# “R: Gráficos básicos”

M.Sc. Henry Luis López García
Universidad Nacional Autónoma de Nicaragua, UNAN-Managua
Vicerrectorado de Investigación, Posgrado y Extensión Universitaria
Dirección de Investigación


@Hen1985


hlopez@unan.edu.ni

# Gráficos con R

- plot()
- hist()
- barplot()
- boxplot()
- pie()

# Importar datos con EXCEL

```
> data("iris")
> View(iris)
> str(iris)
'data.frame':    150 obs. of  5 variables:
 $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5 4.4 4.9 ...
 $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 ...
 $ Petal.Length: num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
 $ Petal.Width : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
 $ Species     : Factor w/ 3 levels "setosa","versicolor",..: 1 1 1 1
1 1 1 1 1 1 ...
```

# Morfología flor Iris
# Fisher's Iris Data

Iris setosa

Iris versicolor

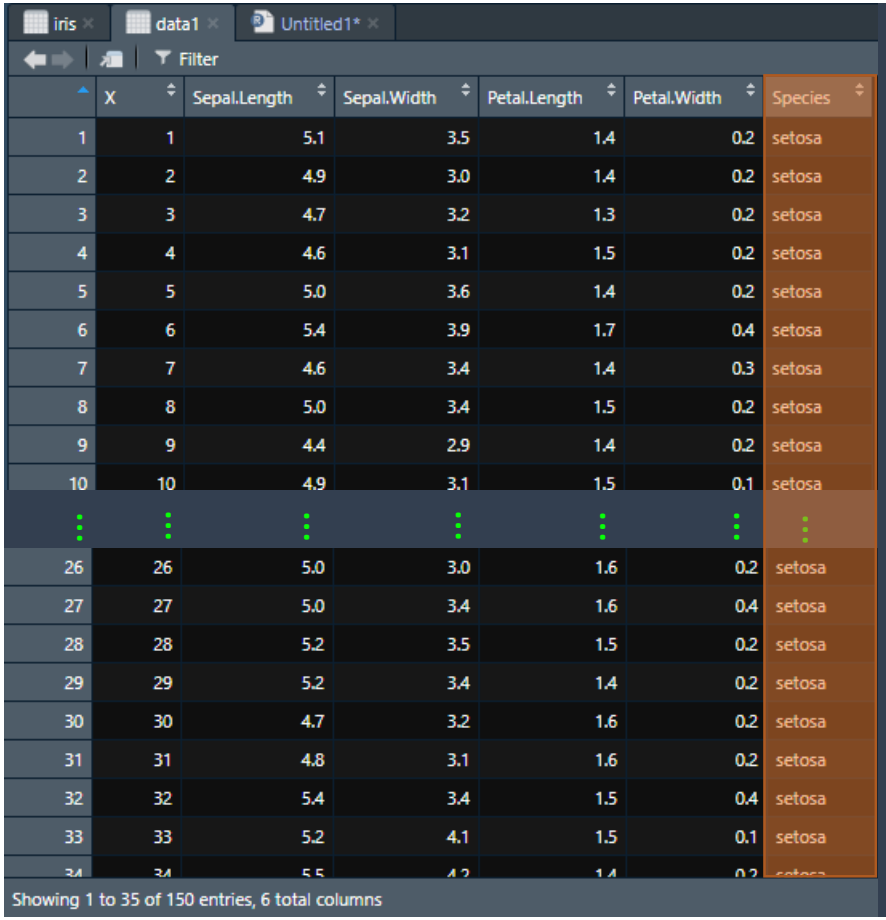
Iris virginica

Binek, R. (2015)

# Importar datos con EXCEL

```
> is.factor(iris$Species)
[1] TRUE
> # guarde el archivo en formato csv
> write.csv(iris, file="C:/Users/HP/Documents/iris.csv")
> # Abrirlo el archivo con el nombre data1
> data1 <- read.csv("C:/Users/HP/Documents/iris.csv")
>  View(data1)
```

# Importar datos con EXCEL



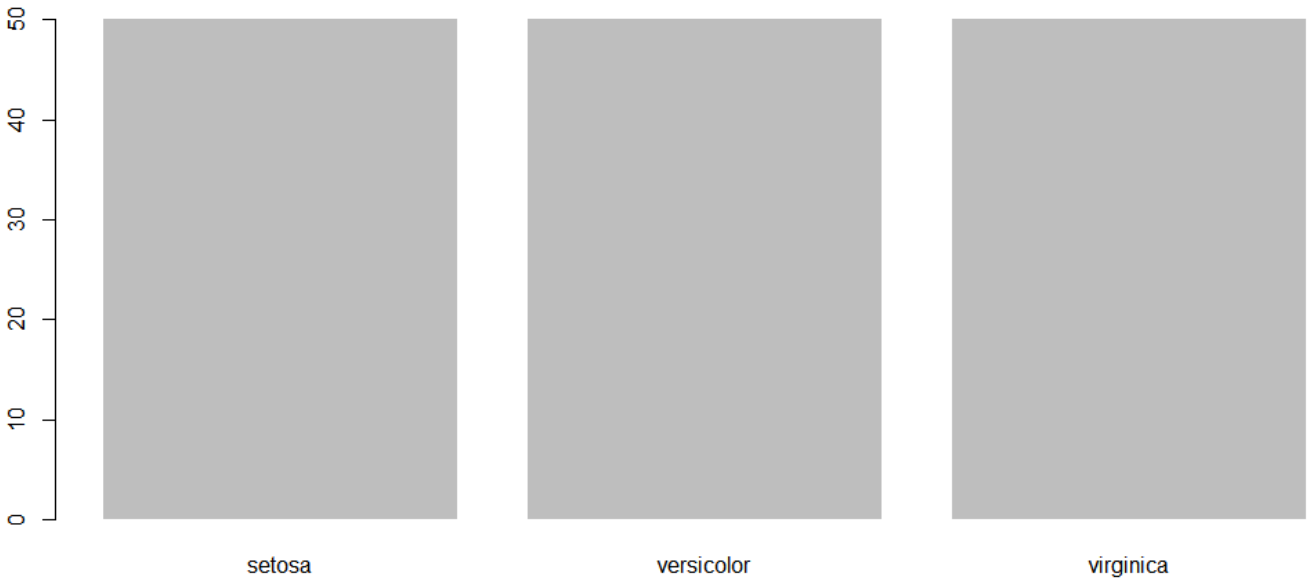

| | X | Sepal.Length | Sepal.Width | Petal.Length | Petal.Width | Species |
|---|---|---|---|---|---|---|
| 1 | 1 | 5.1 | 3.5 | 1.4 | 0.2 | setosa |
| 2 | 2 | 4.9 | 3.0 | 1.4 | 0.2 | setosa |
| 3 | 3 | 4.7 | 3.2 | 1.3 | 0.2 | setosa |
| 4 | 4 | 4.6 | 3.1 | 1.5 | 0.2 | setosa |
| 5 | 5 | 5.0 | 3.6 | 1.4 | 0.2 | setosa |
| 6 | 6 | 5.4 | 3.9 | 1.7 | 0.4 | setosa |
| 7 | 7 | 4.6 | 3.4 | 1.4 | 0.3 | setosa |
| 8 | 8 | 5.0 | 3.4 | 1.5 | 0.2 | setosa |
| 9 | 9 | 4.4 | 2.9 | 1.4 | 0.2 | setosa |
| 10 | 10 | 4.9 | 3.1 | 1.5 | 0.1 | setosa |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |
| 26 | 26 | 5.0 | 3.0 | 1.6 | 0.2 | setosa |
| 27 | 27 | 5.0 | 3.4 | 1.6 | 0.4 | setosa |
| 28 | 28 | 5.2 | 3.5 | 1.5 | 0.2 | setosa |
| 29 | 29 | 5.2 | 3.4 | 1.4 | 0.2 | setosa |
| 30 | 30 | 4.7 | 3.2 | 1.6 | 0.2 | setosa |
| 31 | 31 | 4.8 | 3.1 | 1.6 | 0.2 | setosa |
| 32 | 32 | 5.4 | 3.4 | 1.5 | 0.4 | setosa |
| 33 | 33 | 5.2 | 4.1 | 1.5 | 0.1 | setosa |
| 34 | 34 | 5.5 | 4.2 | 1.4 | 0.2 | setosa |

Showing 1 to 35 of 150 entries, 6 total columns

```
> is.factor(data1$Species)
[1] FALSE
> species1 <- as.factor(data1$Species)
> is.factor(species1)
[1] TRUE
> data1$species1  <- species1
```

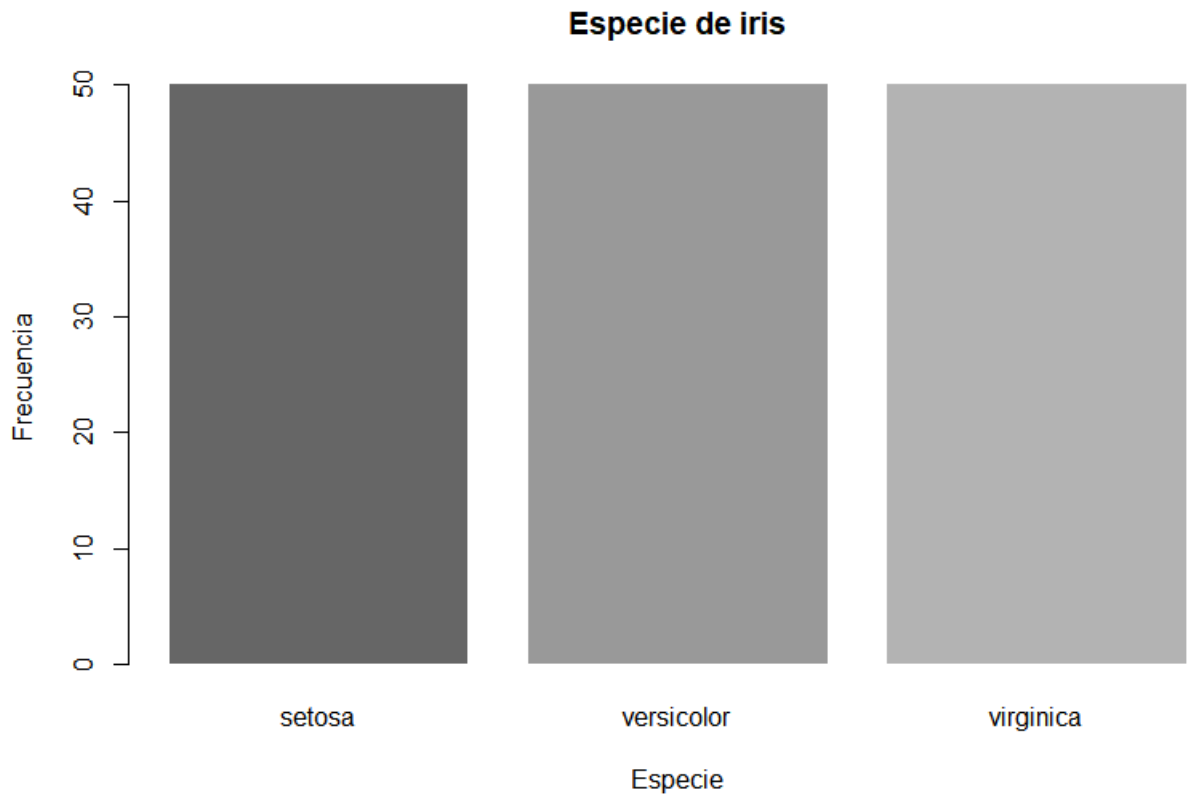
# plot() variable categórica

```
> plot(data1$species1, border=NA)
```



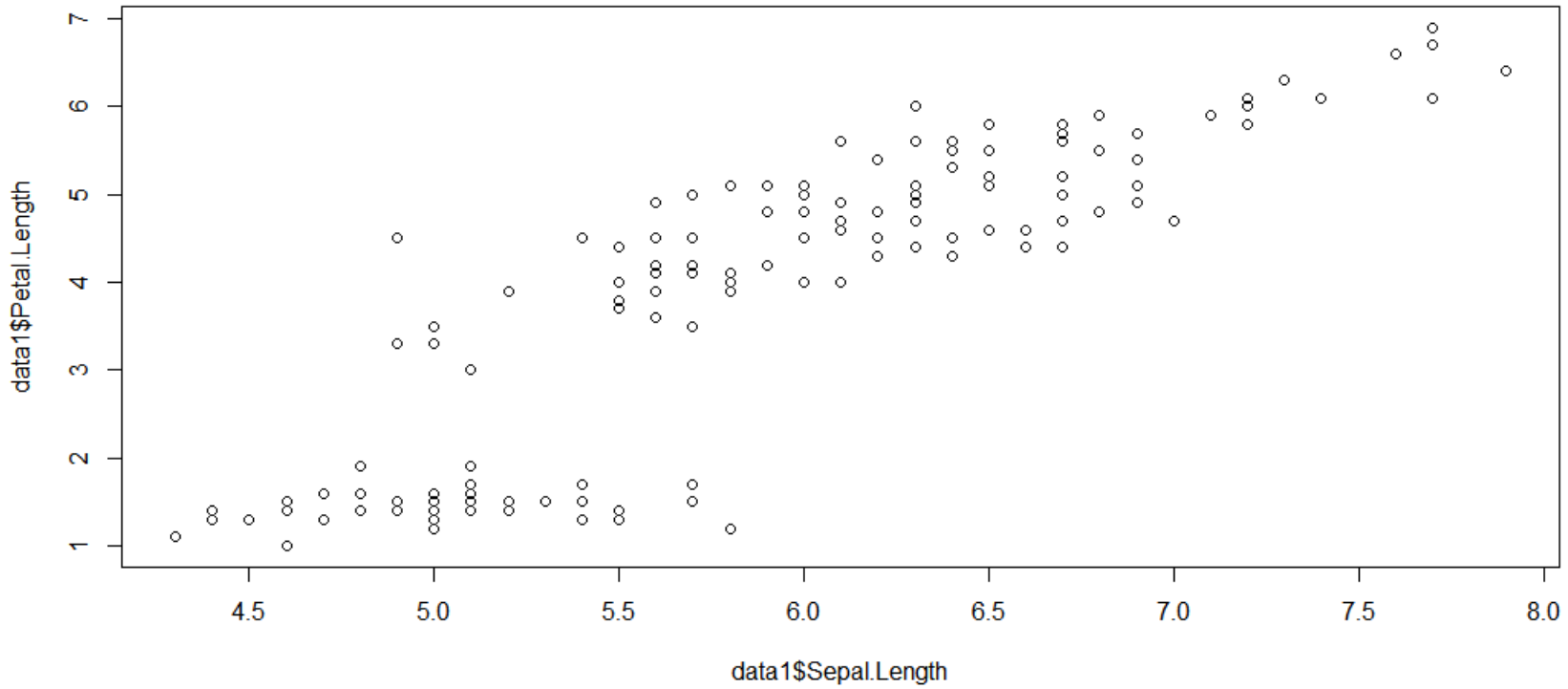
# plot() variable categórica

> plot(data1$species1,ylab="Frecuencia", xlab="Especie",main="Especie de iris",col=c("gray40","gray60", "gray70"),border=NA)



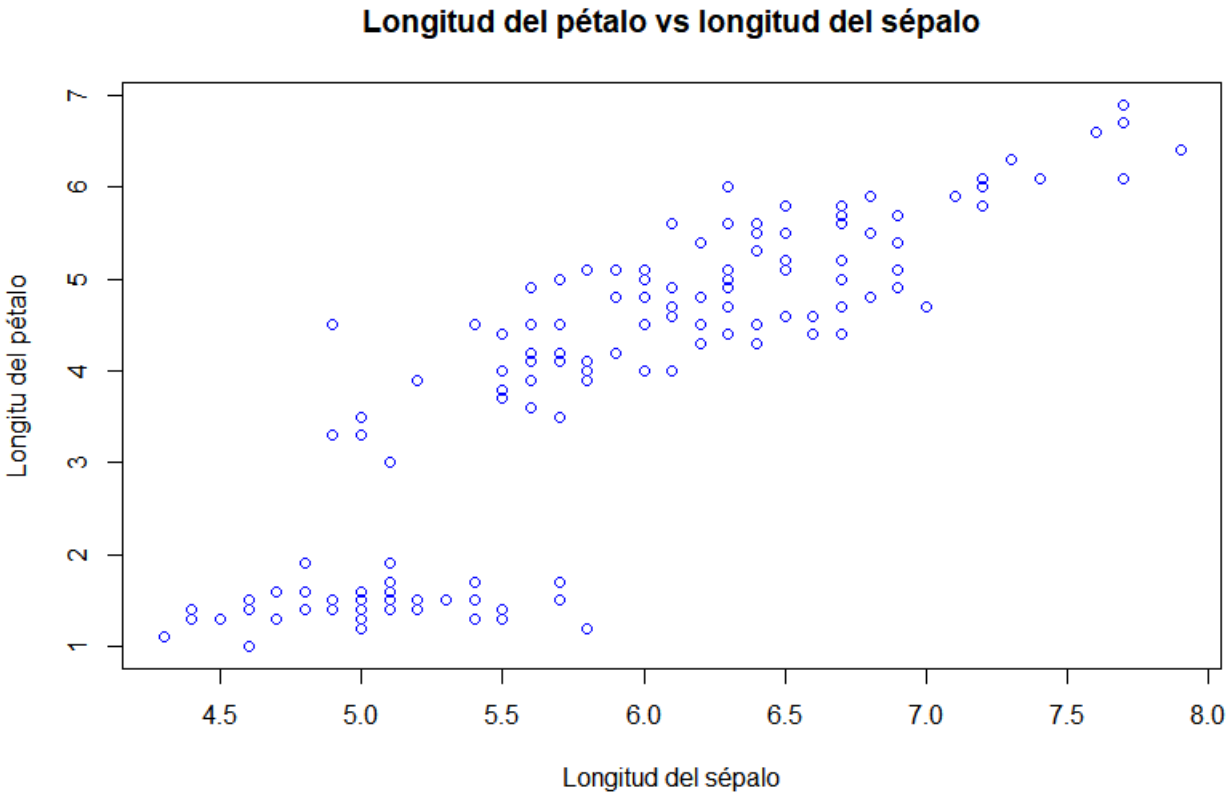
# plot() variable numérica

```
> plot(data1$Sepal.Length, data1$Petal.Length)
```



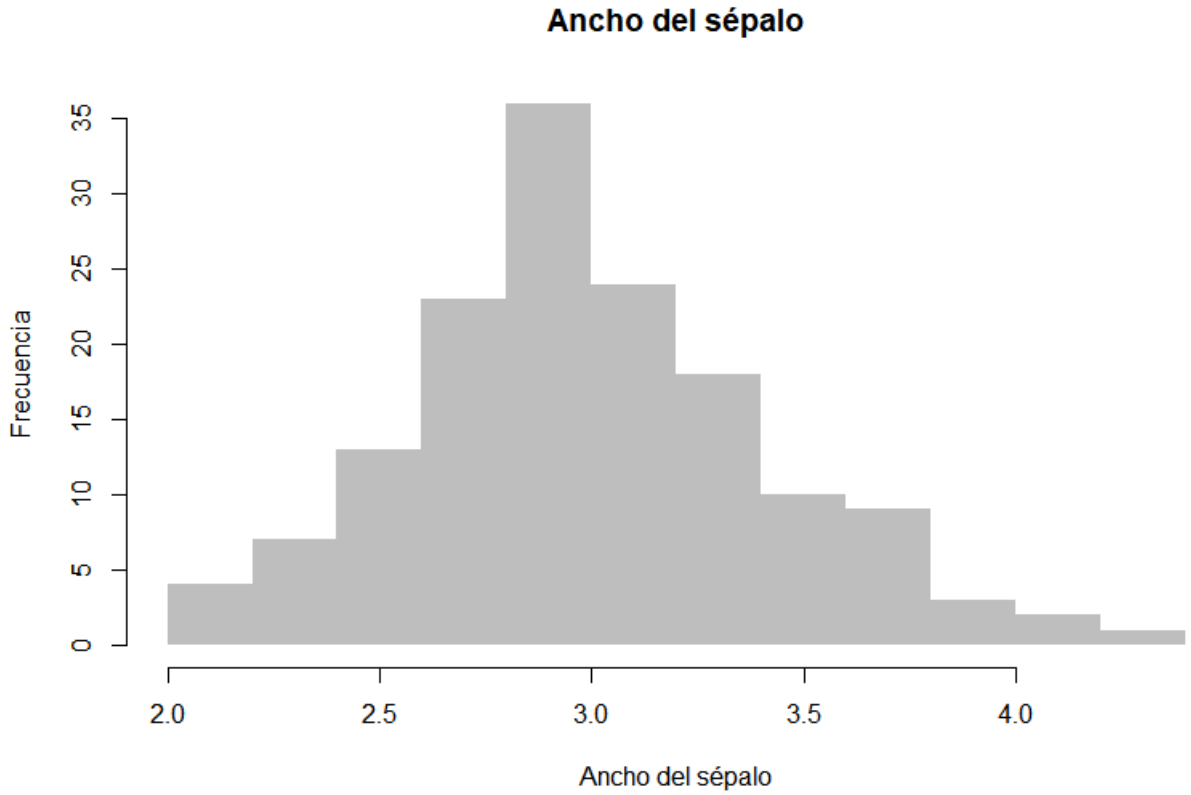
# plot() variable numérica

> plot(data1$Sepal.Length, data1$Petal.Length, ylab="Longitu del pétalo",xlab="Longitud del sépalo", main = "Longitud del pétalo vs longitud del sépalo", col="blue")



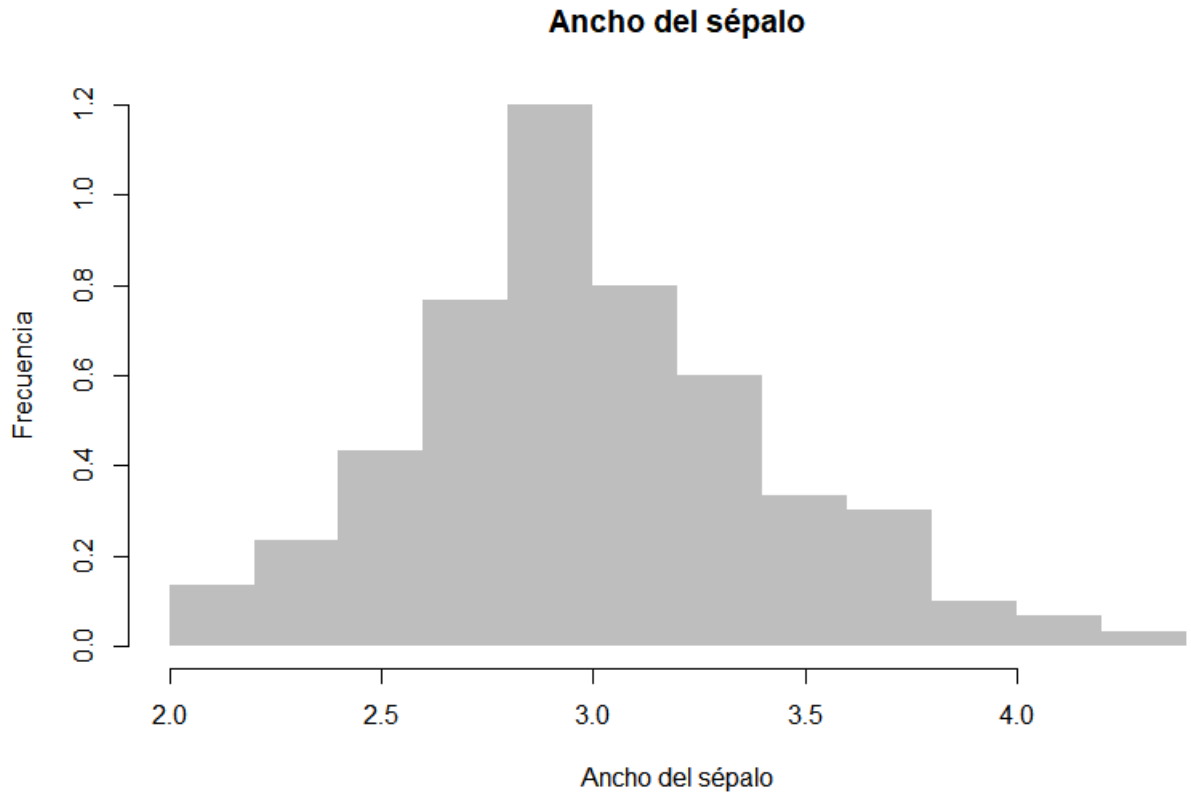
# hist()

> hist(data1$Sepal.Width, ylab = "Frecuencia", xlab ="Ancho del sépalo",main="Ancho del sépalo", col="gray", border = NA)



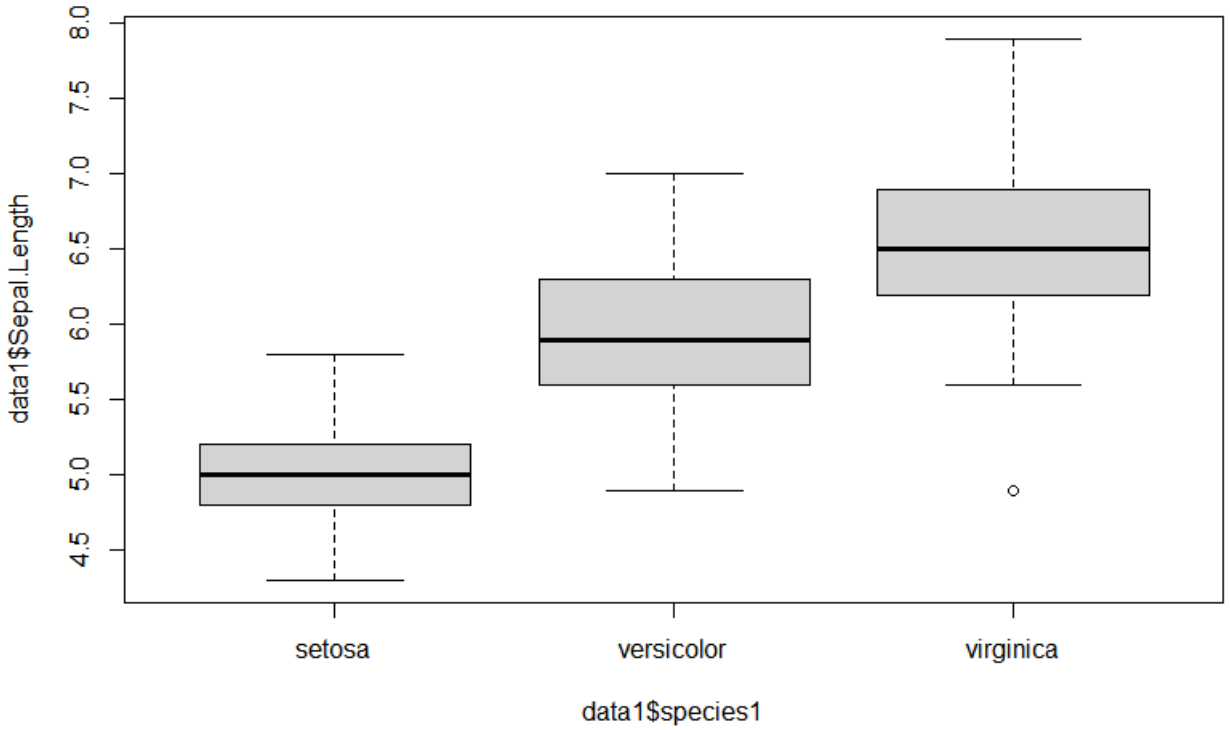
# hist()

> hist(data1$Sepal.Width, ylab = "Frecuencia", xlab ="Ancho del sépalo",main="Ancho del sépalo", col="gray", border = NA, freq=FALSE)



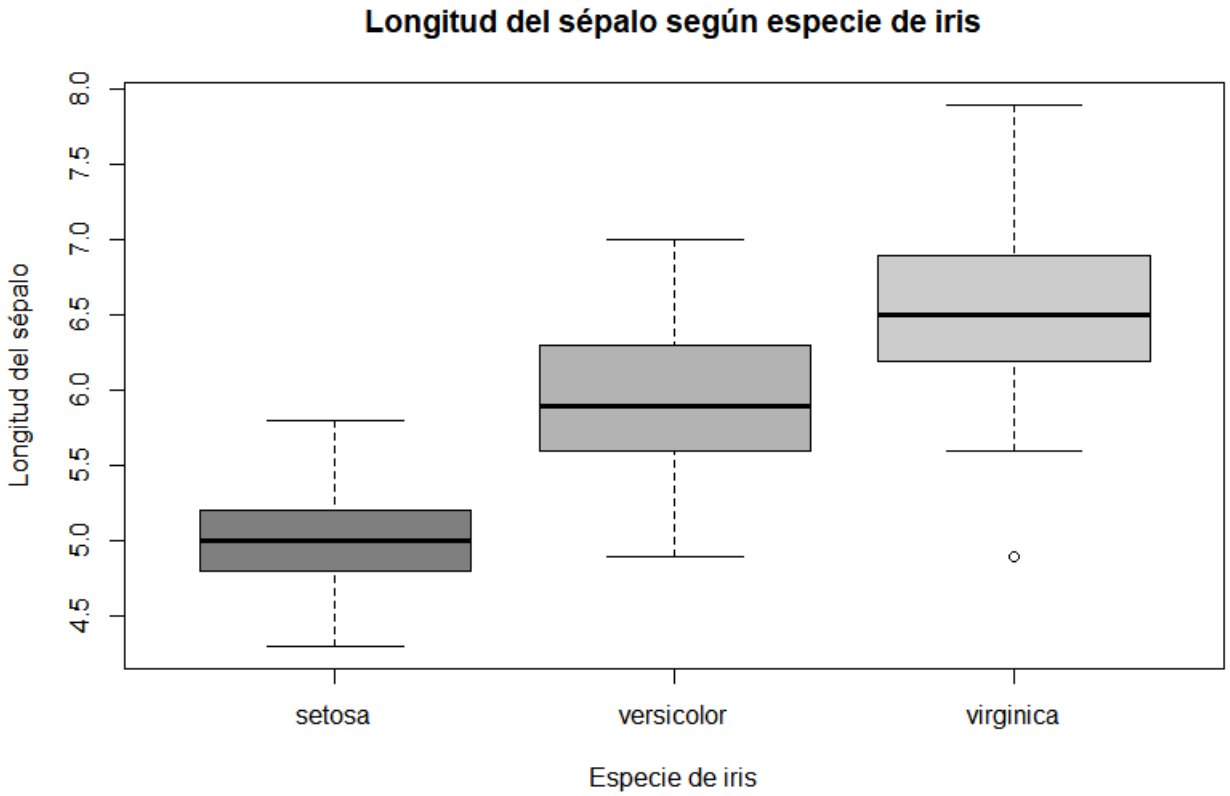
# boxplot()

```
> boxplot(data1$Sepal.Length)
```



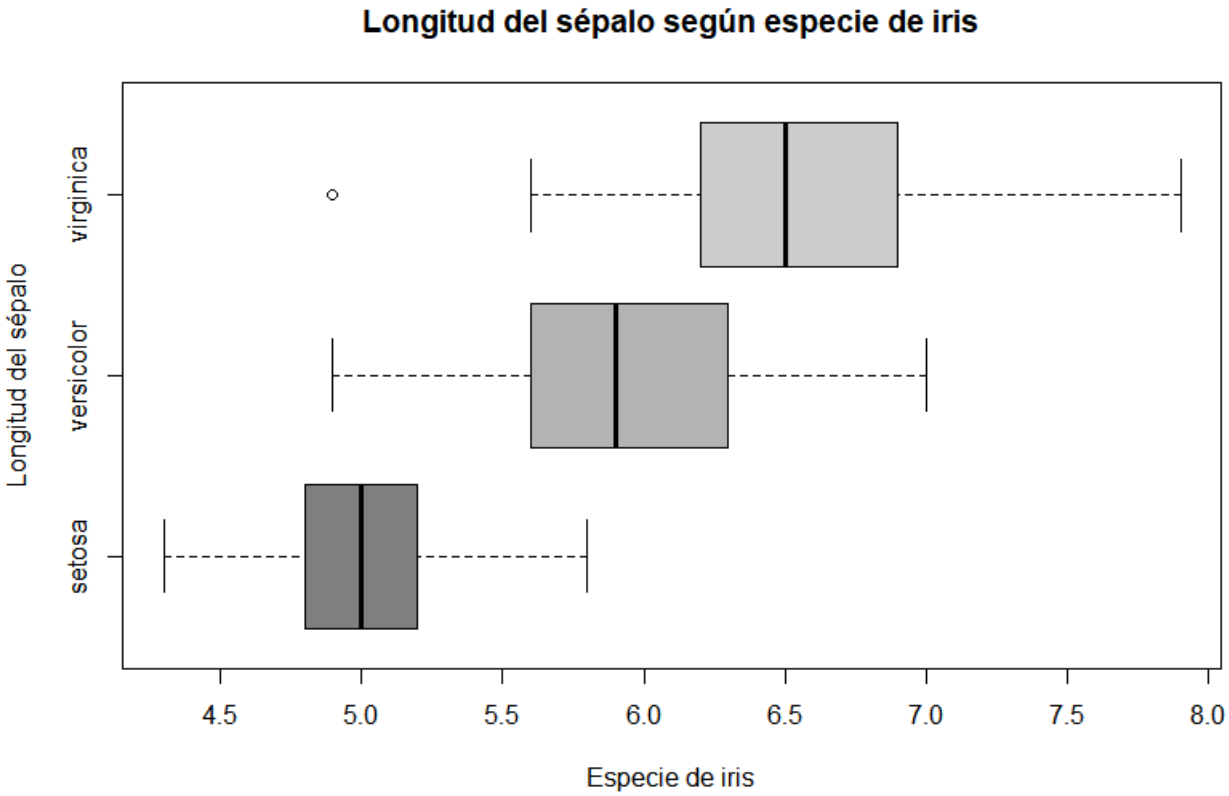
# boxplot()

> boxplot(data1$Sepal.Length ~ data1$species1, ylab="Longitud del sépalo",xlab="Especie de iris",main="Longitud del sépalo según especie de iris", col=c("gray50","gray70","gray80"))



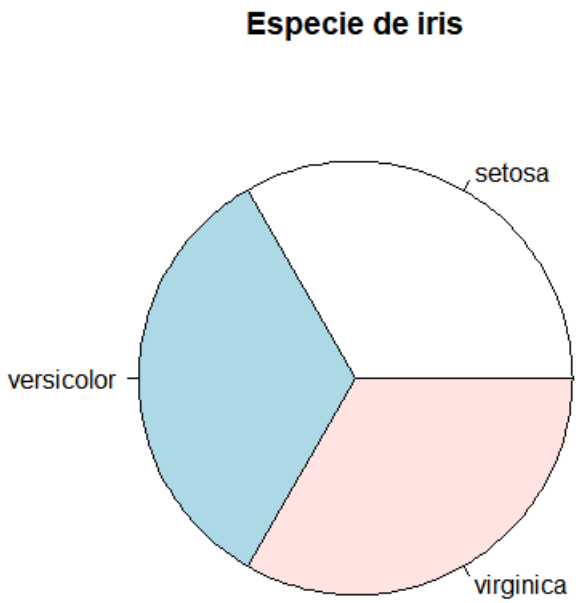
# boxplot()

>boxplot(data1$Sepal.Length ~ data1$species1, ylab="Longitud del sépalo",xlab="Especie de iris",main="Longitud del sépalo según especie de iris", col=c("gray50","gray70","gray80"), horizontal = TRUE)



# pie() gráfico circular

```
> circular <- table(data1$species1)
>pie(circular, main="Especie de iris")
```



# Bibliografía

1. Binek, R. (2015). Kosaciec szczecinkowaty Iris setosa [Image]. Retrieved from https://commons.wikimedia.org/wiki/File:Kosaciec_szczecinkowaty_Iris_setosa.jpg#/media/File:Kosaciec_szczecinkowaty_Iris_setosa.jpg

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