Laboratorio6.R

Keyla Martinez

2022-05-19

```
#KeyMtz
#Laboratorio 6 Variables y Datos en R
#13/05/2022

#Ejercicio NBA Datos

#Variables cuantitativas
wins = c(52, 51, 47, 47, 42)
losses = c(20, 21, 25, 25, 30)
win_loss_perc = wins / (wins + losses)

#Variables cualitativas
teams = c("UtJ", "PhS", "DnN", "LAC", "DIM")

#Subconjuntos
#primer elemento de wins
wins [1]
```

```
## [1] 52
```

```
#tercer elemento de losses
losses [3]
```

```
## [1] 25
```

```
#ultimo nombre en teams
teams  [5]
```

```
## [1] "DIM"
```

```
length(teams)
```

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

```
teams [length(teams)]
```

```
## [1] "DIM"
```

```
sort(wins, decreasing = TRUE)
```

```
## [1] 52 51 47 47 42
```

```
rev(wins)
```

```
## [1] 42 47 47 51 52

#Subconjuntos con indices logicos

#victorias de Utah Jazz
wins [teams == "UtJ"]

## [1] 52

#equipos con victorias > 40
teams [wins > 40]

## [1] "UtJ" "PhS" "DnN" "LAC" "DIM"

#nombre de los equipos con derrotas entre 10 and 29
teams [losses >=10 & losses <= 29]

## [1] "UtJ" "PhS" "DnN" "LAC"

#Factores y varibles cualitativas
#vector numerico
num_vector <- c(1, 2, 3, 1, 2, 3, 2)

#crear un factor apartir de num_vector
first_factor <- factor(num_vector)
first_factor

## [1] 1 2 3 1 2 3 2
## Levels: 1 2 3

#Tomar el vector teams y convertirlo como factor
teams = factor(teams)
teams

## [1] UtJ PhS DnN LAC DIM
## Levels: DIM DnN LAC PhS UtJ

#Secuencias
#operador dos puntos:
1:5

## [1] 1 2 3 4 5

1:10

##  [1]  1  2  3  4  5  6  7  8  9 10

-3:7

##  [1] -3 -2 -1  0  1  2  3  4  5  6  7

10:1

##  [1] 10  9  8  7  6  5  4  3  2  1
```

```r
#funcion secuencia
seq(from = 1, to = 10)
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10
```

```r
seq(from = 1, to = 10, by = 1)
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10
```

```r
seq(from = 1, to = 10, by = 2)
```

```
## [1] 1 3 5 7 9
```

```r
seq(from = -5, to = 5, by = 1)
```

```
##  [1] -5 -4 -3 -2 -1  0  1  2  3  4  5
```

```r
#Vectores repetidos
rep(1, times = 5)
```

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

```r
rep(c(1, 2), times = 3)
```

```
## [1] 1 2 1 2 1 2
```

```r
rep(c(1, 2), each = 2)
```

```
## [1] 1 1 2 2
```

```r
rep(c(1, 2), length.out = 5)
```

```
## [1] 1 2 1 2 1
```

```r
rep(c(3, 2, 1), times = 3, each = 2)
```

```
##  [1] 3 3 2 2 1 1 3 3 2 2 1 1 3 3 2 2 1 1
```

```r
#De vectores a estructura tabular (data frame)
dat = data.frame(
  Teams = teams,
  Wins = wins,
  Losses = losses,
  WLperc = win_loss_perc
)
dat
```

```
##   Teams Wins Losses    WLperc
## 1   UtJ   52     20 0.7222222
## 2   PhS   51     21 0.7083333
## 3   DnN   47     25 0.6527778
## 4   LAC   47     25 0.6527778
## 5   DIM   42     30 0.5833333
```

```r
#Valores usando $
dat$Teams
```

```
## [1] UtJ PhS DnN LAC DIM
## Levels: DIM DnN LAC PhS UtJ
```

```r
#Utilizando corchetes
dat$Wins[1]
```

```
## [1] 52
```

```r
dat$Wins[5]
```

```
## [1] 42
```

```r
#Subconjuntos logicos
#victorias del equipo Utah
dat$Wins[dat$Teams == "UtJ"]
```

```
## [1] 52
```

```r
#equipo con victorias > 40
dat$Teams[dat$Wins > 40]
```

```
## [1] UtJ PhS DnN LAC DIM
## Levels: DIM DnN LAC PhS UtJ
```

```r
#nombre de los equipos con derrotas entre 10 y 29
dat$Teams[dat$Losses >= 10 & dat$Losses <= 29]
```

```
## [1] UtJ PhS DnN LAC
## Levels: DIM DnN LAC PhS UtJ
```