

Semana-6-Lab.R

Usuario

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```
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#17/05/2022  
#LABORATORIO 6
```

```
#BASE DE LOS VECTORES-----  
wins = c(52, 51, 47, 47, 42)  
losses = c(20, 21, 25, 25, 30)  
win_loss_perc = wins/(wins + losses)  
win_loss_perc
```

```
## [1] 0.7222222 0.7083333 0.6527778 0.6527778 0.5833333
```

```
#Variable cuantitativa
```

```
teams = c("UtJ", "PhS", "DnN", "LAC", "DIM")  
#VECTOR DE CARACTERES (variable cualitativa)
```

```
#MANIPULACION DE VECTORES-----  
----
```

```
#SUBCONJUNTOS
```

```
#1er ELEMENTO DE "wins"  
wins[1]
```

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

```
# TERCER ELEMENTO DE "losses"  
losses[3]
```

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

```
# ÚLTIMO NOMBRE EN "teams"  
teams[5]
```

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

```
length(teams)
```

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

```

teams[length(teams)]
## [1] "DIM"

sort(wins, decreasing = T)
## [1] 52 51 47 47 42

rev(wins)
## [1] 42 47 47 51 52

#SUBCONJUNTOS CON INDICES LOGICOS -----
-
# 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 NUMÉRICO
num_vector <- c(1, 2, 3, 1, 2, 3, 2)
#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 PARA CONVERTIRLO EN 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

#FUNCIÓN SECUENCIA
seq(from = 1, to = 10)

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

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

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

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

## [1] 1 3 5 7 9

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

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

#VECTORES REPETIDOS -----
-

rep(1, times = 5)

## [1] 1 1 1 1 1

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

## [1] 1 2 1 2 1 2

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

## [1] 1 1 2 2

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

## [1] 1 2 1 2 1

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
```

```

#DE VECTORES A ESTRUCTURA TABULAR-----
-

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

#VALORES EXTRAIDOS EN LA COLUMNA TEAMS USANDO $
dat$Teams

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

#UTILIZAR CORCHETES EN LA COLUMNA CON CUALQUIER TIPO DE VECTOR
dat$Wins[1]

## [1] 52

dat$Wins[5]

## [1] 42

#SUBCONJUNTOS LOGICOS
#VICTORIAS DEL EQUIPO UTAH
dat$Wins[dat$Teams == 'UtJ']

## [1] 52

#EQUIPOS CON VICTORIAS > 40
dat$Teams[dat$Wins > 40]

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

#NOMBRE DE LOS EQUIPOS CON DERROTAS EBTRE 29 Y 10
dat$Teams[dat$Losses >= 10 & dat$Losses <= 29]

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

#TUS TURNOS -----
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```

```

Teams = teams = c("UtJ", "PhS", "DnN", "LAC", "DIM", "PTB", "LAL", "MeG",
                  "GSW", "SAS", "NOP", "SaK", "MiT", "OCT", "HoR")
Teams = factor(Teams)
Wins = c(52, 51, 47, 47, 42, 42, 42, 38, 39, 33, 31, 31, 23, 22, 17)
Losses = c(20, 21, 25, 25, 30, 30, 30, 34, 33, 39, 41, 41, 49, 50, 55)
Win_Loss_perc = Wins / (Wins + Losses)
Games_Behind = Wins[1] - Wins
Points_Scored = c(116.4, 115.3, 115.1, 114.0, 112.4, 116.1, 109.5, 113.3,
113.7, 111.1, 114.6, 113.7, 112.1, 105.0, 108.8)
Points_Against = c(107.2, 109.5, 110.1, 107.8, 110.2, 114.3, 106.8,
112.3, 112.7, 112.8, 114.9, 117.4, 117.7, 115.6, 116.7)
Rating = c(8.97, 5.67, 4.82, 6.02, 2.26, 1.81, 2.77, 1.07, 1.10, -1.58, -
0.20, -3.45, -5.25, -10.13, -7.50)

```

```

Basquet = data.frame(
  Teams = Teams,
  W = Wins,
  L = Losses,
  W_L = Win_Loss_perc,
  GB = Games_Behind,
  PS_G = Points_Scored,
  PA_G = Points_Against,
  SRS = Rating)

```

Basquet

##	Teams	W	L	W_L	GB	PS_G	PA_G	SRS
## 1	UtJ	52	20	0.7222222	0	116.4	107.2	8.97
## 2	PhS	51	21	0.7083333	1	115.3	109.5	5.67
## 3	DnN	47	25	0.6527778	5	115.1	110.1	4.82
## 4	LAC	47	25	0.6527778	5	114.0	107.8	6.02
## 5	DIM	42	30	0.5833333	10	112.4	110.2	2.26
## 6	PTB	42	30	0.5833333	10	116.1	114.3	1.81
## 7	LAL	42	30	0.5833333	10	109.5	106.8	2.77
## 8	MeG	38	34	0.5277778	14	113.3	112.3	1.07
## 9	GSW	39	33	0.5416667	13	113.7	112.7	1.10
## 10	SAS	33	39	0.4583333	19	111.1	112.8	-1.58
## 11	NOP	31	41	0.4305556	21	114.6	114.9	-0.20
## 12	SaK	31	41	0.4305556	21	113.7	117.4	-3.45
## 13	MiT	23	49	0.3194444	29	112.1	117.7	-5.25
## 14	OCT	22	50	0.3055556	30	105.0	115.6	-10.13
## 15	HoR	17	55	0.2361111	35	108.8	116.7	-7.50

```
sort(Basquet$PS_G)
```

```
## [1] 105.0 108.8 109.5 111.1 112.1 112.4 113.3 113.7 113.7 114.0 114.6
115.1
```

```
## [13] 115.3 116.1 116.4
```

```
sort(Basquet$PS_G, decreasing = T)
```

```
## [1] 116.4 116.1 115.3 115.1 114.6 114.0 113.7 113.7 113.3 112.4 112.1
111.1
## [13] 109.5 108.8 105.0

sort(Points_Scored)

## [1] 105.0 108.8 109.5 111.1 112.1 112.4 113.3 113.7 113.7 114.0 114.6
115.1
## [13] 115.3 116.1 116.4

sort(Points_Scored, decreasing = T)

## [1] 116.4 116.1 115.3 115.1 114.6 114.0 113.7 113.7 113.3 112.4 112.1
111.1
## [13] 109.5 108.8 105.0
```