Tablas de Contingencia

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Tablas de contingencia

```
datos = factor(c("H", "M", "M", "M", "H", "H", "M", "M"))
table(datos)
```

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

```
table(datos)["M"]
```

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

```
sum(table(datos))
```

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

Frecuencias relativas

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

```
prop.table(table(datos))
```

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

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

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

```
table(datos)/length(datos)
```

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

```
names(which(table(datos)==3))
```

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

```
moda <- function(d){
  names(which(table(d)==max(table(d))))
}
m_t = moda(datos)
```

La moda del data frame es: M.

#Paquete gmodels

```
library(gmodels)
```

```
## Warning: package 'gmodels' was built under R version 3.6.1
```

```
sex = factor(c("H", "M", "M", "M", "H", "H", "M", "M"))
answer = factor(c(sample(c("S", "N"), size = length(sex), replace = T)))
CrossTable(sex, answer, prop.chisq = FALSE)
```

```
##
##
##    Cell Contents
## |-------------------------|
## |                       N |
## |           N / Row Total |
## |           N / Col Total |
## |         N / Table Total |
## |-------------------------|
##
##
## Total Observations in Table:  8
##
##
##              | answer
##          sex |         N |         S | Row Total |
## -------------|-----------|-----------|-----------|
##            H |         1 |         2 |         3 |
##              |     0.333 |     0.667 |     0.375 |
##              |     0.250 |     0.500 |           |
##              |     0.125 |     0.250 |           |
## -------------|-----------|-----------|-----------|
##            M |         3 |         2 |         5 |
##              |     0.600 |     0.400 |     0.625 |
##              |     0.750 |     0.500 |           |
##              |     0.375 |     0.250 |           |
## -------------|-----------|-----------|-----------|
## Column Total |         4 |         4 |         8 |
##              |     0.500 |     0.500 |           |
## -------------|-----------|-----------|-----------|
##
##
```

Sumas por filas y columnas

```
tt <- table(sex,answer)
tt #Frec. absolutas
```

```
##    answer
## sex N S
##   H 1 2
##   M 3 2
```

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

```
##    answer
## sex     N     S
##   H 0.125 0.250
##   M 0.375 0.250
```

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

```
##    answer
## sex         N         S
##   H 0.3333333 0.6666667
##   M 0.6000000 0.4000000
```

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

```
##    answer
## sex    N    S
##   H 0.25 0.50
##   M 0.75 0.50
```

```
colSums(tt)
```

```
## N S
## 4 4
```

```
rowSums(tt)
```

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

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

```
##   N   S
## 0.5 0.5
```

```
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))
```

```
##    answer
## sex        N        S
##   H 1.000000 1.414214
##   M 1.732051 1.414214
```