

# clase\_\_6.R

Usuario

2019-08-09

```
#César Martínez
#09/08/2019
#clase__6extra

#instalar libreria gapminder
#H0 linea de regresion no existe diferencias significativas
#H1 linea de regresion sí existe diferencias significativas

library(repmis)

## Registered S3 method overwritten by 'R.oo':
##   method      from
##   throw.default R.methodsS3

edad <- source_data("https://www.dropbox.com/s/nxoijhgmuto0s/datos_control_Rascon.csv?dl=1")

## Downloading data from: https://www.dropbox.com/s/nxoijhgmuto0s/datos_control_Rascon.csv?dl=1
## SHA-1 hash of the downloaded data file is:
## 5db2352e6fda9922f4feda0950294d01ac4f7861

head(edad)

##   arbol  DAP EDAD      SP
## 1     1 27.4   59 arizonica
## 2     2 19.5   29 arizonica
## 3     3 20.0   24 arizonica
## 4     4 22.0   40 arizonica
## 5     5 34.0   50 arizonica
## 6     6 33.1   44 arizonica

str(edad)

## 'data.frame':   60 obs. of  4 variables:
##  $ arbol: int  1 2 3 4 5 6 7 8 9 10 ...
##  $ DAP : num  27.4 19.5 20 22 34 33.1 32 10 14 11 ...
##  $ EDAD : int  59 29 24 40 50 44 44 17 15 16 ...
##  $ SP : chr  "arizonica" "arizonica" "arizonica" "arizonica" ...

#identificar columna SP como factor

edad$SP <- factor(edad$SP)
str(edad)

## 'data.frame':   60 obs. of  4 variables:
##  $ arbol: int  1 2 3 4 5 6 7 8 9 10 ...
##  $ DAP : num  27.4 19.5 20 22 34 33.1 32 10 14 11 ...
##  $ EDAD : int  59 29 24 40 50 44 44 17 15 16 ...
##  $ SP : Factor w/ 2 levels "arizonica","durangensis": 1 1 1 1 1 1 1 1 1 1 ...
```

```
#ya me lo identifico como 2 tratamientos
```

```
# SEPARAR POR FACTORES -----
```

```
ariz <-subset(edad, SP == "arizonica")
```

```
ariz.lm <- lm(ariz$EDAD ~ ariz$DAP)
summary(ariz.lm)
```

```
##
## Call:
## lm(formula = ariz$EDAD ~ ariz$DAP)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -12.3601  -4.5512   0.1622   4.3527  17.6786
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    5.3330     3.3199   1.606   0.119
## ariz$DAP        1.3134     0.1596   8.229 5.89e-09 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 6.752 on 28 degrees of freedom
## Multiple R-squared:  0.7075, Adjusted R-squared:  0.697
## F-statistic: 67.72 on 1 and 28 DF,  p-value: 5.888e-09
```

```
#aqui te saldra resultado diferente porque solo es un factor
```

```
dura <-subset(edad, SP == "durangensis")
```

```
# ver si las lineas de regresion son iguales dos factores-----
cov.edad <- lm(edad$EDAD ~ edad$DAP + edad$SP)
summary(cov.edad)
```

```
##
## Call:
## lm(formula = edad$EDAD ~ edad$DAP + edad$SP)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -30.844  -8.515  -1.731   7.473  38.741
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    -7.6573     5.2903  -1.447   0.153
## edad$DAP         1.9861     0.2342   8.480 1.10e-11 ***
## edad$SPdurangensis 19.0629     4.2942   4.439 4.19e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 15.03 on 57 degrees of freedom
```

```
## Multiple R-squared:  0.7269, Adjusted R-squared:  0.7174
## F-statistic: 75.87 on 2 and 57 DF,  p-value: < 2.2e-16
```

*#el valor de alfa es de la palabra "estimate"*

```
plot(edad$DAP[edad$SP == "arizonica"], edad$EDAD[edad$SP == "arizonica"],
      col = "red", pch = 16, xlim=c(0,50), ylim=c(0,130))
abline(cov.edad$coefficients[1], cov.edad$coefficients[2], col= "red")
text(30,20, "Ya = -7.65 + 1.98* x")

points(edad$DAP[edad$SP == "arizonica"], edad$EDAD[edad$SP == "durangensis"],
        col = "blue", pch = 16, xlim=c(0,50), ylim=c(0,130))

abline(cov.edad$coefficients[1] + cov.edad$coefficients[3],
        cov.edad$coefficients[2], col= "darkgreen", lty = "dashed")
text(19,100, "Yd = 11.41 + 1.98* x")
```

