

Clase 2 Markdown

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```
#####  
##### VECTORES #####  
#####
```

```
# Creacion de Vector  
apple <- c('red','green',"yellow")  
print(apple)
```

```
## [1] "red"      "green"     "yellow"  
print(class(apple))
```

```
## [1] "character"
```

```
#####  
##### LISTAS #####  
#####
```

```
# Create a list.  
lista1 <- list(c(2,5,3),21.3,sin)  
print(lista1)
```

```
## [[1]]  
## [1] 2 5 3  
##  
## [[2]]  
## [1] 21.3  
##  
## [[3]]  
## function (x) .Primitive("sin")
```

```
#####  
##### MATRICES #####  
#####
```

```
M = matrix( c('a','a','b','c','b','a'), nrow = 2, ncol = 3, byrow = TRUE)  
print(M)
```

```
##      [,1] [,2] [,3]  
## [1,] "a"  "a"  "b"  
## [2,] "c"  "b"  "a"
```

```
# Arreglos (matrices multidimensionales)  
arreglo <- array(c('green','yellow'),dim = c(3,3,2))  
print(arreglo)
```

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

```

## [1,] "green" "yellow" "green"
## [2,] "yellow" "green" "yellow"
## [3,] "green" "yellow" "green"
##
## , , 2
##
##      [,1]      [,2]      [,3]
## [1,] "yellow" "green" "yellow"
## [2,] "green"  "yellow" "green"
## [3,] "yellow" "green" "yellow"

# Creemos un data frame.
empleados.df <- data.frame(
  id = c(1:5),
  nombre = c("Rick", "Dan", "Michelle", "Ryan", "Gary"),
  salario = c(623.3, 515.2, 611.0, 729.0, 843.25),

  fechainicio = as.Date(c("2012-01-01", "2013-09-23", "2014-11-15", "2014-05-11",
    "2015-03-27")),
  stringsAsFactors = FALSE
)

# Imprimamos el DF
print(empleados.df)

##   id  nombre salario fechainicio
## 1  1    Rick  623.30 2012-01-01
## 2  2     Dan  515.20 2013-09-23
## 3  3 Michelle  611.00 2014-11-15
## 4  4     Ryan  729.00 2014-05-11
## 5  5     Gary  843.25 2015-03-27

# Media
mean(empleados.df$salario)

## [1] 664.35

# Varianza
var(empleados.df$salario)

## [1] 15740.47

# Sacar Estructura
str(empleados.df)

## 'data.frame':   5 obs. of  4 variables:
##  $ id           : int  1 2 3 4 5
##  $ nombre       : chr  "Rick" "Dan" "Michelle" "Ryan" ...
##  $ salario      : num  623 515 611 729 843
##  $ fechainicio  : Date, format: "2012-01-01" "2013-09-23" ...

# Sacar Resumen
summary(empleados.df)

##           id           nombre           salario           fechainicio
##  Min.      :1   Length:5       Min.      :515.2   Min.      :2012-01-01
##  1st Qu.:2   Class :character  1st Qu.:611.0   1st Qu.:2013-09-23
##  Median :3   Mode  :character  Median :623.3   Median :2014-05-11

```

```
## Mean      :3          Mean      :664.4   Mean      :2014-01-14
## 3rd Qu.:4          3rd Qu.:729.0   3rd Qu.:2014-11-15
## Max.      :5          Max.      :843.2   Max.      :2015-03-27
```

```
# Sacar Resumen
summary(empleados.df)
```

```
##          id          nombre          salario          fechainicio
## Min.      :1   Length:5      Min.      :515.2   Min.      :2012-01-01
## 1st Qu.:2   Class :character 1st Qu.:611.0   1st Qu.:2013-09-23
## Median :3   Mode  :character Median :623.3   Median :2014-05-11
## Mean      :3          Mean      :664.4   Mean      :2014-01-14
## 3rd Qu.:4          3rd Qu.:729.0   3rd Qu.:2014-11-15
## Max.      :5          Max.      :843.2   Max.      :2015-03-27
```

```
# Si queremos solo columnas especificas
reducido.df <- data.frame(empleados.df$id,empleados.df$fechainicio)
# Porque no imprime?
```

```
# Fecha Promedio
mean.Date(reducido.df$empleados.df.fechainicio)
```

```
## [1] "2014-01-14"
```

```
# Primeras dos columnas
primerasdos.df <- empleados.df[1:2,]
print(primerasdos.df)
```

```
##   id nombre salario fechainicio
## 1  1   Rick   623.3 2012-01-01
## 2  2    Dan   515.2 2013-09-23
```

```
# Primeras dos filas
primerasdos.df <- empleados.df[,1:2]
print(primerasdos.df)
```

```
##   id  nombre
## 1  1    Rick
## 2  2     Dan
## 3  3 Michelle
## 4  4     Ryan
## 5  5     Gary
```

```
# 2a y 4a fila, 3a y 5a columna
reducido.df <- empleados.df[c(3,5),c(2,4)]
print(reducido.df)
```

```
##      nombre fechainicio
## 3 Michelle 2014-11-15
## 5     Gary 2015-03-27
```

```
# Agregar columna
empleados.df$departamento <- c("IT","Operations","IT","HR","Finance")
```

```
# Tambien funciona cbind, rbind
```

```
# Veamos los cambios
summary(empleados.df)
```

```

##      id      nombre      salario      fechainicio
## Min.   :1  Length:5      Min.   :515.2      Min.   :2012-01-01
## 1st Qu.:2   Class :character 1st Qu.:611.0      1st Qu.:2013-09-23
## Median :3   Mode  :character Median :623.3      Median :2014-05-11
## Mean   :3                                Mean   :664.4      Mean   :2014-01-14
## 3rd Qu.:4                                3rd Qu.:729.0      3rd Qu.:2014-11-15
## Max.   :5                                Max.   :843.2      Max.   :2015-03-27
## departamento
## Length:5
## Class :character
## Mode  :character
##
##
##

```