Recodificación de variables

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30/10/2021

Importación de la matriz

1.- Lectura de la matriz

```
BD<-read.csv("BD1.csv")
```

2.- Seleccionar las columnas 3 a la 10

```
BD1<-BD[,3:10]
```

El "[]"selecciona y los ":"significan a la o hasta.

3.- Se obtiene una copia de la matriz

```
BD2<-BD1
```

Renombrar variables

1.- Visualización del nombre de las variables.

```
colnames(BD1)
```

```
## [1] "species"           "island"            "bill_length_mm"
## [4] "bill_depth_mm"     "flipper_length_mm" "body_mass_g"
## [7] "sex"               "year"
```

2.- Renombrar las variables en orden de las columnas.

```
names(BD2)=c("Especies","Isla","Largo_pico_mm", "Ancho_pico_mm","Largo_aleta_mm",
             "Masa_corporal_g", "Sexo","Año")
```

c:*significa que se habre un vector*

NOTA: *tenemos que renombrar de manera adecuada por que deben de tener los mismos nombre como viene el la base*

3.- Se vuelven a visualizar los nombres de las variables.

```
colnames(BD2)
```

```
## [1] "Especies"        "Isla"            "Largo_pico_mm"   "Ancho_pico_mm"
## [5] "Largo_aleta_mm"  "Masa_corporal_g" "Sexo"            "Año"
```

Tratamiento de las variables cualitativas

Decir a R que nos identifique factores

1.-Factor____

a) Verificar el orden de la variable

```
str(BD2$Especies)
```

```
##  chr [1:344] "Adelie" "Adelie" "Adelie" "Adelie" "Adelie" "Adelie" "Adelie" ...
```

```
BD2$Especies
```

```
##   [1] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##   [7] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [13] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [19] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [25] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [31] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [37] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [43] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [49] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [55] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [61] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [67] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [73] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [79] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [85] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [91] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
##  [97] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [103] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [109] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [115] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [121] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [127] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [133] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [139] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [145] "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"    "Adelie"
## [151] "Adelie"    "Adelie"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [157] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [163] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [169] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [175] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [181] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
```

```
## [187] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [193] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [199] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [205] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [211] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [217] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [223] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [229] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [235] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [241] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [247] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [253] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [259] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [265] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [271] "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"    "Gentoo"
## [277] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [283] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [289] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [295] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [301] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [307] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [313] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [319] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [325] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [331] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [337] "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap" "Chinstrap"
## [343] "Chinstrap" "Chinstrap"
```

1) Variable Especie: originalmente está como caracter, pero se requiere convertido a un factor de 3 niveles.

```
BD2$Especies<-factor(BD2$Especies,
                     levels =c("Adelie","Gentoo","Chinstrap"))
```

NOTA: Voy a decirle a r que en la variable especies me la reconosca como un **factor**(tengo que abrir parentesis y decir que dentro de la matriz que los niveles van a ser el orden).

Se verifica que la variable sea un factor.

```
str(BD2$Especies)
```

```
##  Factor w/ 3 levels "Adelie","Gentoo",..: 1 1 1 1 1 1 1 1 1 1 ...
```

2) variable Isla

```
str(BD2$Isla)
```

```
##  chr [1:344] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" ...
```

```
BD2$Isla
```

```
##   [1] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen"
##   [7] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen"
##  [13] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen"
##  [19] "Torgersen" "Torgersen" "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
##  [25] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
##  [31] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
##  [37] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
##  [43] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
##  [49] "Dream"     "Dream"     "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
##  [55] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
##  [61] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
##  [67] "Biscoe"    "Biscoe"    "Torgersen" "Torgersen" "Torgersen" "Torgersen"
##  [73] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen"
##  [79] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen"
##  [85] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
##  [91] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
##  [97] "Dream"     "Dream"     "Dream"     "Dream"     "Biscoe"    "Biscoe"
## [103] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [109] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [115] "Biscoe"    "Biscoe"    "Torgersen" "Torgersen" "Torgersen" "Torgersen"
## [121] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen"
## [127] "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen" "Torgersen"
## [133] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [139] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [145] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [151] "Dream"     "Dream"     "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [157] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [163] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [169] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [175] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [181] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [187] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [193] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [199] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [205] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [211] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [217] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [223] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [229] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [235] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [241] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [247] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [253] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [259] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [265] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [271] "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"    "Biscoe"
## [277] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [283] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [289] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [295] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [301] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [307] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [313] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [319] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
```

```
## [325] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [331] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [337] "Dream"     "Dream"     "Dream"     "Dream"     "Dream"     "Dream"
## [343] "Dream"     "Dream"
```

```
BD2$Isla<-factor(BD2$Isla,
                     levels =c("Torgersen","Dream","Biscoe"))
```

visualización de facor con sus niveles

```
str(BD2$Isla)
```

```
##  Factor w/ 3 levels "Torgersen","Dream",..: 1 1 1 1 1 1 1 1 1 1 ...
```

3) Variable sexo

```
BD2$Sexo
```

```
##   [1] "male"   "female" "female" "female" "female" "male"   "female" "male"
##   [9] "female" "male"   "female" "female" "female" "male"   "male"   "female"
##  [17] "female" "male"   "female" "male"   "female" "male"   "female" "male"
##  [25] "male"   "female" "male"   "female" "female" "male"   "female" "male"
##  [33] "female" "male"   "female" "male"   "male"   "female" "female" "male"
##  [41] "female" "male"   "female" "male"   "female" "male"   "male"   "female"
##  [49] "female" "male"   "female" "male"   "female" "male"   "female" "male"
##  [57] "female" "male"   "female" "male"   "female" "male"   "female" "male"
##  [65] "female" "male"   "female" "male"   "female" "male"   "female" "male"
##  [73] "female" "male"   "female" "male"   "female" "male"   "female" "male"
##  [81] "female" "male"   "female" "male"   "female" "male"   "male"   "female"
##  [89] "male"   "female" "female" "male"   "female" "male"   "female" "male"
##  [97] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [105] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [113] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [121] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [129] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [137] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [145] "female" "male"   "male"   "female" "female" "male"   "female" "male"
## [153] "female" "male"   "female" "male"   "male"   "female" "female" "male"
## [161] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [169] "female" "male"   "female" "male"   "male"   "female" "female" "male"
## [177] "female" "male"   "female" "male"   "female" "male"   "male"   "female"
## [185] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [193] "female" "male"   "female" "male"   "male"   "female" "female" "male"
## [201] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [209] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [217] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [225] "male"   "female" "female" "male"   "female" "male"   "female" "male"
## [233] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [241] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [249] "male"   "female" "female" "male"   "female" "male"   "female" "male"
## [257] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [265] "female" "male"   "female" "male"   "female" "male"   "female" "male"
```

```
## [273] "female" "male"   "female" "male"   "female" "male"   "male"   "female"
## [281] "male"   "female" "female" "male"   "female" "male"   "female" "male"
## [289] "female" "male"   "female" "male"   "male"   "female" "female" "male"
## [297] "female" "male"   "female" "male"   "female" "male"   "female" "male"
## [305] "female" "male"   "female" "male"   "female" "male"   "male"   "female"
## [313] "female" "male"   "female" "male"   "male"   "female" "male"   "female"
## [321] "female" "male"   "female" "male"   "male"   "female" "female" "male"
## [329] "female" "male"   "female" "male"   "female" "male"   "male"   "female"
## [337] "male"   "female" "female" "male"   "female" "male"   "male"   "female"
```

```r
BD2$Sexo<-factor(BD2$Sexo,
                 levels =c("male","female"),
                 labels =c("Masculino","Femenino"))
```

NOTA: si cambio el orden de los datos me cambia el orden el factor.

visualización de facor con sus niveles

```r
str(BD2$Sexo)
```

```
##  Factor w/ 2 levels "Masculino","Femenino": 1 2 2 2 2 1 2 1 2 1 ...
```

4) Variable cualitativa “año”

```r
BD2$Año
```

```
##   [1] 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007
##  [16] 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007
##  [31] 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007
##  [46] 2007 2007 2007 2007 2007 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008
##  [61] 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008
##  [76] 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008
##  [91] 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2009 2009 2009 2009 2009
## [106] 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009
## [121] 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009
## [136] 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009
## [151] 2009 2009 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007
## [166] 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007
## [181] 2007 2007 2007 2007 2007 2007 2008 2008 2008 2008 2008 2008 2008 2008 2008
## [196] 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008
## [211] 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008
## [226] 2008 2008 2008 2008 2008 2008 2008 2009 2009 2009 2009 2009 2009 2009 2009
## [241] 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009
## [256] 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009
## [271] 2009 2009 2009 2009 2009 2009 2007 2007 2007 2007 2007 2007 2007 2007 2007
## [286] 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007 2007
## [301] 2007 2007 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008 2008
## [316] 2008 2008 2008 2008 2008 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009
## [331] 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009 2009
```

```r
BD2$Año<-factor(BD2$Año,
                levels =c("2007","2008","2009"))
```

visualización de factor con sus niveles

```
str(BD2$Año)
```

```
##  Factor w/ 3 levels "2007","2008",..: 1 1 1 1 1 1 1 1 1 1 ...
```

Summary de toda la base de datos

```
summary(BD2)
```

```
##       Especies          Isla     Largo_pico_mm   Ancho_pico_mm
##  Adelie   :152   Torgersen: 52   Min.   :32.10   Min.   :13.10
##  Gentoo   :124   Dream    :124   1st Qu.:39.20   1st Qu.:15.60
##  Chinstrap: 68   Biscoe   :168   Median :44.45   Median :17.30
##                                  Mean   :43.92   Mean   :17.15
##                                  3rd Qu.:48.50   3rd Qu.:18.70
##                                  Max.   :59.60   Max.   :21.50
##  Largo_aleta_mm  Masa_corporal_g        Sexo        Año
##  Min.   :172.0   Min.   :2700    Masculino:170   2007:110
##  1st Qu.:190.0   1st Qu.:3550    Femenino :174   2008:114
##  Median :197.0   Median :4050                    2009:120
##  Mean   :200.9   Mean   :4202
##  3rd Qu.:213.2   3rd Qu.:4756
##  Max.   :231.0   Max.   :6300
```

Guardar matriz de datos final

```
BD3<-as.data.frame(BD2)
```

Realización de gráfico "Bloxpot de variable sexo"

```
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.0.5
```

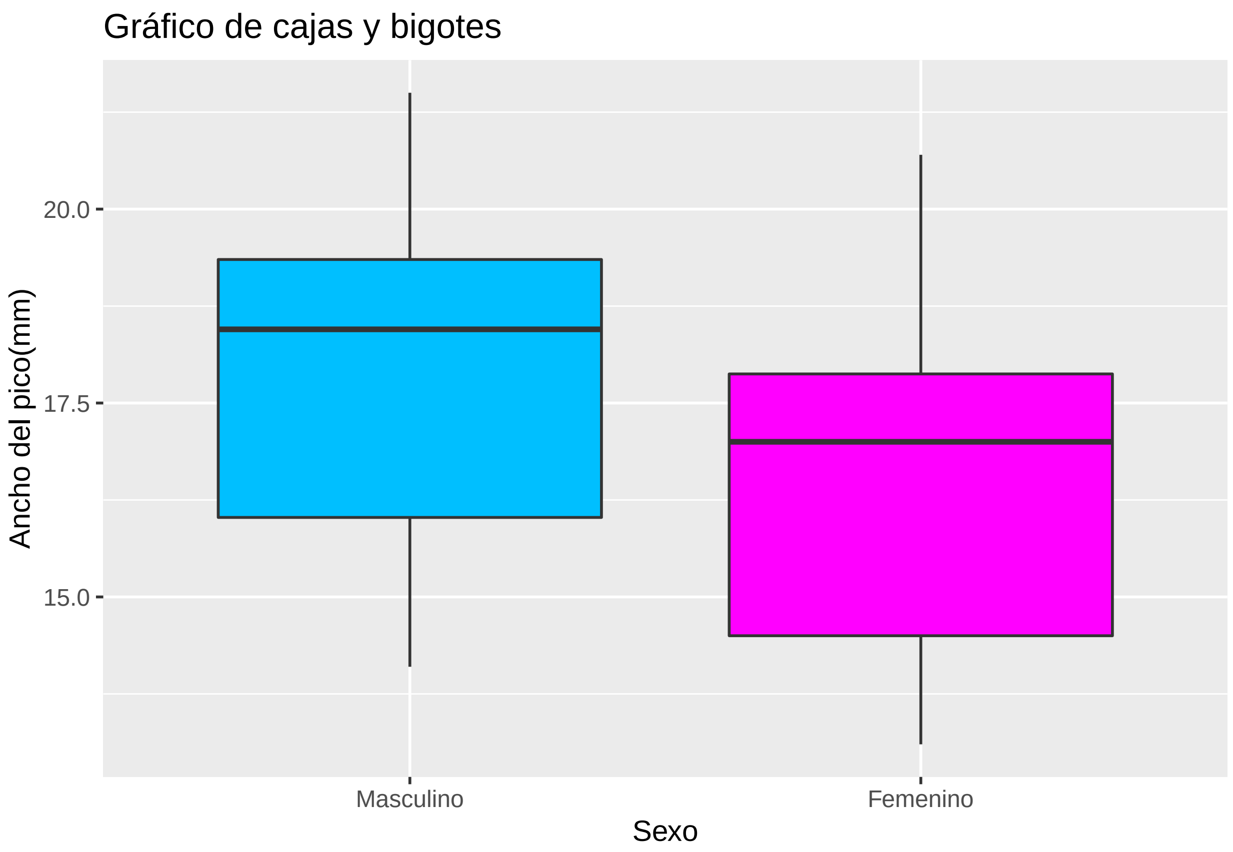
1.- Gráfico boxplot de exploración

```
color=c("deepskyblue1","magenta")
```

```
BX<-ggplot(BD3, aes(x=Sexo, y=Ancho_pico_mm))+
    geom_boxplot(fill=color)+
    ggtitle("Gráfico de cajas y bigotes")+
    xlab("Sexo")+
    ylab("Ancho del pico(mm)")
```

Visualización de gráfico.

```
BX
```



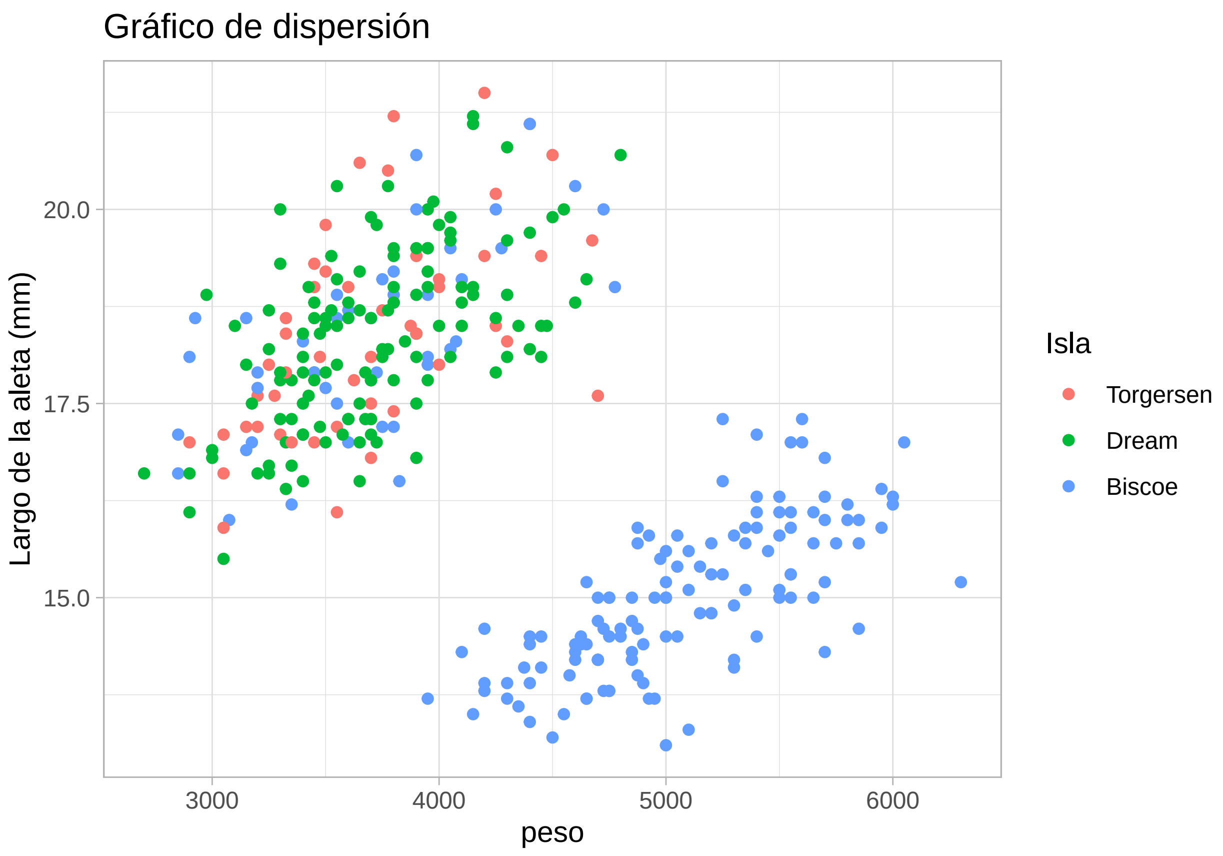
Realización de gráfico de dispersión

```
DD<-ggplot(BD3, aes(Masa_corporal_g, Ancho_pico_mm))+
    geom_point(aes(color=Isla))+
    labs(title= "Gráfico de dispersión")+
    xlab("peso")+
    ylab("Largo de la aleta (mm)")+
    theme_light()
```

NOTA: ggplot reconoce que masa corporal es el eje “x” y el ancho del pico es el eje “y”

Visualización de gráfico.

```
DD
```



Guardar la matriz de datos

```
write.csv(BD3, "BD3_penguins.csv")
```