PRACTICA-6.R

Loreee

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```
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# Importar datos de internet
ur1 <-
"https://raw.githubusercontent.com/mgtagle/Exp_Met_Est_AD2023/refs/heads/
main/Scripts/localidades.csv"


Datos <- read.csv(ur1, header = T)
Datos$Paraje <- as.factor(Datos$Paraje)

boxplot(Datos$DAP ~ Datos$Paraje,
        col = "pink",
        xlab = "Localidades",
        ylab = "DAP (CM)")
```
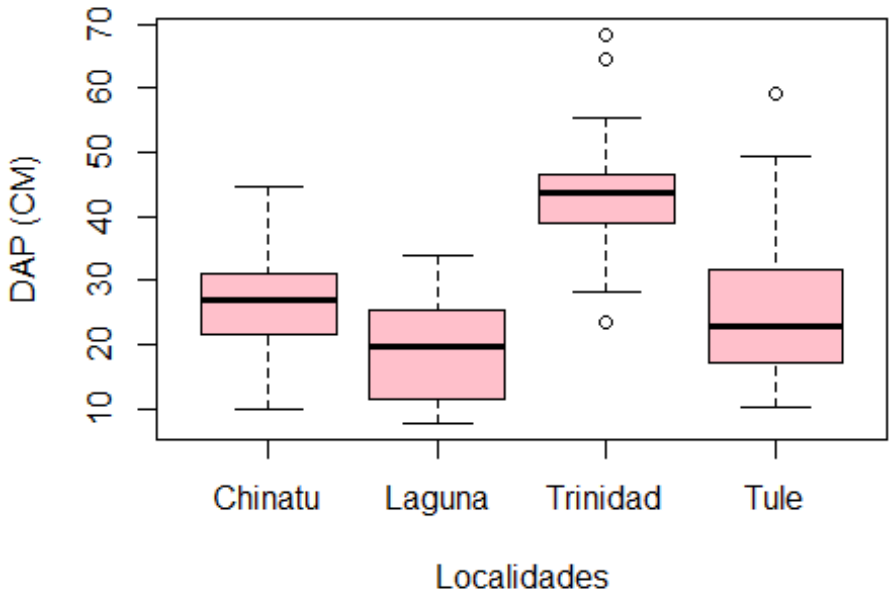



```r
tapply(Datos$DAP, Datos$Paraje, mean)
```

```
##  Chinatu   Laguna Trinidad     Tule
## 26.10000 19.31333 43.67667 25.44667
```

```r
tapply(Datos$DAP, Datos$Paraje, var)
```

```
##   Chinatu    Laguna  Trinidad      Tule
##  71.46414  61.71775  81.51840 146.52395
```

```r
shapiro.test(Datos$DAP)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  Datos$DAP
## W = 0.96548, p-value = 0.003575
```

```r
bartlett.test(Datos$DAP ~ Datos$Paraje)
```

```
##
##  Bartlett test of homogeneity of variances
##
## data:  Datos$DAP by Datos$Paraje
## Bartlett's K-squared = 6.6622, df = 3, p-value = 0.08348
```

```r
Datos$tlog <- log10(Datos$DAP+1)

shapiro.test(Datos$tlog)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  Datos$tlog
## W = 0.97171, p-value = 0.01243
```

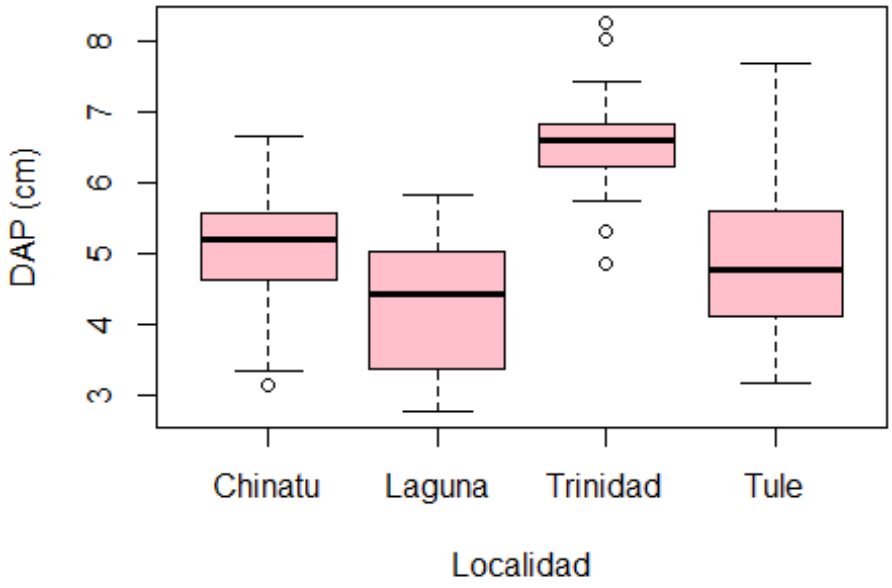
```r
Datos$tsqrt <- sqrt(Datos$DAP)
shapiro.test(Datos$tsqrt)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  Datos$tsqrt
## W = 0.98341, p-value = 0.1473
```

```r
bartlett.test(Datos$tsqrt ~ Datos$Paraje)
```

```
##
##  Bartlett test of homogeneity of variances
##
## data:  Datos$tsqrt by Datos$Paraje
## Bartlett's K-squared = 7.6911, df = 3, p-value = 0.05285
```

```r
boxplot(Datos$tsqrt ~ Datos$Paraje,
        col = "pink",
        xlab = "Localidad",
        ylab = "DAP (cm)")
```




```r
# Iniciar con el AOV
par.aov <- aov(Datos$tsqrt ~ Datos$Paraje)
summary(par.aov)
```

```
##               Df Sum Sq Mean Sq F value   Pr(>F)
## Datos$Paraje   3  84.09  28.029    33.2 1.45e-15 ***
## Residuals    116  97.94   0.844
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```r
TukeyHSD(par.aov)
```

```
##   Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = Datos$tsqrt ~ Datos$Paraje)
##
## $`Datos$Paraje`
##                          diff          lwr        upr     p adj
## Laguna-Chinatu    -0.7331899 -1.351610796 -0.1147691 0.0131794
## Trinidad-Chinatu   1.5391985  0.920777631  2.1576194 0.0000000
## Tule-Chinatu      -0.1190328 -0.737453617  0.4993881 0.9585122
## Trinidad-Laguna    2.2723884  1.653967564  2.8908093 0.0000000
```

```
## Tule-Laguna       0.6141572 -0.004263685  1.2325780 0.0523230
## Tule-Trinidad    -1.6582312 -2.276652111 -1.0398104 0.0000000

plot(TukeyHSD(par.aov))
```