Ejemplo final

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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
```

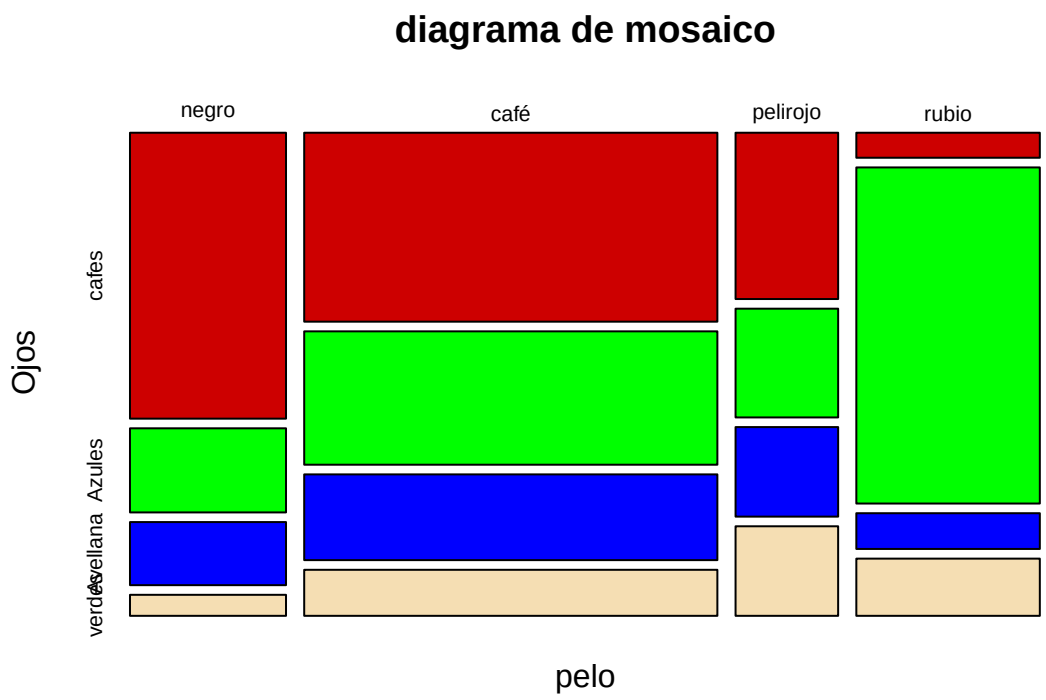
```
dimnames(data) <- list(
  pelo = c("negro", "café", "pelirojo","rubio"),
  Ojos = c("cafes", "Azules", "Avellana","verdes"))

dimnames(data)
```

```
## $pelo
## [1] "negro"    "café"     "pelirojo" "rubio"
##
## $Ojos
## [1] "cafes"    "Azules"   "Avellana" "verdes"
```

```
data
```

```
##           Ojos
## pelo       cafes Azules Avellana verdes
##   negro       68     20        15      5
##   café       119     84        54     29
##   pelirojo    26     17        14     14
##   rubio        7     94        10     16
```

```
mosaicplot(data, color =c("red3","green", "blue","wheat","tan"), main = "diagrama de mosaico"
           )
```



Datos numéricos

¿cuántas personas hay en la muestra?

```
sum(data)
```

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

Tablas de frecuencias absolutas y relativa de cada variable

```
colSums(data)
```

```
##    cafes   Azules Avellana   verdes
##      220      215       93       64
```

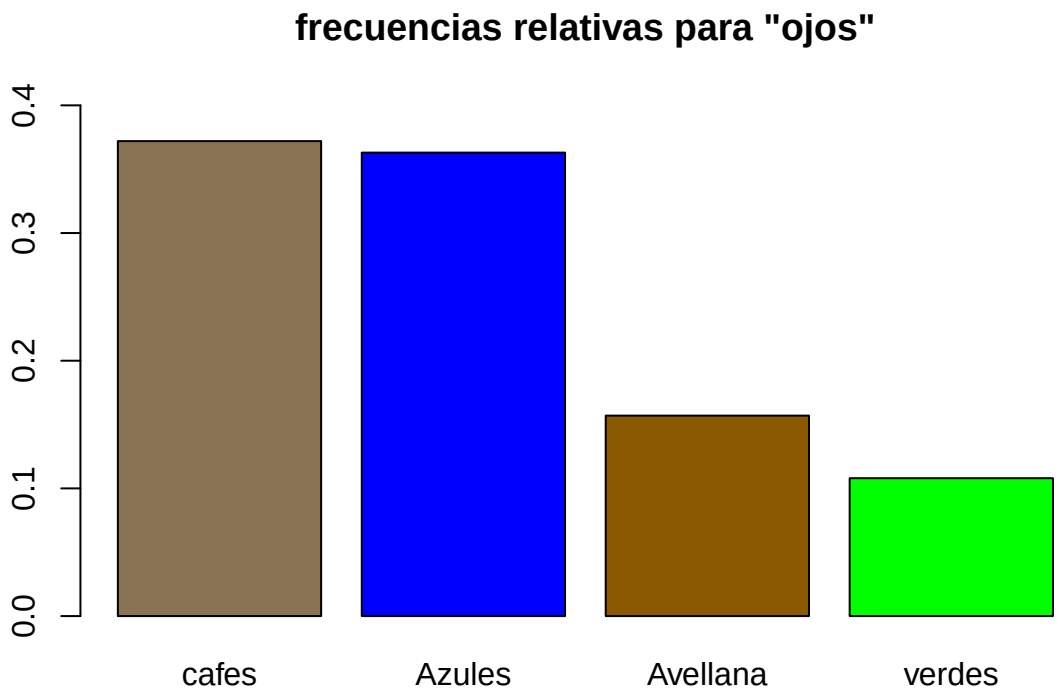
```r
rowSums(data)
```

```
##    negro     café pelirojo    rubio
##      108      286       71      127
```

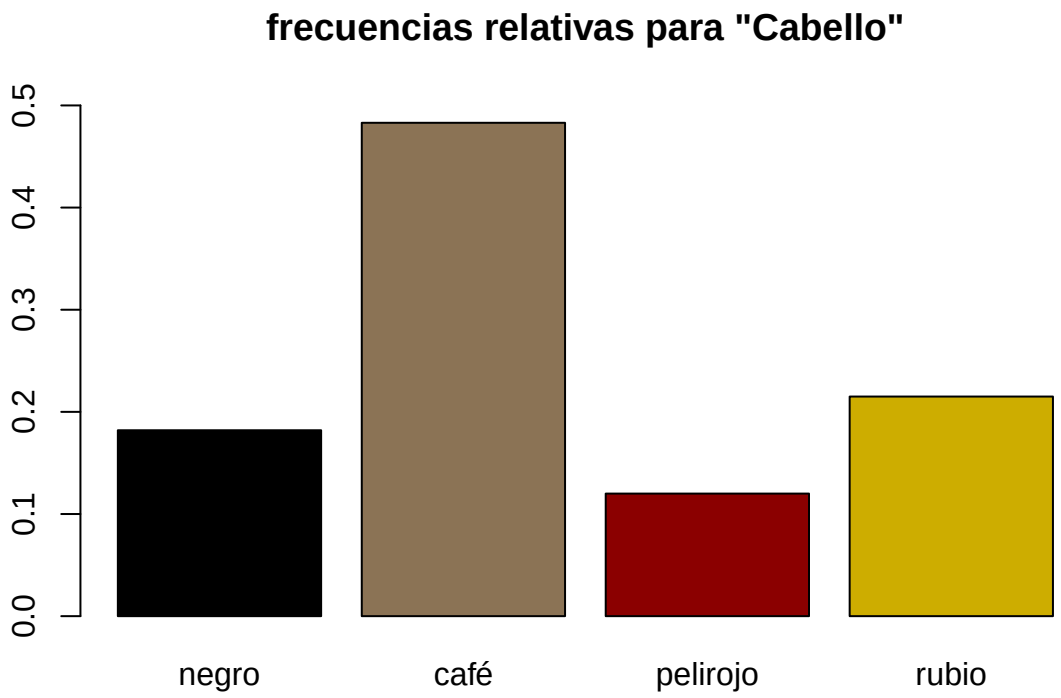
```r
prop_ojos <-round(prop.table(colSums(data)),3)
prop_cabello <-round(prop.table(rowSums(data)),3)
```

representaremos estas frecuencias relativas con dos barplots

```r
barplot(prop_ojos, main = "frecuencias relativas para \"ojos\"",
        col= c("burlywood4","blue","orange4","green"), width  = c(1,1,1,1), ylim =c(0,.4))
```




```r
barplot(prop_cabello, main = "frecuencias relativas para \"Cabello\"", col = c("black","burlywood4","da
```



Frecuencias relativas globales

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

```
##           Ojos
## pelo       cafes Azules Avellana verdes
##   negro    0.115  0.034    0.025  0.008
##   café     0.201  0.142    0.091  0.049
##   pelirojo 0.044  0.029    0.024  0.024
##   rubio    0.012  0.159    0.017  0.027
```

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

```
##           Ojos
## pelo       cafes Azules Avellana verdes
##   negro        0      0        0      0
##   café         1      0        1      0
##   pelirojo     0      0        0      0
##   rubio        0      0        0      0
```