Clase-4.R

Usuario

2019-08-09

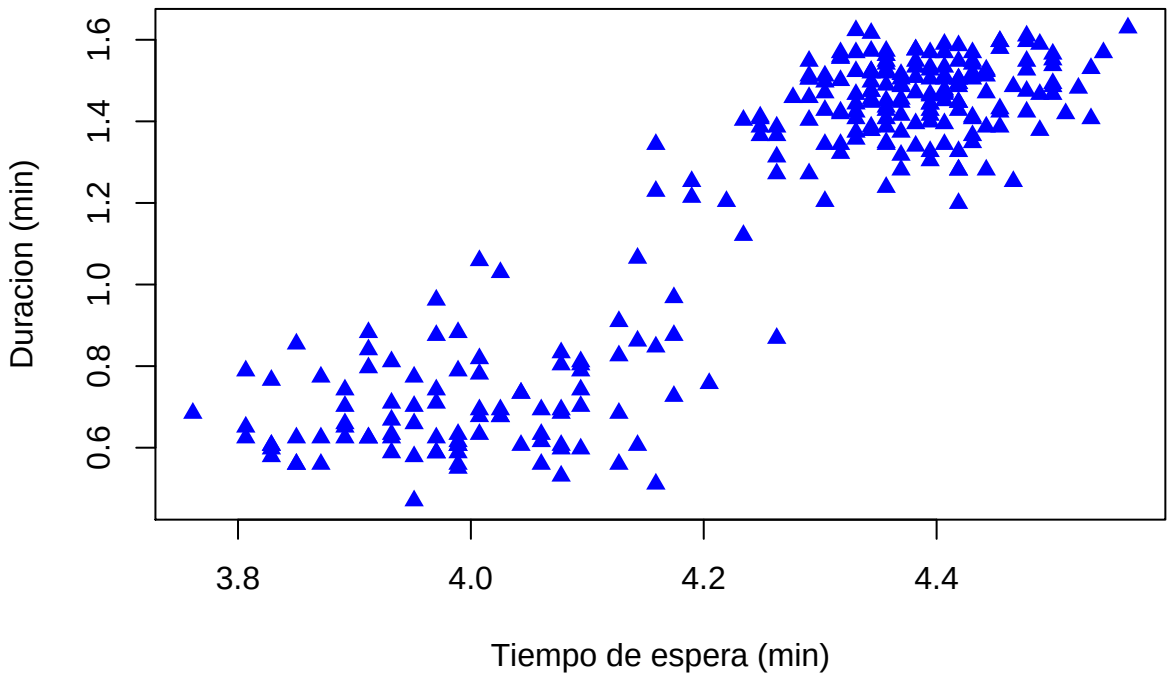
```
# Martin Lopez Ortiz
# 09/08/2019
# Clase 4

# Ejercicio 1
#  Subir datos ------------------------------------------------------------

erupciones <-read.csv("C:/MCF202_2019/Datos/erupciones.csv", header = T)
summary(erupciones)
```

```
##    eruptions        waiting
##  Min.   :1.600   Min.   :43.0
##  1st Qu.:2.163   1st Qu.:58.0
##  Median :4.000   Median :76.0
##  Mean   :3.488   Mean   :70.9
##  3rd Qu.:4.454   3rd Qu.:82.0
##  Max.   :5.100   Max.   :96.0
```

```
plot(log(erupciones$waiting), log(erupciones$eruptions), pch=17, col= "blue", xlab= "Tiempo de espera (m
     ylab= "Duracion (min)")
```



```r
library(pastecs)
stat.desc(erupciones$eruptions, basic = FALSE, norm = TRUE)
```

```
##        median          mean       SE.mean  CI.mean.0.95           var
##  4.000000e+00  3.487783e+00  6.920580e-02  1.362494e-01  1.302728e+00
##       std.dev      coef.var      skewness      skew.2SE      kurtosis
##  1.141371e+00  3.272483e-01 -4.135498e-01 -1.399854e+00 -1.511605e+00
##      kurt.2SE    normtest.W    normtest.p
## -2.567516e+00  8.459156e-01  9.036119e-16
```

```r
shapiro.test(erupciones$eruptions)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  erupciones$eruptions
## W = 0.84592, p-value = 9.036e-16
```

```r
shapiro.test(erupciones$waiting)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  erupciones$waiting
## W = 0.92215, p-value = 1.015e-10
```

```r
cor.test(erupciones$eruptions, erupciones$waiting)
```

```
##
##  Pearson's product-moment correlation
##
## data:  erupciones$eruptions and erupciones$waiting
## t = 34.089, df = 270, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.8756964 0.9210652
## sample estimates:
##       cor
## 0.9008112
```

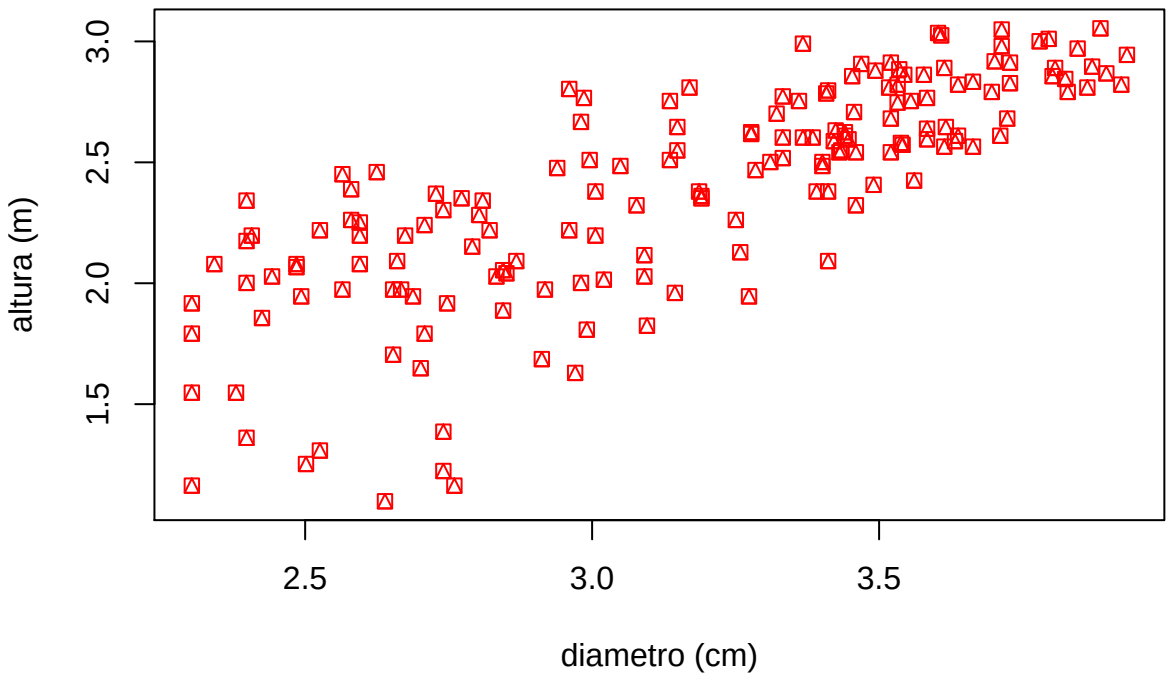
```r
# Ejercicio 2

# Subir Datos ------------------------------------------------------------------

ebanos <-read.csv("C:/MCF202_2019/Datos/ebanos.csv", header = T)
summary(ebanos)
```

```
##     diametro         altura
##  Min.   :10.00   Min.   : 3.00
##  1st Qu.:15.57   1st Qu.: 8.00
##  Median :25.90   Median :12.00
##  Mean   :25.97   Mean   :11.89
##  3rd Qu.:34.23   3rd Qu.:15.75
##  Max.   :51.00   Max.   :21.20
```

```r
plot(log(ebanos$diametro), log(ebanos$altura), pch=14, col= "red", xlab= "diametro (cm)",
     ylab= "altura (m)")
```




```
library(pastecs)
stat.desc(ebanos$altura, basic = FALSE, norm = TRUE)
```

```
##       median         mean      SE.mean CI.mean.0.95          var
## 12.000000000 11.885365854  0.357428221  0.705786566 20.951809068
##      std.dev     coef.var     skewness     skew.2SE     kurtosis
##  4.577314613  0.385121894  0.053516314  0.141163547 -0.932366816
##     kurt.2SE   normtest.W   normtest.p
## -1.236840496  0.977187792  0.008242431
```

```
shapiro.test(ebanos$diametro)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  ebanos$diametro
## W = 0.94921, p-value = 1.215e-05
```

```
shapiro.test(ebanos$altura)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  ebanos$altura
## W = 0.97719, p-value = 0.008242
```

```
cor.test(ebanos$diametro, ebanos$altura)
```

```
##
```

```
##  Pearson's product-moment correlation
##
## data:  ebanos$diametro and ebanos$altura
## t = 18.354, df = 162, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.7648115 0.8659458
## sample estimates:
##       cor
## 0.8217467
```

```
# De cuerdo a los datos obtenidos en la prueba de normalidad
# de los datos, la correlacion es significativa ya que p-value
# es menor a 0.05 de los niveles de confianza, en conclusion
# las variables tienen alta significancia por lo que se rechaza H0
# y se acepta Ha.
```