

Tablas de frecuencia

Yareli Morales Reyes

2022-05-19

Tablas de frecuencias

1.- Importar la matriz iris

```
data("iris")
```

2.- Exploración la matriz iris dimensión de la matriz tiene 150 individuos y 5 variables

```
dim(iris)
```

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

3.- Nombre de las variables

```
colnames(iris)
```

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

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.- Visualización de una variable específica

```
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
```

6.-En busca de valores perdidos

```
anyNA(iris)
```

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

Generación de las tablas de frecuencia

A).- Posicionarnos en una variable específica Petal. length. Indico que me acorte el nombre a PL, lo que resulte de esa indicación quiero que lo ponga en formato tabla, lo que resulte aduiera un formato de data.frame a partir de lo anterior voy a generar una nueva variable (objeto) tabla_PL

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

B) 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
```

C) Se contruye la tabla de frecuencias completa redondeando a 3 decimales

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

```
##      PL Freq freqAc   Rel RelAc
## 1     1     1      1 0.007 0.007
## 2    1.1     1      2 0.007 0.013
## 3    1.2     2      4 0.013 0.027
## 4    1.3     7     11 0.047 0.073
## 5    1.4    13     24 0.087 0.160
## 6    1.5    13     37 0.087 0.247
## 7    1.6     7     44 0.047 0.293
## 8    1.7     4     48 0.027 0.320
## 9    1.9     2     50 0.013 0.333
## 10    3     1     51 0.007 0.340
## 11   3.3     2     53 0.013 0.353
## 12   3.5     2     55 0.013 0.367
## 13   3.6     1     56 0.007 0.373
## 14   3.7     1     57 0.007 0.380
## 15   3.8     1     58 0.007 0.387
## 16   3.9     3     61 0.020 0.407
## 17    4     5     66 0.033 0.440
## 18   4.1     3     69 0.020 0.460
## 19   4.2     4     73 0.027 0.487
## 20   4.3     2     75 0.013 0.500
## 21   4.4     4     79 0.027 0.527
## 22   4.5     8     87 0.053 0.580
## 23   4.6     3     90 0.020 0.600
## 24   4.7     5     95 0.033 0.633
## 25   4.8     4     99 0.027 0.660
## 26   4.9     5    104 0.033 0.693
## 27    5     4    108 0.027 0.720
## 28   5.1     8    116 0.053 0.773
## 29   5.2     2    118 0.013 0.787
```

```
## 30 5.3    2    120 0.013 0.800
## 31 5.4    2    122 0.013 0.813
## 32 5.5    3    125 0.020 0.833
## 33 5.6    6    131 0.040 0.873
## 34 5.7    3    134 0.020 0.893
## 35 5.8    3    137 0.020 0.913
## 36 5.9    2    139 0.013 0.927
## 37  6     2    141 0.013 0.940
## 38 6.1    3    144 0.020 0.960
## 39 6.3    1    145 0.007 0.967
## 40 6.4    1    146 0.007 0.973
## 41 6.6    1    147 0.007 0.980
## 42 6.7    2    149 0.013 0.993
## 43 6.9    1    150 0.007 1.000
```

D) Agrupacion de variables 8 claes

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

E) Visualizacion de la tabla

```
tabla_clases
```

```
##   Petal.Lenght 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
```

F) Contruccion de tabla de frecuencias completa redondeado a 3 decimales

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

G) Visualizar la tabla.

```
tabla
```

```
##   Petal.Lenght 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
```