HW_4.R

Usuario

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# HW_04 [Laboratorio 6]
# 13/05/2022

# Base de los vectores

wins = c(52, 51, 47, 47, 42)

losses = c(20, 21, 25, 25, 30)

win_loss_perc = wins / (wins + losses)

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


# Manupulacion de vectores: 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) # da el número de valores

## [1] 5

teams[length(teams)]

## [1] "DIM"

sort(wins, decreasing = T) # ordena los valores de forma creciente o
```

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

# decreciente

rev(wins) # invierte los valores

## [1] 42 47 47 51 52

# Subconjuntos con índices lógicos


# victoria 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 y 29
teams[losses >= 10 & losses <= 29]

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

# Factores y variables 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
```

```r
1:10
```

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

```r
-3:7
```

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

```r
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) # repetir 1 cinco veces
```

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

```r
rep(c(1, 2), times = 3)# repetir 1 y 2 tres veces
```

```
## [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
```

```
dat$Teams
```

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

```
dat$Wins[1]
```

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

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

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

```
# Subconjuntos logicos
```

```
dat$Wins[dat$Teams =='UtJ']
```

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

```
dat$Teams[dat$Wins > 40]
```

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

```
dat$Teams[dat$Losses >= 10 & dat$Losses <= 29]
```

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