Clase-13.05.2021.R

maria

2021-05-22

```
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# Fecha: 13.05.2021
# PRINCIPIOS DE ESTADISTICA
# Pruebas de t de dos muestras

copa <-
read.csv("https://raw.githubusercontent.com/MariaRamirez12/PRINCIPIOS_ESTADIS
TICA2021/main/canopy.csv")
head(copa)

##   Photo Forest  Cnpy LAI4   GLI
## 1  4039    CBE 24.92 1.53 28.53
## 2  4040    CBE 24.30 1.53 30.58
## 3  4041    CBE 26.82 1.44 33.06
## 4  4042    CBE 33.37 1.10 38.23
## 5  4043    CBE 27.60 1.63 28.76
## 6  4044    CBE 28.98 1.46 31.99

summary(copa)

##      Photo         Forest              Cnpy            LAI4
##  Min.   :4021   Length:180         Min.   :18.81   Min.   :0.870
##  1st Qu.:4067   Class :character   1st Qu.:27.16   1st Qu.:1.170
##  Median :4122   Mode  :character   Median :29.77   Median :1.330
##  Mean   :4118                      Mean   :29.90   Mean   :1.332
##  3rd Qu.:4168                      3rd Qu.:32.36   3rd Qu.:1.480
##  Max.   :4214                      Max.   :38.17   Max.   :1.860
##       GLI
##  Min.   :17.54
##  1st Qu.:28.71
##  Median :33.25
##  Mean   :33.51
##  3rd Qu.:38.46
##  Max.   :47.65

copa$Forest <- factor(copa$Forest)
summary(copa)

##      Photo      Forest        Cnpy            LAI4            GLI
##  Min.   :4021   CBE:90   Min.   :18.81   Min.   :0.870   Min.   :17.54
##  1st Qu.:4067   CSR:90   1st Qu.:27.16   1st Qu.:1.170   1st Qu.:28.71
##  Median :4122            Median :29.77   Median :1.330   Median :33.25
##  Mean   :4118            Mean   :29.90   Mean   :1.332   Mean   :33.51
```
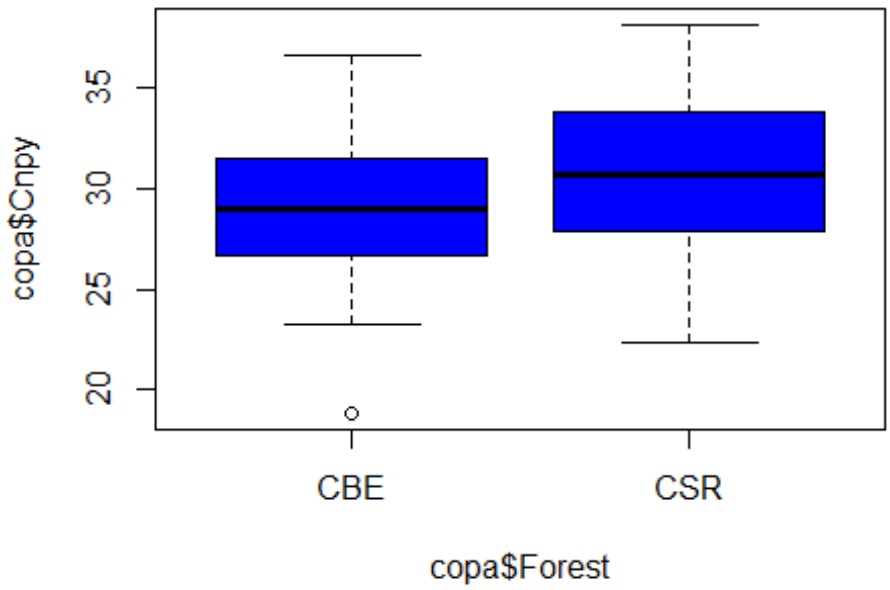

```
##  3rd Qu.:4168            3rd Qu.:32.36   3rd Qu.:1.480   3rd Qu.:38.46
##  Max.   :4214            Max.   :38.17   Max.   :1.860   Max.   :47.65
```

```
boxplot(copa$Cnpy ~ copa$Forest, col = "blue")
```




```
shapiro.test(copa$Cnpy)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  copa$Cnpy
## W = 0.99011, p-value = 0.2484
```

```
var.test(copa$Cnpy ~ copa$Forest)
```

```
##
##  F test to compare two variances
##
## data:  copa$Cnpy by copa$Forest
## F = 0.83469, num df = 89, denom df = 89, p-value = 0.3957
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.5494283 1.2680656
## sample estimates:
## ratio of variances
##          0.8346922
```

```
t.test(copa$Cnpy ~ copa$Forest, var.equal=TRUE)
```

```
##
##  Two Sample t-test
##
## data:  copa$Cnpy by copa$Forest
## t = -2.927, df = 178, p-value = 0.003869
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -2.6323923 -0.5122743
## sample estimates:
## mean in group CBE mean in group CSR
##          29.11567          30.68800
```