Regresión_parte_2.R

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```
# Ejercicio de Regresión
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# importar datos ----------------------------------------------------------
--

Canopy <- read.csv("canopy.csv")

head (Canopy)

##   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(Canopy)

##      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

plot(Canopy$Cnpy,Canopy$LAI4)
```
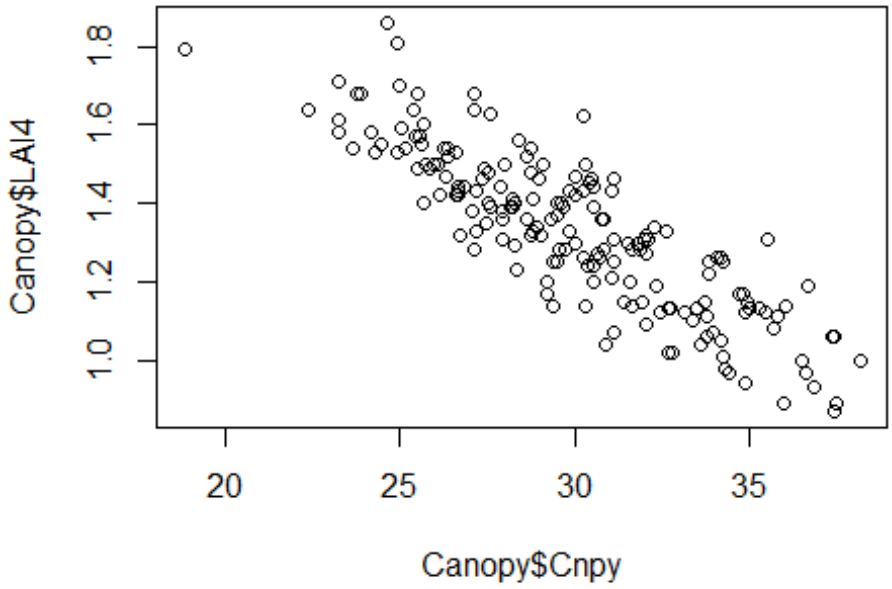
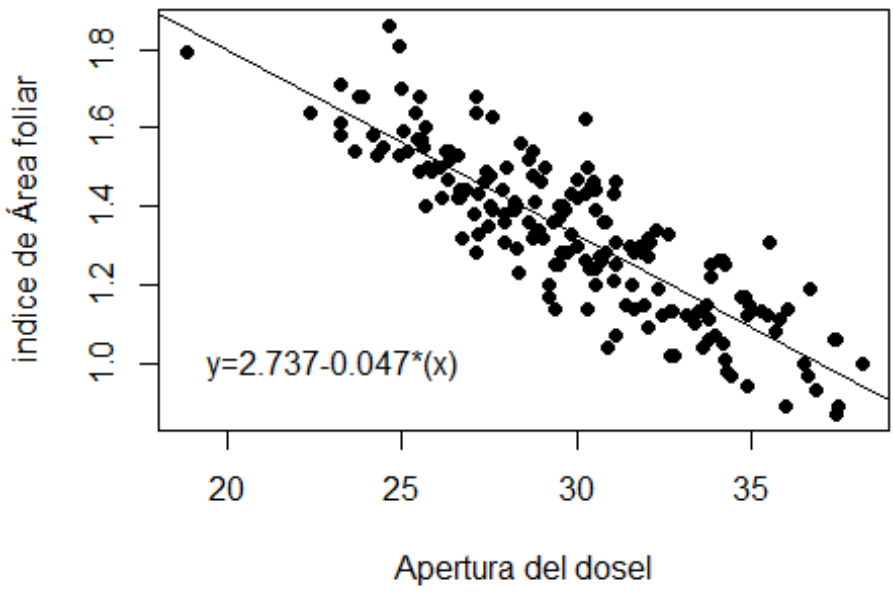




```
cor.test(Canopy$Cnpy,Canopy$LAI4)

##
##  Pearson's product-moment correlation
##
## data:  Canopy$Cnpy and Canopy$LAI4
## t = -22.421, df = 178, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  -0.8933414 -0.8156204
## sample estimates:
##        cor
## -0.8593654

copa.lm <- lm(Canopy$LAI4 ~ Canopy$Cnpy)
copa.lm

##
## Call:
## lm(formula = Canopy$LAI4 ~ Canopy$Cnpy)
##
## Coefficients:
## (Intercept)  Canopy$Cnpy
##     2.73798     -0.04701

summary(copa.lm)
```

```
##
## Call:
## lm(formula = Canopy$LAI4 ~ Canopy$Cnpy)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.24665 -0.06715 -0.01653  0.06922  0.30514
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  2.737978   0.063170   43.34   <2e-16 ***
## Canopy$Cnpy -0.047014   0.002097  -22.42   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.1032 on 178 degrees of freedom
## Multiple R-squared:  0.7385, Adjusted R-squared:  0.737
## F-statistic: 502.7 on 1 and 178 DF,  p-value: < 2.2e-16
```

```
plot(Canopy$Cnpy,Canopy$LAI4,pch=16, xlab="Apertura del dosel",
     ylab="indice de Área foliar")
abline(copa.lm)
text(23,1.0,"y=2.737-0.047*(x)")
```




```
#¿Cuales son los valores de la linea de regresión?
#copa.lm$fitted.values
#¿Donde están almacenados esos valores?
```

```r
#en copa.lm
#¿Cuamtos grados de libertad (df) tiene el analisis de regresión?
#178(df)
#Determinar mediante la ecuación de regresión los siguientes valores
#28,27,24,25,26,28.3,30.3,31.8,13,15
Valores <- c(28,27,24,25,26,28.3,30.3,31.3,33,35)
2.737-0.047*(Valores)
```

```
##  [1] 1.4210 1.4680 1.6090 1.5620 1.5150 1.4069 1.3129 1.2659 1.1860
1.0920
```