HACETTEPE ÜNİVERSİTESİ
İSTATİSTİK BÖLÜMÜ

İST155 İSTATİSTİĞE GİRİŞ I

UYGULAMA 8

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1.1- Normal servis verilerinin tanımlanması

```
normal<-
c(152,105,134,139,143,112,135,118,208,164,114,169,165,145,226,154,107,288,223,149,155
,197,226,141,293,141,196,123,136,206,187,100,113,107,107,188,129,123,122,148)
```

1.2- Normal servise ait basıklık ve çarpıklık katsayının hesaplanması

```
install.packages("moments")
## https://cran.rstudio.com/bin/windows/Rtools/
Installing package into 'C:/Users/Documents/R/win-library/4.0'
(as 'lib' is unspecified)
## package 'moments' successfully unpacked and MD5 sums checked
## The downloaded binary packages are in C:\Users\RtmpYlCltM\downloaded_packages
library(moments)
## Warning message:
## package 'moments' was built under R version 4.0.3
skewness(normal)
## [1] 1.187813
kurtosis(normal)
## [1] 4.016429
install.packages("GLDEX")
https://cran.rstudio.com/bin/windows/Rtools/
Installing package into 'C:/Users/Documents/R/win-library/4.0'
(as 'lib' is unspecified)
## package 'GLDEX' successfully unpacked and MD5 sums checked
## The downloaded binary packages are in C:\Users\Temp\Rtmp8YzAvZ\downloaded_packages
library(GLDEX)
## Warning message:
## package 'GLDEX' was built under R version 4.0.3
skewness(normal)
## [1] 1.234602
kurtosis(normal)
## [1] 1.322382
```

```
install.packages("EnvStats")
https://cran.rstudio.com/bin/windows/Rtools/
Installing package into 'C:/Users/Documents/R/win-library/4.0'
(as 'lib' is unspecified)
## package 'EnvStats' successfully unpacked and MD5 sums checked
## The downloaded binary packages are in C:\Users\Temp\Rtmp8YzAvZ\downloaded_packages
library(EnvStats)
## Warning message:
## package 'EnvStats' was built under R version 4.0.3
skewness(normal)
## [1] 1.234602
kurtosis(normal)
## [1] 1.322382
```

1.3- Normal servise ait Bowley ve Pearson'ın asimetri ölçütlerinin hesaplanması

```
quantile(normal)
##     0%    25%    50%    75%   100%
## 100.00 122.75 144.00 187.25 293.00
Q1_nor<- 122.75
Q2_nor<- 144
Q3_nor<- 187.25
bow_nor <- (Q3_nor+Q1_nor-2*Q2_nor)/(Q3_nor-Q1_nor)
bow_nor
## [1] 0.3410853
mean(normal)
## [1] 157.2
median(normal)
## [1] 144
mod_veri <- table(normal)
names(mod_veri)[which(mod_veri==max(mod_veri))]
## [1] "107"
sd(normal)
## [1] 47.41859
pear_nor <- (157.2-107)/47.41859
pear_nor
## [1] 1.058657
```