

# Tablas de frecuencia

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```
library(readxl)
```

1.-Exploración de la matriz

```
data(iris)
```

```
dim(iris)
```

```
## [1] 150 5
```

2.-Nombre de las columnas

```
colnames(iris)
```

```
## [1] "Sepal.Length" "Sepal.Width" "Petal.Length" "Petal.Width" "Species"
```

3.-Exploración de las especies

```
iris$Species
```

```
## [1] setosa setosa setosa setosa setosa setosa
## [7] setosa setosa setosa setosa setosa setosa
## [13] setosa setosa setosa setosa setosa setosa
## [19] setosa setosa setosa setosa setosa setosa
## [25] setosa setosa setosa setosa setosa setosa
## [31] setosa setosa setosa setosa setosa setosa
## [37] setosa setosa setosa setosa setosa setosa
## [43] setosa setosa setosa setosa setosa setosa
## [49] setosa setosa versicolor versicolor versicolor versicolor
## [55] versicolor versicolor versicolor versicolor versicolor versicolor
## [61] versicolor versicolor versicolor versicolor versicolor versicolor
## [67] versicolor versicolor versicolor versicolor versicolor versicolor
## [73] versicolor versicolor versicolor versicolor versicolor versicolor
## [79] versicolor versicolor versicolor versicolor versicolor versicolor
## [85] versicolor versicolor versicolor versicolor versicolor versicolor
## [91] versicolor versicolor versicolor versicolor versicolor versicolor
## [97] versicolor versicolor versicolor versicolor virginica virginica
## [103] virginica virginica virginica virginica virginica virginica
## [109] virginica virginica virginica virginica virginica virginica
## [115] virginica virginica virginica virginica virginica virginica
## [121] virginica virginica virginica virginica virginica virginica
## [127] virginica virginica virginica virginica virginica virginica
## [133] virginica virginica virginica virginica virginica virginica
## [139] virginica virginica virginica virginica virginica virginica
## [145] virginica virginica virginica virginica virginica virginica
## Levels: setosa versicolor virginica
```

#### 4.-Tipos de variables

```
str(iris)

## 'data.frame':    150 obs. of  5 variables:
## $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5 4.4 4.9 ...
## $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 ...
## $ Petal.Length: num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
## $ Petal.Width : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
## $ Species      : Factor w/ 3 levels "setosa","versicolor",...: 1 1 1 1 1 1 1 1 1 1 ...
```

#### 5.-En busca de valores perdidos

```
anyNA(iris)
```

```
## [1] FALSE
```

#### Generación de tablas NO AGRUPADAS

1. Convertir la matriz de datos a una data frame, se agrupan los valores para la variable Petal.Length y se calcula la frecuencia absoluta.

```
tabla_PL<-as.data.frame(table(PL=iris$Petal.Length))
```

#### 2.- Visualización de la tabla de contingencia de la variable petal.length(PL) y su respectiva frecuencia absoluta

```
tabla_PL
```

```
##      PL Freq
## 1      1      1
## 2     1.1      1
## 3     1.2      2
## 4     1.3      7
## 5     1.4     13
## 6     1.5     13
## 7     1.6      7
## 8     1.7      4
## 9     1.9      2
## 10      3      1
## 11     3.3      2
## 12     3.5      2
## 13     3.6      1
## 14     3.7      1
## 15     3.8      1
## 16     3.9      3
## 17      4      5
## 18     4.1      3
## 19     4.2      4
## 20     4.3      2
## 21     4.4      4
## 22     4.5      8
## 23     4.6      3
## 24     4.7      5
## 25     4.8      4
## 26     4.9      5
## 27      5      4
## 28     5.1      8
## 29     5.2      2
## 30     5.3      2
```

```
## 31 5.4    2
## 32 5.5    3
## 33 5.6    6
## 34 5.7    3
## 35 5.8    3
## 36 5.9    2
## 37  6     2
## 38 6.1    3
## 39 6.3    1
## 40 6.4    1
## 41 6.6    1
## 42 6.7    2
## 43 6.9    1
```

3.- Crear la tabla completa

```
tabla1<-transform(tabla_PL,
  freqAc=cumsum(Freq),
  Rel=round(prop.table(Freq),3),
  RelAc=round(cumsum(prop.table(Freq)),3))
```

Tablas agrupadas

Nota: se debe tener previamente el cálculo de la amplitud y Rango

1.- Agrupación de la variable en clases (8 clases)

```
tabla_clases<-as.data.frame(table(Petal.Length=factor(cut(iris$Petal.Length,
  breaks=8))))
```

tabla\_clases

```
##   Petal.Length Freq
## 1 (0.994,1.74]  48
## 2 (1.74,2.48]   2
## 3 (2.48,3.21]   1
## 4 (3.21,3.95]  10
## 5 (3.95,4.69]  29
## 6 (4.69,5.43]  32
## 7 (5.43,6.16]  22
## 8 (6.16,6.91]   6
```

2.- Construcción de tabla completa

```
tabla2<-transform(tabla_clases,
  freqAc=cumsum(Freq),
  Rel=round(prop.table(Freq),3),
  RelAc=round(cumsum(prop.table(Freq)),3))
```

tabla2

```
##   Petal.Length Freq freqAc  Rel RelAc
## 1 (0.994,1.74]  48     48 0.320 0.320
## 2 (1.74,2.48]   2     50 0.013 0.333
## 3 (2.48,3.21]   1     51 0.007 0.340
## 4 (3.21,3.95]  10     61 0.067 0.407
## 5 (3.95,4.69]  29     90 0.193 0.600
## 6 (4.69,5.43]  32    122 0.213 0.813
## 7 (5.43,6.16]  22    144 0.147 0.960
```

## 8 (6.16,6.91] 6 150 0.040 1.000