

Tablas de Contingencia

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Tablas de Contingencia

```
datos = factor(c("H", "M", "M", "M", "H", "H", "M", "M"), levels = c("H", "M"))  
# Obtengo la tabla de contingencia  
t1 = table(datos)  
t1
```

```
## datos  
## H M  
## 3 5
```

```
t1["M"]
```

```
## M  
## 5
```

```
sum(t1)
```

```
## [1] 8
```

```
length(datos)
```

```
## [1] 8
```

Frecuencias Relativas

$$f_i = \frac{n_i}{n}$$

```
moda <- function(d){  
  t = table(d)  
  
  names(which(t == max(t)))  
}  
prop.table(t1)
```

```
## datos  
##      H      M  
## 0.375 0.625
```

```
100 * prop.table(t1)
```

```
## datos  
##      H      M  
## 37.5 62.5
```

```
t1 / length(datos)
```

```
## datos  
##      H      M  
## 0.375 0.625
```

```
names(which(t1 == 3))
```

```
## [1] "H"
```

```
names(which(t1 == max(t1)))
```

```
## [1] "M"
```

La moda de los datos es: M.

Paquete gmodels

```
library(gmodels)
```

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

```
CrossTable(sex, ans, prop.chisq = FALSE)
```

```
##  
##  
##      Cell Contents  
## |-----|  
## |                      N |  
## |      N / Row Total |  
## |      N / Col Total |  
## |      N / Table Total |  
## |-----|  
##  
##  
## Total Observations in Table:  8  
##  
##  
##          | ans  
##      sex |      N |      S | Row Total |  
## -----|-----|-----|-----|  
##          H |      1 |      2 |      3 |  
##          | 0.333 | 0.667 | 0.375 |  
##          | 0.333 | 0.400 |      |  
##          | 0.125 | 0.250 |      |  
## -----|-----|-----|-----|  
##          M |      2 |      3 |      5 |  
##          | 0.400 | 0.600 | 0.625 |  
##          | 0.667 | 0.600 |      |  
##          | 0.250 | 0.375 |      |  
## -----|-----|-----|-----|  
## Column Total |      3 |      5 |      8 |  
##          | 0.375 | 0.625 |      |  
## -----|-----|-----|-----|
```

```
##  
##
```

Suma por filas y columnas

```
library(xtable)
```

```
tt <- table(sex, ans)  
tt # Frec. Absolutas
```

```
ans sex N S H 1 2 M 2 3
```

```
prop.table(tt) # Frec. Rel. Global
```

```
ans sex N S H 0.125 0.250 M 0.250 0.375
```

```
prop.table(tt, margin = 1) # Frec. Rel. Por Sexo
```

```
ans sex N S H 0.3333333 0.6666667 M 0.4000000 0.6000000
```

```
prop.table(tt, margin = 2) # Frec. Rel. Por Respuesta
```

```
ans sex N S H 0.3333333 0.4000000 M 0.6666667 0.6000000
```

```
colSums(tt)
```

```
N S 3 5
```

```
rowSums(tt)
```

```
H M 3 5
```

```
colSums(prop.table(tt))
```

```
N      S
```

```
0.375 0.625
```

```
rowSums(prop.table(tt))
```

```
H      M
```

```
0.375 0.625
```

```
apply(tt, FUN = sum, MARGIN = 1)
```

```
H M 3 5
```

```
apply(tt, FUN = sqrt, MARGIN = c(1,2))
```

```
ans sex N S H 1.000000 1.414214 M 1.414214 1.732051
```

```
xtable(tt)
```

```
% latex table generated in R 3.6.2 by xtable 1.8-4 package % Tue Feb 11 08:47:18 2020
```

	N	S
H	1	2
M	2	3