HACETTEPE ÜNİVERSİTESİ
İSTATİSTİK BÖLÜMÜ

İST155 İSTATİSTİĞE GİRİŞ I

UYGULAMA 9

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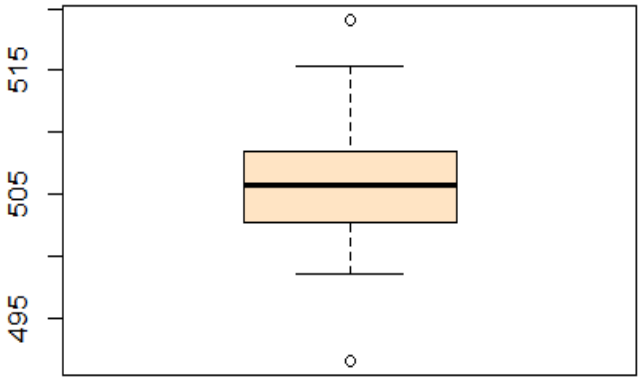
1- Verilerin girilmesi

```
dayaniklilik<-c(491.5, 502, 505.5, 499.6, 504.1, 501.3, 503.5, 504.3, 498.5, 508.8,
515.4, 508, 506, 510.9, 507.6, 519.1, 506.9, 510.9, 503.9, 507.4)
```

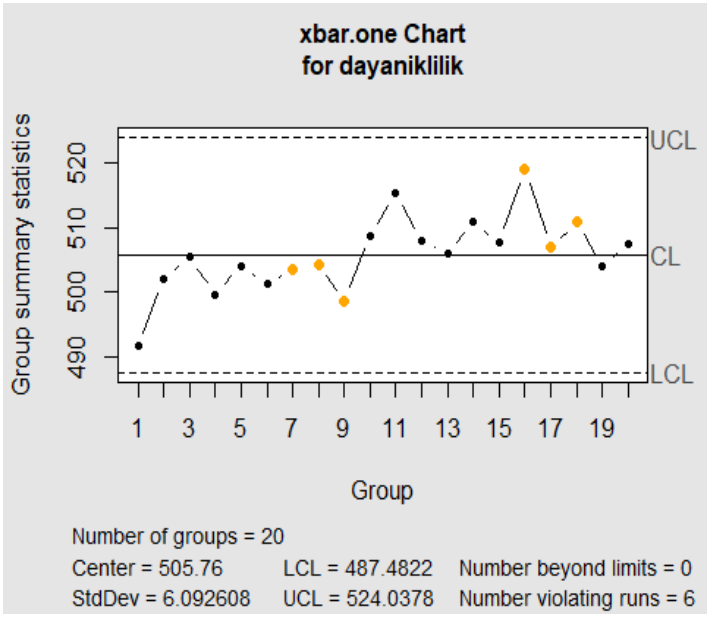
2- Box-plot grafiğinin çizdirilmesi

```
boxplot(dayaniklilik, col = "bisque")
```



3- Kontrol limiti grafiğinin çizdirilmesi

```
install.packages("qcc", repos = "https://cloud.r-project.org")

## Installing package into 'C:/Users/Documents/R/win-library/3.5'
## (as 'lib' is unspecified)

## package 'qcc' successfully unpacked and MD5 sums checked
##
## The downloaded binary packages are in
##  C:\Users\AppData\Local\Temp\Rtmpqcygmp\downloaded_packages

library(qcc)

## Warning: package 'qcc' was built under R version 3.5.3

## Package 'qcc' version 2.7

## Type 'citation("qcc")' for citing this R package in publications.

qcc(dayaniklilik, type="xbar.one", std.dev="SD", nsigmas = 3)
```



4- Ortalamadan 2 veya 3 standart sapma bağıntısı ile aykırı değerin incelenmesi

```
dayaniklilik[which(dayaniklilik<mean(dayaniklilik)-2*sd(dayaniklilik))]
## [1] 491.5
dayaniklilik[which(dayaniklilik>mean(dayaniklilik)+2*sd(dayaniklilik))]
## [1] 519.1
dayaniklilik[which(dayaniklilik<mean(dayaniklilik)-3*sd(dayaniklilik))]
## numeric(0)
dayaniklilik[which(dayaniklilik>mean(dayaniklilik)+3*sd(dayaniklilik))]
## numeric(0)
```

5- Z skoru ile aykırı değerin incelenmesi

```
dayaniklilik[which(abs((dayaniklilik-mean(dayaniklilik))/sd(dayaniklilik))>3)]
## numeric(0)
```