03-People Adipiz

Alonso Pizarro Lagunas

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Ejemplo color de pelos y ojos

- La tabla *HairEyeColor* tiene datos agregados.

```
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 de datos es 592

- Ahora podemos calcular las frecuencias relativas marginales

```
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
```

```r
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
```

- Cambiando el orden de la tabla con la función `aperm()`

```r
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
```

- Importando la librería `kable`

```
library(kableExtra)
```

```
Warning: package 'kableExtra' was built under R version 4.0.5
```

```
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

```
- Otra librería para manejar tablas `xtable`
```

```
library(xtable)
sex = factor(c("H","M","M","M","H","H","M","M"))
ans = factor(c("S","N","S","S","S","N","N","S"))

xtable(table(sex,ans))
```

% latex table generated in R 4.0.3 by xtable 1.8-4 package % Fri Oct 29 12:55:40 2021

	N	S
H	1	2
M	2	3