SolucionLabo_3.R

Usuario

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```
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# Laboratorio 3
# 03.03.2021


# Importar datos  ------------------------------------------------------
--

conjunto <- read.csv("cuadro1.csv", header = TRUE)
head(conjunto)

##   Arbol Fecha Especie Clase Vecinos Diametro Altura
## 1     1    12       F     C       4     15.3  14.78
## 2     2    12       F     D       3     17.8  17.07
## 3     3     9       C     D       5     18.2  18.28
## 4     4     9       H     S       4      9.7   8.79
## 5     5     7       H     I       6     10.8  10.18
## 6     6    10       C     I       3     14.1  14.90

hist(conjunto$Diametro)
```
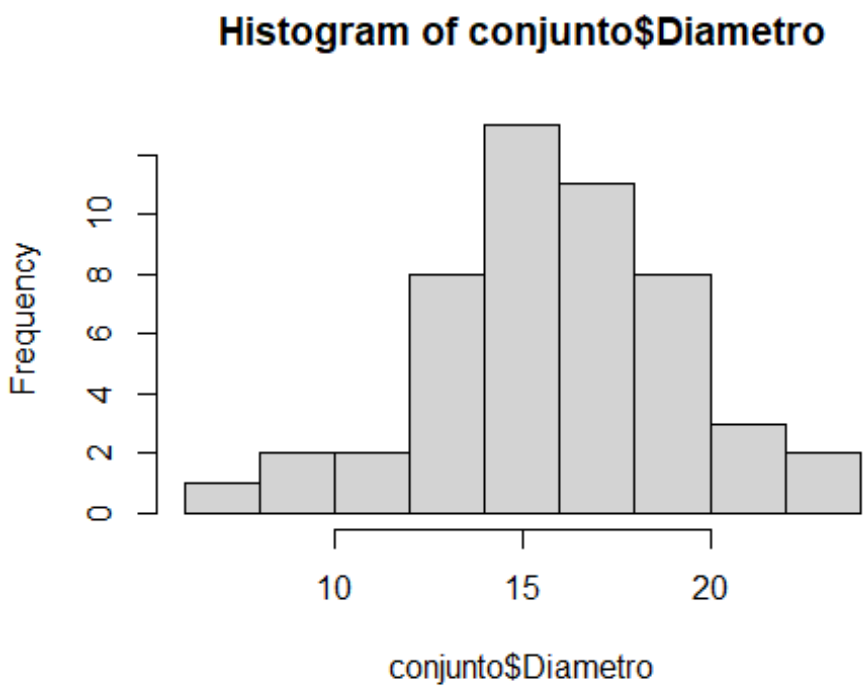
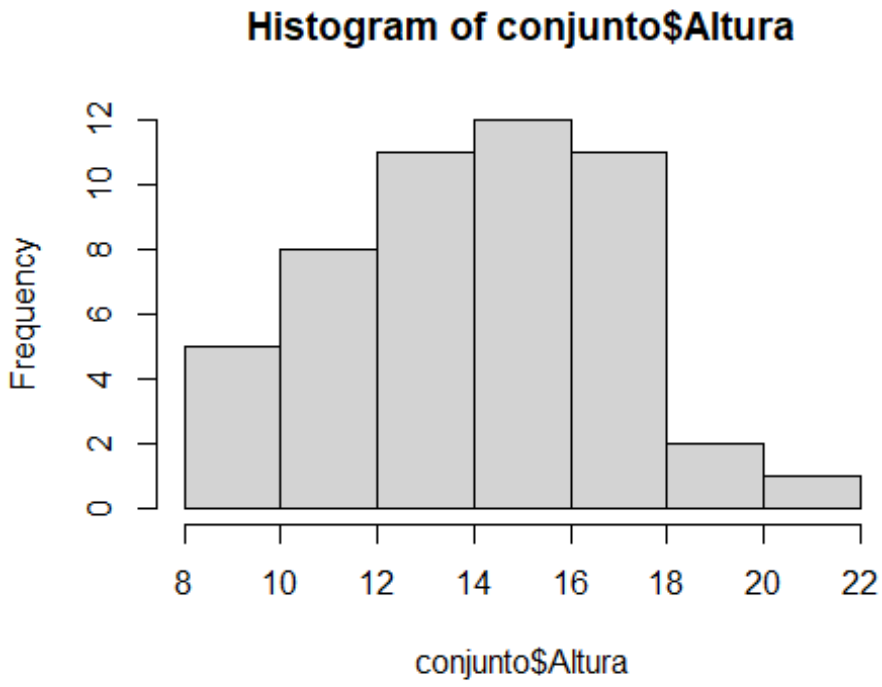
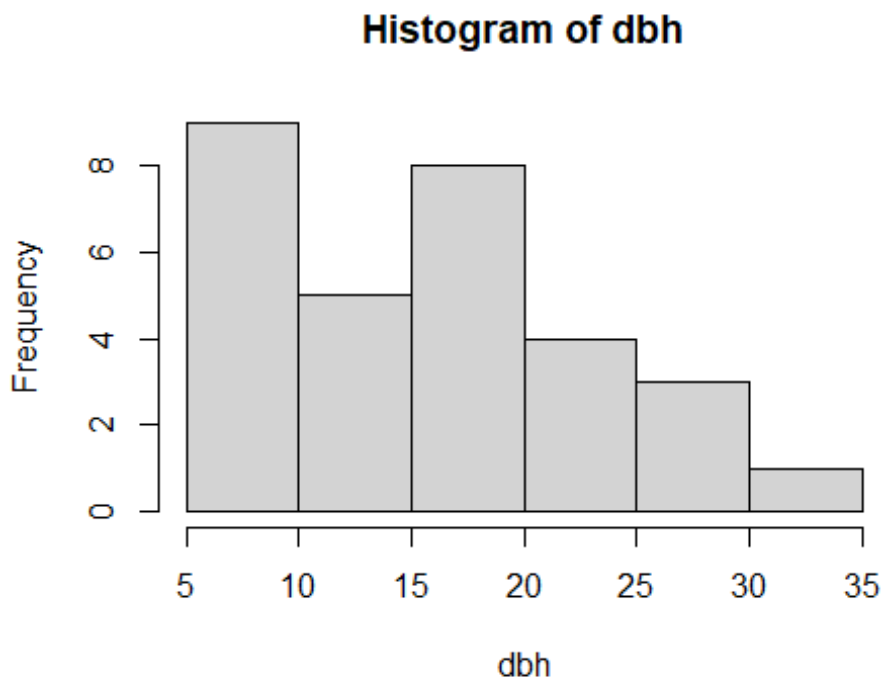




```
hist(conjunto$Altura)
```




```
mean(conjunto$Diametro)
```

```
## [1] 15.794

mean(conjunto$Vecinos)

## [1] 3.34

range(conjunto$Vecinos)

## [1] 0 6

# Datos en consola ------------------------------------------------------

dbh <- c(16.5, 25.3, 22.1, 17.2, 16.1, 8.1, 34.3, 5.4, 5.7, 11.2, 24.1,
         14.5, 7.7, 15.6, 15.9, 10, 17.5, 20.5, 7.8, 27.3,
         9.7, 6.5, 23.4, 8.2, 28.5, 10.4, 11.5, 14.3, 17.2, 16.8)
sum(dbh)

## [1] 469.3

prod(dbh)

## [1] 2.125828e+34

hist(dbh)
```




```
# Datos de URL ----------------------------------------------------------
```

```
prof_url <-

"http://www.profepa.gob.mx/innovaportal/file/7635/1/accionesInspeccionfoanp.csv"
profepa <- read.csv(prof_url)
head(profepa)

##               Entidad Inspecciones Recorridos.de.vigilancia Operativos
## 1      Aguascalientes            0                        1          0
## 2     Baja California            0                        1          0
## 3 Baja California Sur            0                        0          0
## 4            Campeche            0                        0          0
## 5             Chiapas            0                        0          0
## 6           Chihuahua            3                        1          1

profepa

##                Entidad Inspecciones Recorridos.de.vigilancia
Operativos
## 1       Aguascalientes            0                         1
0
## 2      Baja California            0                         1
0
## 3  Baja California Sur            0                         0
0
## 4             Campeche            0                         0
0
## 5              Chiapas            0                         0
0
## 6            Chihuahua            3                         1
1
## 7             Coahuila            1                         0
0
## 8               Colima            0                         0
0
## 9     Distrito Federal            0                         0
0
## 10             Durango            0                         0
0
## 11          Guanajuato            0                         0
0
## 12            Guerrero            0                         0
0
## 13             Hidalgo            0                         0
0
## 14              Jalisco            0                         0
0
## 15               México            2                         0
0
## 16           Michoacán            1                         3
1
```

```
## 17              Morelos            2                          0
1
## 18              Nayarit            0                          1
0
## 19          Nuevo León             0                          0
0
## 20              Oaxaca             0                          0
0
## 21              Puebla             0                          0
0
## 22           Querétaro             0                          0
0
## 23        Quintana Roo             0                          0
0
## 24     San Luis Potosí             0                          0
0
## 25              Sinaloa            0                          0
0
## 26              Sonora             0                          0
0
## 27              Tabasco            0                          0
0
## 28          Tamaulipas             0                          0
0
## 29            Tlaxcala             4                          2
0
## 30            Veracruz             0                          1
0
## 31              Yucatán            0                          0
0
## 32           Zacatecas             0                          1
0
## 33  Oficinas Centrales             6                         10
0

sum(profepa$Inspecciones)

## [1] 19

sum(profepa$Operativos)

## [1] 3

sum(profepa$Recorridos.de.vigilancia)

## [1] 21

prof_url_2 <- paste0("http://www.profepa.gob.mx/innovaportal/",
                     "file/7635/1/accionesInspeccionfoanp.csv")
profepa2 <- read.csv(prof_url_2)
head(profepa2)
```

```
##               Entidad Inspecciones Recorridos.de.vigilancia Operativos
## 1      Aguascalientes            0                        1          0
## 2     Baja California            0                        1          0
## 3 Baja California Sur            0                        0          0
## 4            Campeche            0                        0          0
## 5             Chiapas            0                        0          0
## 6           Chihuahua            3                        1          1
```

```
# Importar datos de URL seguros ----------------------------------------
--
```

```
library(repmis)
```

```
## Warning: package 'repmis' was built under R version 4.0.4
```

```
conjunto.2 <-

source_data("https://www.dropbox.com/s/hmsf07bbayxv6m3/cuadro1.csv?dl=1")
```

```
## Downloading data from:
https://www.dropbox.com/s/hmsf07bbayxv6m3/cuadro1.csv?dl=1

## SHA-1 hash of the downloaded data file is:
## 2bdde4663f51aa4198b04a248715d0d93498e7ba
```

```
head(conjunto.2)
```

```
##   Arbol Fecha Especie Clase Vecinos Diametro Altura
## 1     1    12       F     C       4     15.3  14.78
## 2     2    12       F     D       3     17.8  17.07
## 3     3     9       C     D       5     18.2  18.28
## 4     4     9       H     S       4      9.7   8.79
## 5     5     7       H     I       6     10.8  10.18
## 6     6    10       C     I       3     14.1  14.90
```

```
sum(conjunto.2$Vecinos)
```

```
## [1] 167
```

```
library(readr)
```

```
## Warning: package 'readr' was built under R version 4.0.4
```

```
file <-

paste0("https://raw.githubusercontent.com/Marimari02/PrincipiosEstadistic
a2021/main/cuadro1.csv")
inventario <- read.csv(file)
head(inventario)
```

```
##   Arbol Fecha Especie Clase Vecinos Diametro Altura
## 1     1    12       F     C       4     15.3  14.78
## 2     2    12       F     D       3     17.8  17.07
```

```
## 3     3     9       C     D       5     18.2  18.28
## 4     4     9       H     S       4      9.7   8.79
## 5     5     7       H     I       6     10.8  10.18
## 6     6    10       C     I       3     14.1  14.90
```

```
sum(inventario$Vecinos)
```

```
## [1] 167
```

```
# Parte 2: Operaciones con la base de datos ----------------------------
--
```

```
dbh
```

```
##  [1] 16.5 25.3 22.1 17.2 16.1  8.1 34.3  5.4  5.7 11.2 24.1 14.5  7.7
15.6 15.9
## [16] 10.0 17.5 20.5  7.8 27.3  9.7  6.5 23.4  8.2 28.5 10.4 11.5 14.3
17.2 16.8
```

```
mean(dbh)
```

```
## [1] 15.64333
```

```
dbh < 10
```

```
##  [1] FALSE FALSE FALSE FALSE FALSE  TRUE FALSE  TRUE  TRUE FALSE FALSE
FALSE
## [13]  TRUE FALSE FALSE FALSE FALSE FALSE  TRUE FALSE  TRUE  TRUE FALSE
TRUE
## [25] FALSE FALSE FALSE FALSE FALSE FALSE
```

```
sum(dbh < 10)
```

```
## [1] 8
```

```
which(dbh <10)
```

```
## [1]  6  8  9 13 19 21 22 24
```

```
dbh.url <-

"https://raw.githubusercontent.com/mgtagle/PrincipiosEstadistica2021/main
/DBH_1.csv"
Parcelas <- read.csv(dbh.url)

tree.13 <- Parcelas[!(Parcelas$parcela == "2"),]
tree.23 <- Parcelas[!(Parcelas$parcela == "1"),]
tree12. <- Parcelas[!(Parcelas$parcela == "3"),]


# Media de cada parcela  -----------------------------------------------
--
```

```r
mean(tree.13$dbh)
```

```
## [1] 15.42
```

```r
mean(tree.23$dbh)
```

```
## [1] 15.37
```

```r
mean(tree12.$dbh)
```

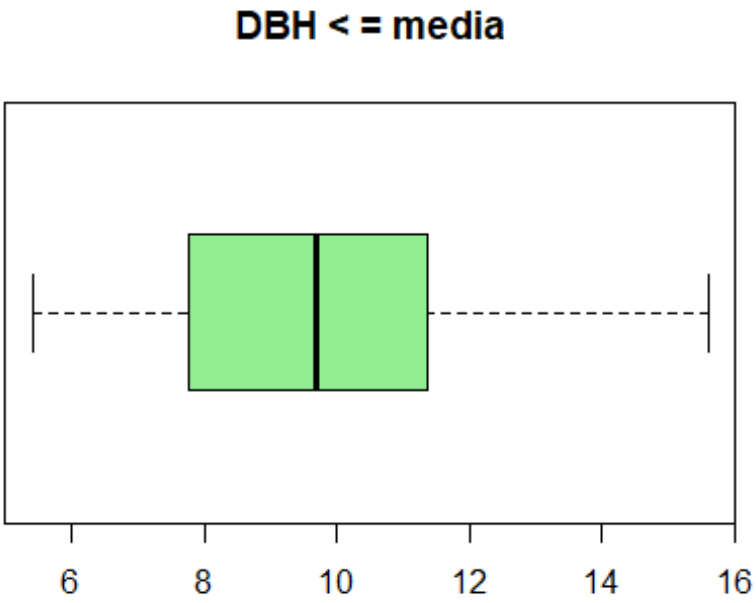
```
## [1] 16.14
```

```r
# selecion de submuestras  ------------------------------------------
--

tree.mean <- subset(Parcelas, dbh <= mean(Parcelas$dbh))
tree.up <- subset(Parcelas, dbh >= mean(Parcelas$dbh))
mean(tree.mean$dbh); mean(tree.up$dbh)
```

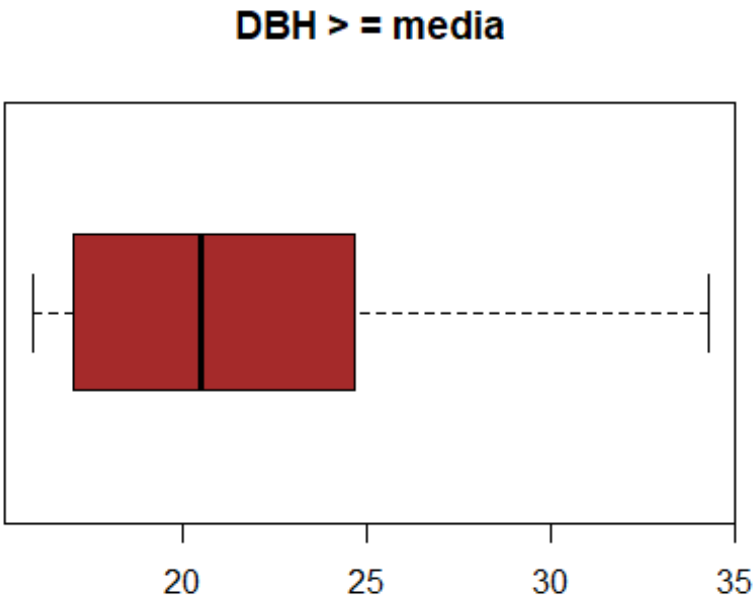
```
## [1] 9.773333
```

```
## [1] 21.51333
```

```r
# representacion grafica de subconjuntos  ---------------------------
--

boxplot(tree.mean$dbh, main = "DBH < = media", col = "lightgreen",
horizontal = TRUE)
```

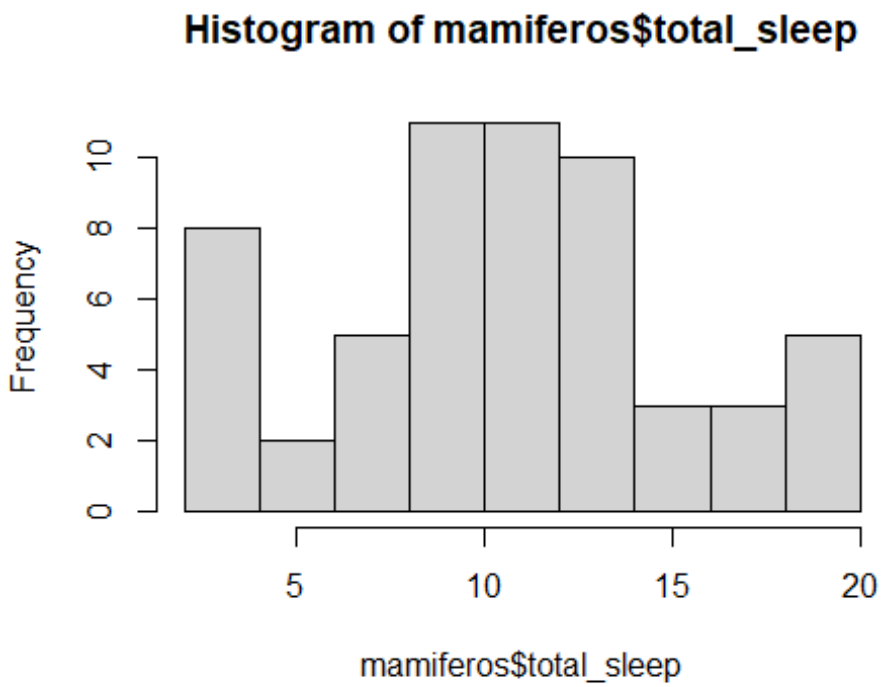



```
boxplot(tree.up$dbh, main = "DBH > = media", col = "brown", horizontal =
T)
```

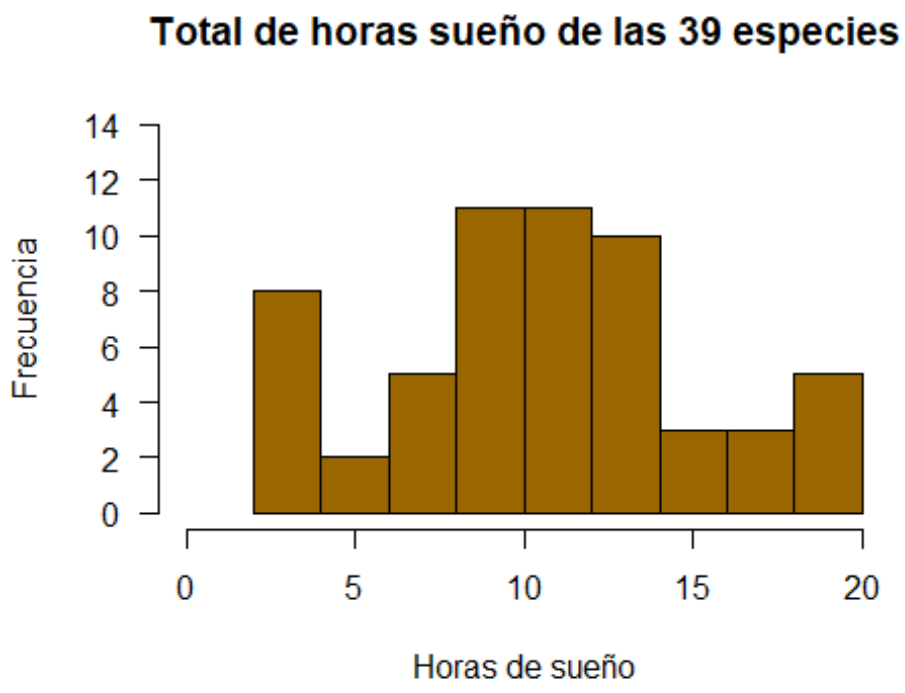



```
quantile(tree.mean$dbh, 0.5)
```

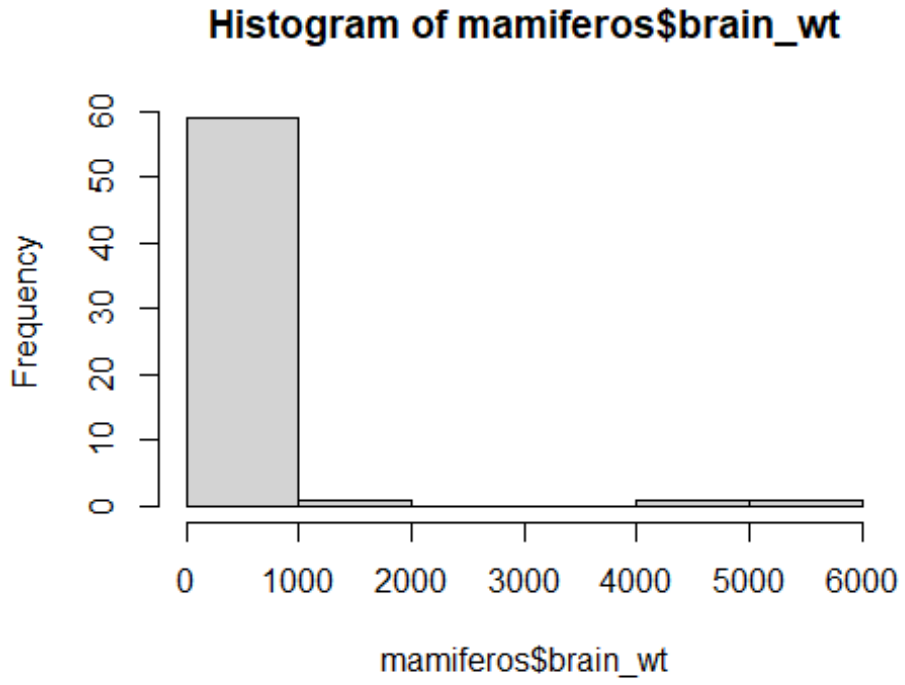
```
## 50%
## 9.7

quantile(tree.mean$dbh, 0.75)

##   75%
## 11.35

# Parte 3: representacion grafica  ------------------------------------
--

mamiferos <- read.csv("https://www.openintro.org/data/csv/mammals.csv")
head(mamiferos)

##                   species  body_wt brain_wt non_dreaming dreaming
total_sleep
## 1        Africanelephant 6654.000   5712.0           NA       NA
3.3
## 2 Africangiantpouchedrat    1.000      6.6          6.3      2.0
8.3
## 3              ArcticFox    3.385     44.5           NA       NA
12.5
## 4   Arcticgroundsquirrel    0.920      5.7           NA       NA
16.5
## 5          Asianelephant 2547.000   4603.0          2.1      1.8
3.9
## 6                 Baboon   10.550    179.5          9.1      0.7
9.8
##   life_span gestation predation exposure danger
## 1      38.6       645         3        5      3
## 2       4.5        42         3        1      3
## 3      14.0        60         1        1      1
## 4        NA        25         5        2      3
## 5      69.0       624         3        5      4
## 6      27.0       180         4        4      4

hist(mamiferos$total_sleep)
```




```r
hist(mamiferos$total_sleep,
     xlim = c(0,20), ylim = c(0,14),
     main = "Total de horas sueño de las 39 especies",
     xlab = "Horas de sueño",
     ylab = "Frecuencia",
     las = 1,
     col = "#996600")
```

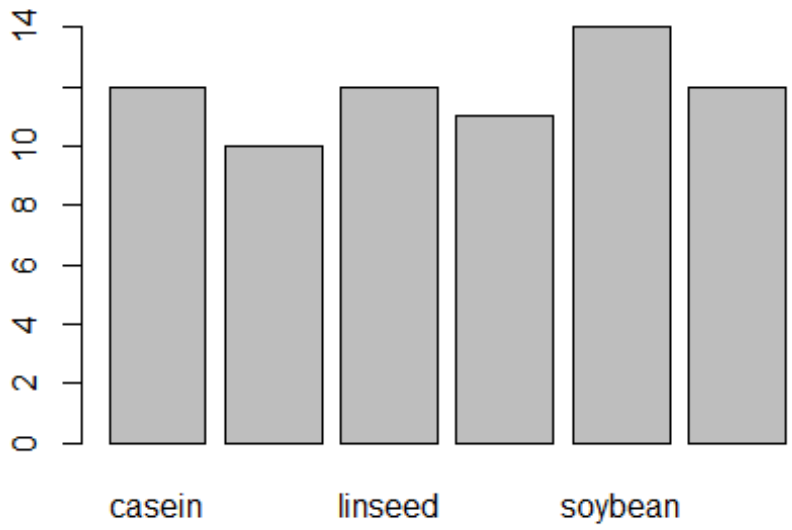



```
hist(mamiferos$brain_wt)
```



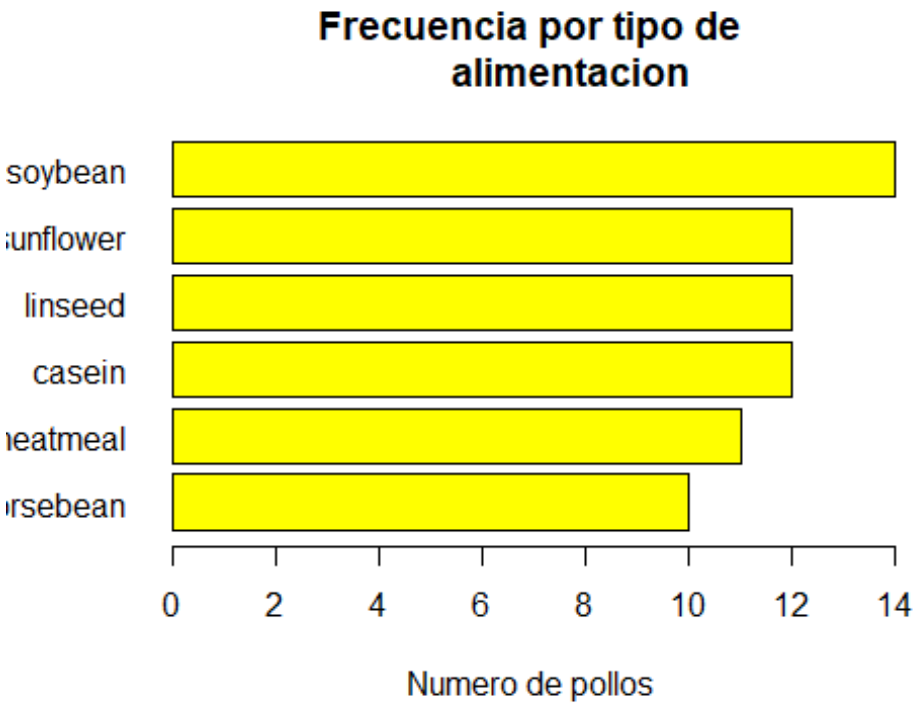

```
fivenum(mamiferos$brain_wt)
```

```
## [1]    0.14    4.00   17.25  169.00 5712.00

# Barplot o grafica de barras  ----------------------------------------
--

data("chickwts")
head(chickwts[c(1:2,42:43, 62:64), ])

##    weight      feed
## 1     179 horsebean
## 2     160 horsebean
## 42    226 sunflower
## 43    320 sunflower
## 62    379    casein
## 63    260    casein

feeds <- table(chickwts$feed)
feeds

##
##    casein horsebean   linseed  meatmeal   soybean sunflower
##        12        10        12        11        14        12

barplot(feeds)
```




```
barplot(feeds[order(feeds, decreasing = TRUE)])
```


```
barplot(feeds[order(feeds)], horiz = TRUE,
        las = 1, col = "yellow", main = "Frecuencia por tipo de
        alimentacion",
        xlab = "Numero de pollos")
```


Frecuencia por tipo de alimentacion
soybean
unflower
linseed
casein
eatmeal
rsebean
0
2
4
6
8
10
12
14
Numero de pollos