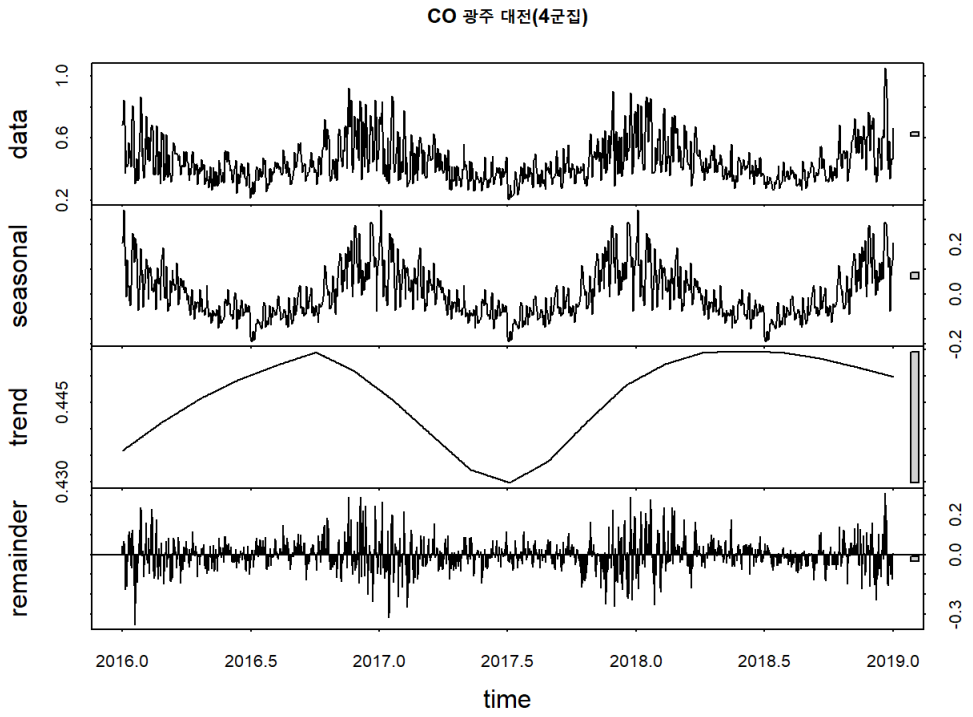
```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('광주','대전'))  %>% group_by(일시) %>% summarise(CO = mean(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 광주 대전(4군집)')
```



5 군집

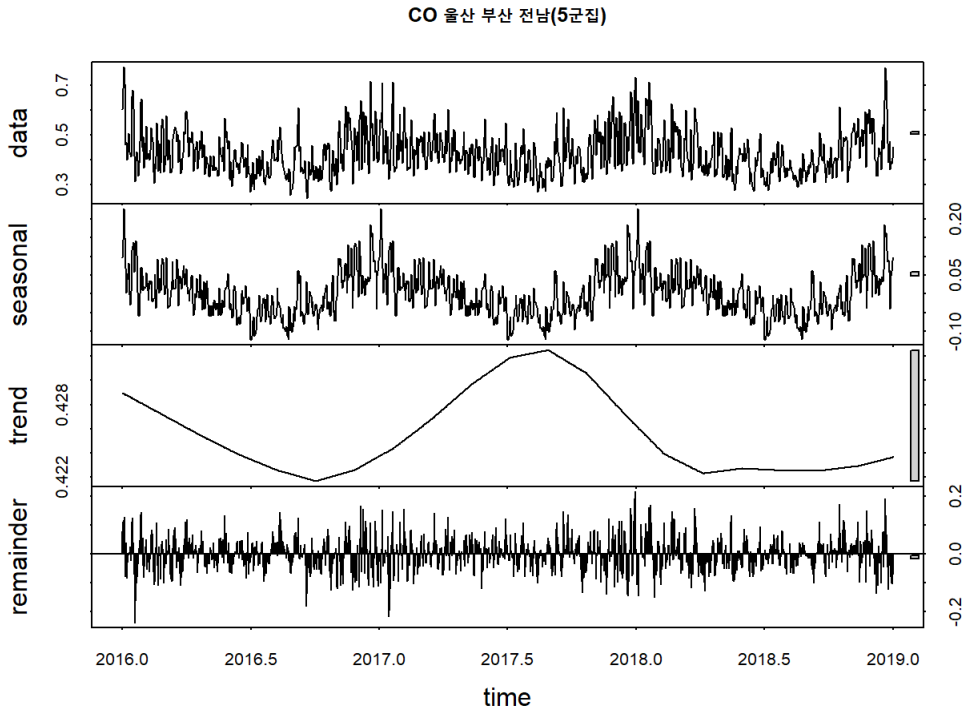
```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('울산','부산', '전남'))  %>% group_by(일시) %>% summ
arise(CO = mean(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 울산 부산 전남(5군집)')
```



6 군집

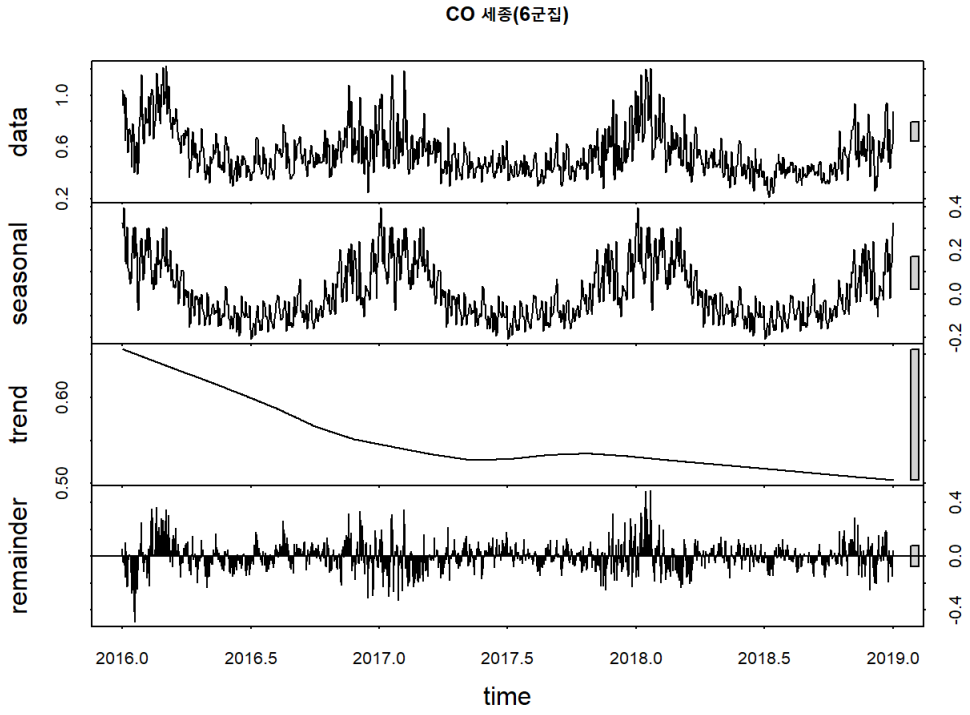
```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('세종'))  %>% group_by(일시) %>% summarise(CO = mea
n(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 세종(6군집)')
```



7 군집

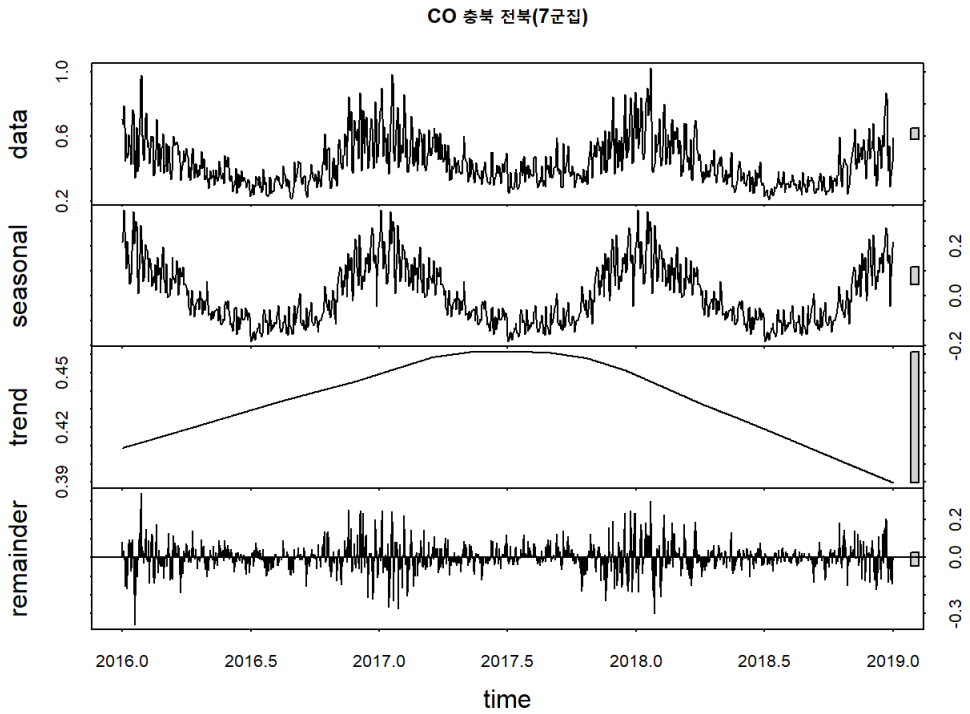
```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('충북','전북'))  %>% group_by(일시) %>% summarise(CO = mean(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 충북 전북(7군집)')
```



8 군집

```
analysis_sido_day <- analysis_total %>% filter(시도 %in% c('제주'))  %>% group_by(일시) %>% summarise(CO = mea
n(CO,na.rm=TRUE))

ts <- ts(analysis_sido_day[-1]$CO,frequency = 365, start = c(2016,1))

fit <- stl(ts, s.window = 'periodic')

par(mfrow=c(1,1))

plot(fit,
     main = 'CO 제주(8군집)')
```