Ejemplo Final

Curso de Estadística Descriptiva

21/07/2023

Ejemplo final

Juntar color de ojos y pelo sin distinguir por sexo

```
ftable(HairEyeColor)
```

```
##             Sex Male Female
## Hair  Eye
## Black Brown       32     36
##       Blue        11      9
##       Hazel       10      5
##       Green        3      2
## Brown Brown       53     66
##       Blue        50     34
##       Hazel       25     29
##       Green       15     14
## Red   Brown       10     16
##       Blue        10      7
##       Hazel        7      7
##       Green        7      7
## Blond Brown        3      4
##       Blue        30     64
##       Hazel        5      5
##       Green        8      8
```

```
male <- HairEyeColor[, ,"Male"]
female <- HairEyeColor[, ,"Female"]
data <- as.table(male+female)
data
```

```
##        Eye
## Hair    Brown Blue Hazel Green
##   Black    68   20    15     5
##   Brown   119   84    54    29
##   Red      26   17    14    14
##   Blond     7   94    10    16
```

Manipulación de datos

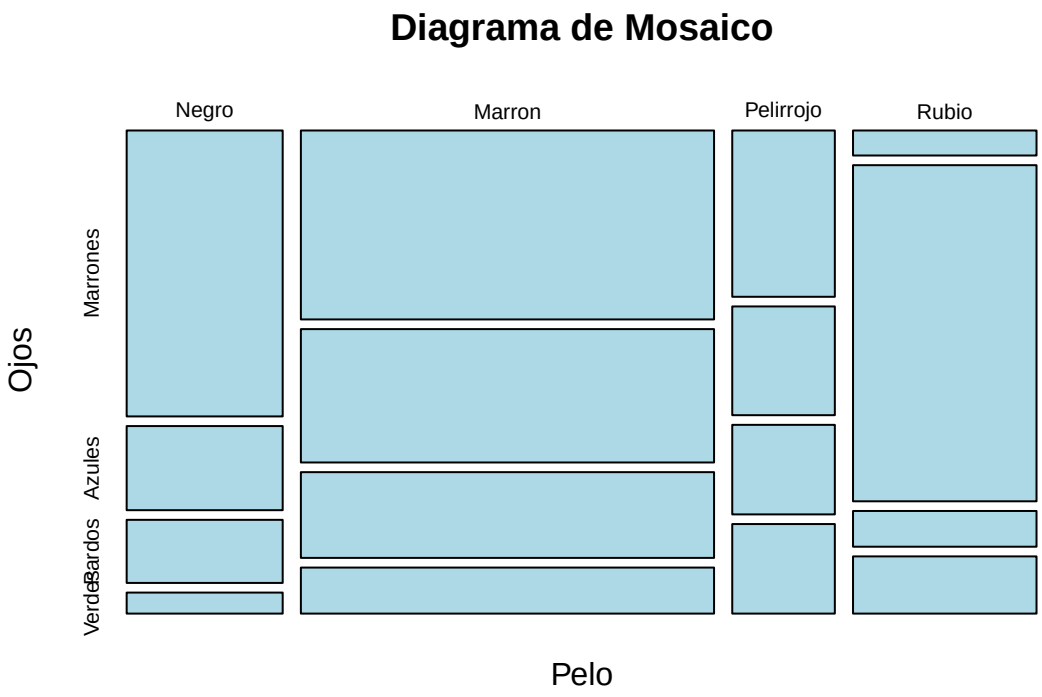
```
dimnames(data) = list(
  Pelo = c("Negro", "Marron", "Pelirrojo", "Rubio"),
  Ojos = c("Marrones", "Azules", "Pardos", "Verdes")
```

```
)
data
```

```
##            Ojos
## Pelo        Marrones Azules Pardos Verdes
##   Negro           68     20     15      5
##   Marron         119     84     54     29
##   Pelirrojo       26     17     14     14
##   Rubio            7     94     10     16
```

Diagrama de Mosaico

```
plot(data, col = c("lightblue"), main = "Diagrama de Mosaico")
```



Datos numéricos

```
sum(data)
```

```
## [1] 592
```

```
colSums(data)
```

```
## Marrones   Azules   Pardos   Verdes
##      220      215       93       64
```

```
rowSums(data)
```

```
##     Negro    Marron Pelirrojo     Rubio
##       108       286        71       127
```

```
round(prop.table(colSums(data)), 3)
```

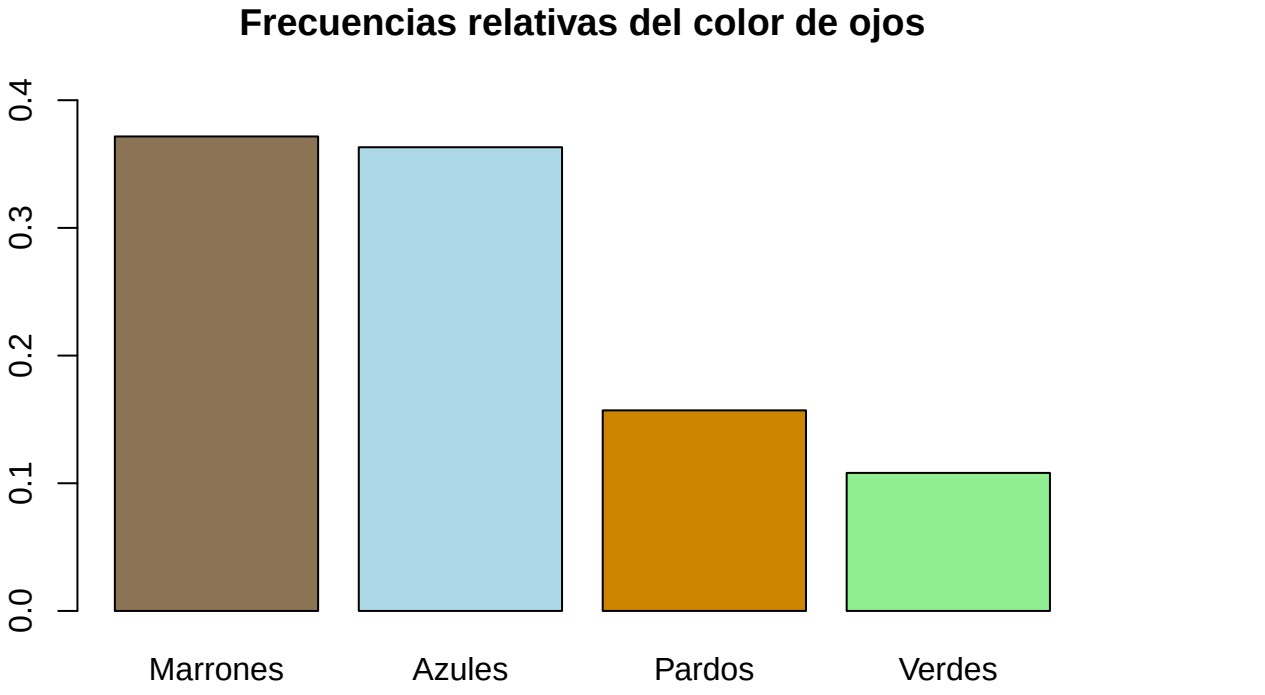
```
## Marrones   Azules   Pardos   Verdes
##    0.372    0.363    0.157    0.108
```

```
round(prop.table(rowSums(data)), 3)
```

```
##     Negro    Marron Pelirrojo     Rubio
##     0.182     0.483     0.120     0.215
```

Diagramas de barras

```
barplot(prop.table(colSums(data)), ylim = c(0, 0.4),
        main = "Frecuencias relativas del color de ojos",
        col = c("burlywood4", "lightblue", "orange3", "lightgreen")
        )
```



Frecuencias relativas globales y marginales

```
round(prop.table(data), 3)
```

```
##           Ojos
## Pelo       Marrones Azules Pardos Verdes
##   Negro        0.115  0.034  0.025  0.008
##   Marron       0.201  0.142  0.091  0.049
##   Pelirrojo    0.044  0.029  0.024  0.024
##   Rubio        0.012  0.159  0.017  0.027
```

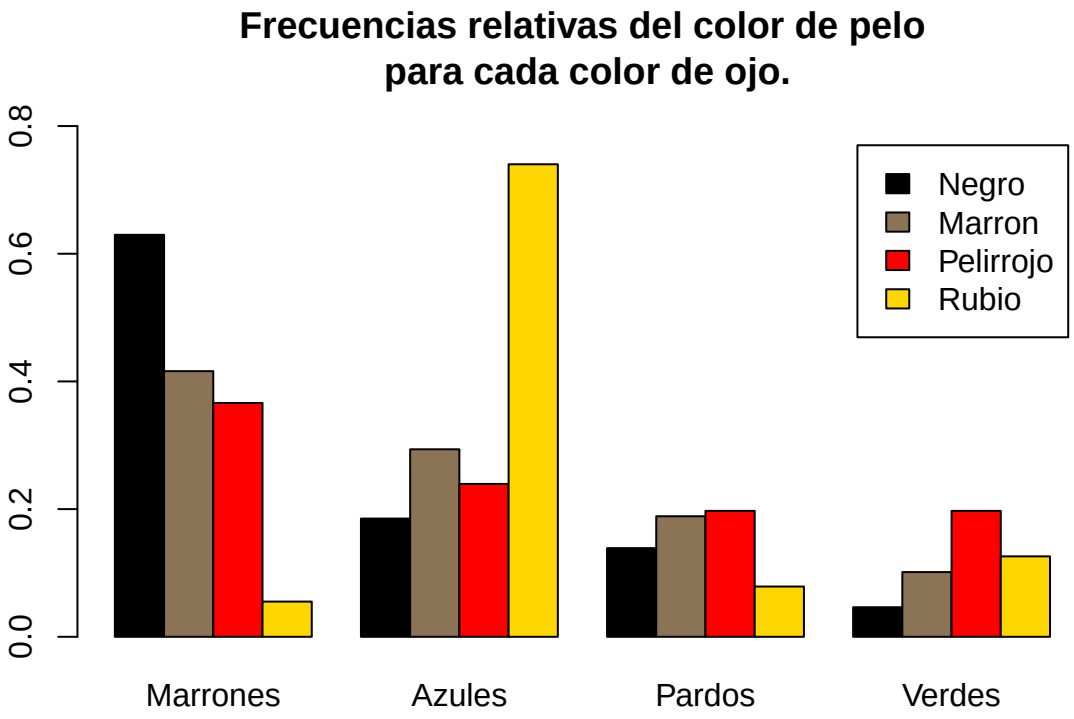
```
round(prop.table(data, margin = 1), 3)
```

```
##           Ojos
## Pelo       Marrones Azules Pardos Verdes
##   Negro        0.630  0.185  0.139  0.046
##   Marron       0.416  0.294  0.189  0.101
##   Pelirrojo    0.366  0.239  0.197  0.197
##   Rubio        0.055  0.740  0.079  0.126
```

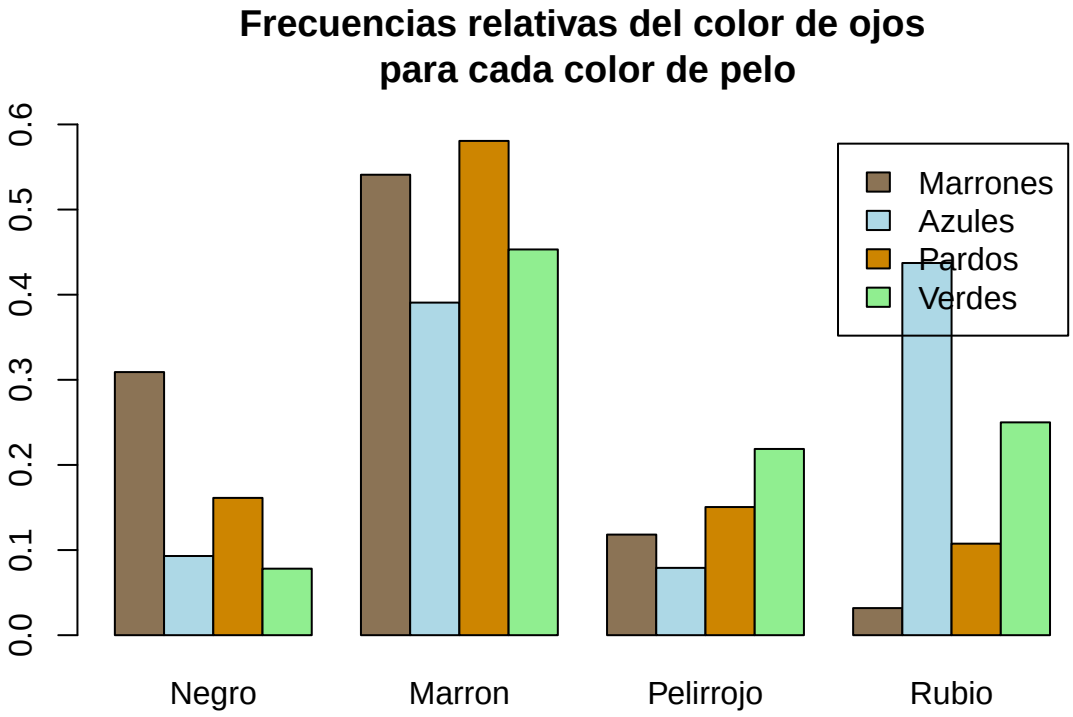
```
round(prop.table(data, margin = 2), 3)
```

```
##            Ojos
## Pelo        Marrones Azules Pardos Verdes
##   Negro         0.309  0.093  0.161  0.078
##   Marron        0.541  0.391  0.581  0.453
##   Pelirrojo     0.118  0.079  0.151  0.219
##   Rubio         0.032  0.437  0.108  0.250
```

```
barplot(prop.table(data, margin = 1), beside = TRUE,
        legend.text = TRUE, ylim = c(0, 0.8),
        col = c("black", "burlywood4", "red", "gold"),
        main = "Frecuencias relativas del color de pelo\n para cada color de ojo.")
```




```
barplot(t(prop.table(data, margin = 2)), beside = TRUE,
        legend.text = TRUE, ylim = c(0, 0.6),
        col = c("burlywood4", "lightblue", "orange3", "lightgreen"),
        main = "Frecuencias relativas del color de ojos\n para cada color de pelo")
```


Frecuencias relativas del color de ojos
para cada color de pelo
0.0
0.1
0.2
0.3
0.4
0.5
0.6
Marrones
Azules
Pardos
Verdes
Negro
Marron
Pelirrojo
Rubio