

Hair Eye Color

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Ejemplo de las personas

Usando el DataSet HairEyeColor, no es un DataFrame si no una tabla de frecuencias.

Se llaman datos agregados.

```
head(HairEyeColor)
```

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

```
sum(HairEyeColor) -> total
```

El total de individuos de la tabla es 592

Frecuencia marginal

En este caso, la distribución respecto al total del sexo.

```
prop.table(HairEyeColor, margin = 3)
```

```
## , , Sex = Male
##
```

```
##           Eye
## Hair      Brown      Blue      Hazel      Green
##   Black 0.114695341 0.039426523 0.035842294 0.010752688
##   Brown 0.189964158 0.179211470 0.089605735 0.053763441
##   Red   0.035842294 0.035842294 0.025089606 0.025089606
##   Blond 0.010752688 0.107526882 0.017921147 0.028673835
##
## , , Sex = Female
##
##           Eye
## Hair      Brown      Blue      Hazel      Green
##   Black 0.115015974 0.028753994 0.015974441 0.006389776
##   Brown 0.210862620 0.108626198 0.092651757 0.044728435
##   Red   0.051118211 0.022364217 0.022364217 0.022364217
##   Blond 0.012779553 0.204472843 0.015974441 0.025559105
```

En este caso, la distribución respecto al color de cabello y color de ojos

```
prop.table(HairEyeColor, margin = c(1,2))
```

```
## , , Sex = Male
##
##           Eye
## Hair      Brown      Blue      Hazel      Green
##   Black 0.4705882 0.5500000 0.6666667 0.6000000
##   Brown 0.4453782 0.5952381 0.4629630 0.5172414
##   Red   0.3846154 0.5882353 0.5000000 0.5000000
##   Blond 0.4285714 0.3191489 0.5000000 0.5000000
##
## , , Sex = Female
##
##           Eye
## Hair      Brown      Blue      Hazel      Green
##   Black 0.5294118 0.4500000 0.3333333 0.4000000
##   Brown 0.5546218 0.4047619 0.5370370 0.4827586
##   Red   0.6153846 0.4117647 0.5000000 0.5000000
##   Blond 0.5714286 0.6808511 0.5000000 0.5000000
```

Para permutar el orden de las columnas

```
aperm(HairEyeColor, perm = c("Sex", "Hair", "Eye"))
```

```
## , , Eye = Brown
##
##           Hair
## Sex      Black Brown Red Blond
##   Male      32    53  10    3
##   Female     36    66  16    4
##
## , , Eye = Blue
##
##           Hair
```

```
## Sex      Black Brown Red Blond
##   Male      11    50  10   30
##   Female     9    34   7   64
##
## , , Eye = Hazel
##
##      Hair
## Sex      Black Brown Red Blond
##   Male      10    25   7    5
##   Female     5    29   7    5
##
## , , Eye = Green
##
##      Hair
## Sex      Black Brown Red Blond
##   Male       3    15   7    8
##   Female     2    14   7    8
```

kableExtra

kable es una extensión de Knit, de usar kableExtra también se aplica un embellecimiento de formato a las tablas de datos

```
library(kableExtra)
kable(HairEyeColor)
```

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

xtable

Para imprimir tablas, en principio sólo para tablas de 2 dimensiones. En este caso es `table(mtcars$mpg, mtcars$cyl)`

```
library(xtable)

xtable(table(mtcars$mpg, mtcars$cyl))
```

% latex table generated in R 4.1.0 by xtable 1.8-4 package % Sat Aug 28 14:32:27 2021

	4	6	8
10.4	0	0	2
13.3	0	0	1
14.3	0	0	1
14.7	0	0	1
15	0	0	1
15.2	0	0	2
15.5	0	0	1
15.8	0	0	1
16.4	0	0	1
17.3	0	0	1
17.8	0	1	0
18.1	0	1	0
18.7	0	0	1
19.2	0	1	1
19.7	0	1	0
21	0	2	0
21.4	1	1	0
21.5	1	0	0
22.8	2	0	0
24.4	1	0	0
26	1	0	0
27.3	1	0	0
30.4	2	0	0
32.4	1	0	0
33.9	1	0	0