Importar-datos.R

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```
temperatura <- read.csv("C:/Users/Usuario/Downloads/temperatura.csv")
 View(temperatura)

 head(temperatura) #Primeras 6 filas
```

```
##    Año  Ene  Feb  Mar  Abr  May  Jun  Jul  Ago  Sep  Oct  Nov  Dic
## 1 2000 22.5 18.9 19.4 14.0 16.0 22.0 15.0 13.4 18.8 12.4 22.9 21.1
## 2 2001 19.3 20.3 18.5 24.1 17.5 29.4 17.2 22.6 16.2 17.8 25.7 20.2
## 3 2002 23.2 12.9 12.6 26.8 24.6 20.9 20.5 21.5 15.6 24.3 24.8 16.7
## 4 2003 27.6 17.3 16.4 19.6 21.6 21.3 17.5 21.3 15.9 21.1 23.3 30.7
## 5 2004 18.8 20.6 17.7 25.0 17.4 19.6 12.2 21.7 19.6 13.8 18.4 23.2
## 6 2005 18.8 14.2 25.3 21.8 22.6 10.4 20.3 16.6 21.7 20.9 23.8  9.9
```

```
 dim(temperatura)
```

```
## [1] 21 13
```

```
names(temperatura) #Numero de filas y columnas
```

```
##  [1] "Año" "Ene" "Feb" "Mar" "Abr" "May" "Jun" "Jul" "Ago" "Sep" "Oct" "Nov"
## [13] "Dic"
```

```
names(temperatura) #Nombres de las columnas
```

```
##  [1] "Año" "Ene" "Feb" "Mar" "Abr" "May" "Jun" "Jul" "Ago" "Sep" "Oct" "Nov"
## [13] "Dic"
```

```
str(temperatura)   #Estructura del data frame
```

```
## 'data.frame':    21 obs. of  13 variables:
##  $ Año: int  2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 ...
##  $ Ene: num  22.5 19.3 23.2 27.6 18.8 18.8 27.9 23.8 17.7 22.7 ...
##  $ Feb: num  18.9 20.3 12.9 17.3 20.6 14.2 21.9 17 18.5 17 ...
##  $ Mar: num  19.4 18.5 12.6 16.4 17.7 25.3 21.7 11.2 21.6 18.1 ...
##  $ Abr: num  14 24.1 26.8 19.6 25 21.8 16.8 21.8 27.7 19.8 ...
##  $ May: num  16 17.5 24.6 21.6 17.4 22.6 20.5 24.8 16.5 18.4 ...
##  $ Jun: num  22 29.4 20.9 21.3 19.6 10.4 19.9 20.3 32.3 19 ...
##  $ Jul: num  15 17.2 20.5 17.5 12.2 20.3 14.7 22.4 15.4 27.7 ...
##  $ Ago: num  13.4 22.6 21.5 21.3 21.7 16.6 21.2 21.5 16.4 29.3 ...
##  $ Sep: num  18.8 16.2 15.6 15.9 19.6 21.7 21.4 24.1 20.1 27.3 ...
##  $ Oct: num  12.4 17.8 24.3 21.1 13.8 20.9 21.9 15.6 20.8 20.3 ...
##  $ Nov: num  22.9 25.7 24.8 23.3 18.4 23.8 16.1 18.8 17.6 20.4 ...
##  $ Dic: num  21.1 20.2 16.7 30.7 23.2 9.9 20.9 16.7 24.3 16 ...
```

```
summary(temperatura) #Resumen estadistico
```

```
##       Año            Ene             Feb            Mar             Abr       
##  Min.   :2000   Min.   :10.40   Min.   :10.2   Min.   :11.20   Min.   : 6.90  
##  1st Qu.:2005   1st Qu.:17.20   1st Qu.:14.7   1st Qu.:16.60   1st Qu.:18.50  
##  Median :2010   Median :18.80   Median :18.9   Median :18.50   Median :20.50  
##  Mean   :2010   Mean   :19.53   Mean   :18.6   Mean   :19.25   Mean   :20.53  
##  3rd Qu.:2015   3rd Qu.:22.70   3rd Qu.:21.0   3rd Qu.:21.70   3rd Qu.:24.10  
##  Max.   :2020   Max.   :27.90   Max.   :29.3   Max.   :25.30   Max.   :27.80  
##       May             Jun            Jul             Ago             Sep       
##  Min.   :12.70   Min.   :10.4   Min.   :12.0   Min.   :13.40   Min.   :14.60  
##  1st Qu.:17.40   1st Qu.:19.6   1st Qu.:15.0   1st Qu.:16.60   1st Qu.:16.20  
##  Median :18.40   Median :21.3   Median :18.4   Median :21.70   Median :19.60  
##  Mean   :18.88   Mean   :21.6   Mean   :18.8   Mean   :21.26   Mean   :20.43  
##  3rd Qu.:21.30   3rd Qu.:24.0   3rd Qu.:21.3   3rd Qu.:23.90   3rd Qu.:22.40  
##  Max.   :24.80   Max.   :32.3   Max.   :27.7   Max.   :29.50   Max.   :33.60  
##       Oct             Nov             Dic       
##  Min.   :12.40   Min.   :10.70   Min.   : 9.90  
##  1st Qu.:15.60   1st Qu.:16.40   1st Qu.:16.70  
##  Median :21.10   Median :20.30   Median :20.20  
##  Mean   :20.67   Mean   :20.16   Mean   :20.08  
##  3rd Qu.:22.60   3rd Qu.:23.40   3rd Qu.:23.20  
##  Max.   :39.30   Max.   :31.60   Max.   :30.70
```

```
names(temperatura) <- c("Anual", "Ene", "Feb", "Mar","Abr", "Mayo", "Jun", "Jul","Ago", "Sep", "Oct","N



head(temperatura)
```

```
##   Anual  Ene  Feb  Mar  Abr Mayo  Jun  Jul  Ago  Sep  Oct  Nov  Dic
## 1  2000 22.5 18.9 19.4 14.0 16.0 22.0 15.0 13.4 18.8 12.4 22.9 21.1
## 2  2001 19.3 20.3 18.5 24.1 17.5 29.4 17.2 22.6 16.2 17.8 25.7 20.2
## 3  2002 23.2 12.9 12.6 26.8 24.6 20.9 20.5 21.5 15.6 24.3 24.8 16.7
## 4  2003 27.6 17.3 16.4 19.6 21.6 21.3 17.5 21.3 15.9 21.1 23.3 30.7
## 5  2004 18.8 20.6 17.7 25.0 17.4 19.6 12.2 21.7 19.6 13.8 18.4 23.2
## 6  2005 18.8 14.2 25.3 21.8 22.6 10.4 20.3 16.6 21.7 20.9 23.8  9.9
```

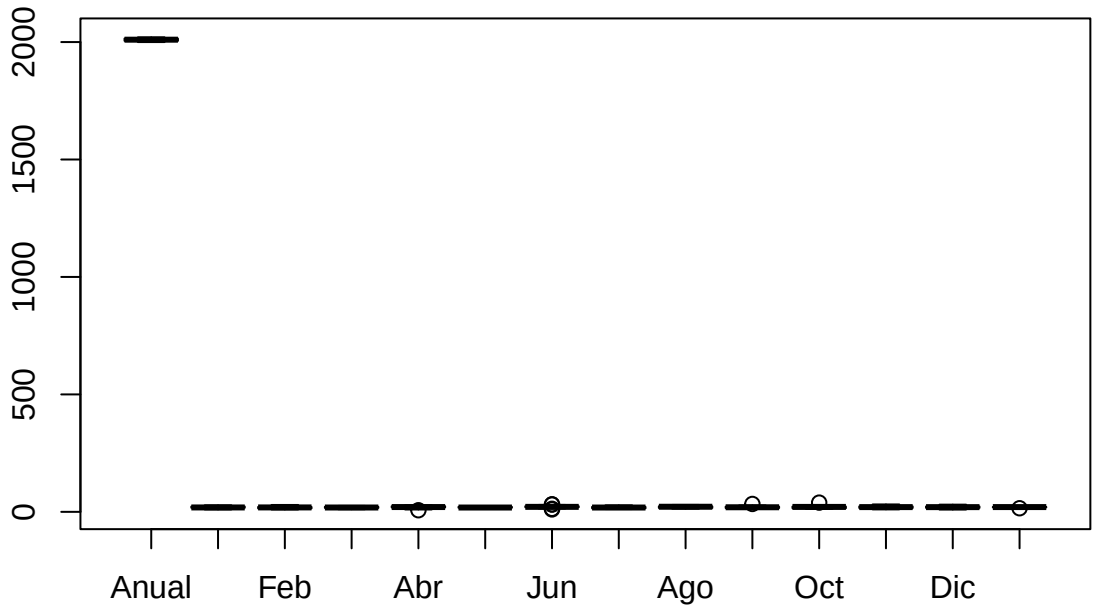
```
names(temperatura) <- c("Anual","Ene",
                        "Feb","Mar","Abr","May","Jun","Jul","Ago","Sep",
                        "Oct","Nov","Dic") #corregir nombre de columna
temperatura$media_anual <- rowMeans(temperatura[,2:13])
head(temperatura)
```

```
##   Anual  Ene  Feb  Mar  Abr  May  Jun  Jul  Ago  Sep  Oct  Nov  Dic media_anual
## 1  2000 22.5 18.9 19.4 14.0 16.0 22.0 15.0 13.4 18.8 12.4 22.9 21.1    18.03333
## 2  2001 19.3 20.3 18.5 24.1 17.5 29.4 17.2 22.6 16.2 17.8 25.7 20.2    20.73333
## 3  2002 23.2 12.9 12.6 26.8 24.6 20.9 20.5 21.5 15.6 24.3 24.8 16.7    20.36667
## 4  2003 27.6 17.3 16.4 19.6 21.6 21.3 17.5 21.3 15.9 21.1 23.3 30.7    21.13333
## 5  2004 18.8 20.6 17.7 25.0 17.4 19.6 12.2 21.7 19.6 13.8 18.4 23.2    19.00000
## 6  2005 18.8 14.2 25.3 21.8 22.6 10.4 20.3 16.6 21.7 20.9 23.8  9.9    18.85833
```

```
temp <- temperatura [ ,2:13]
temperatura[2,2]
```

```
## [1] 19.3
```

```
boxplot(temperatura)
```




```
temperatura$media_anual <- round(rowMeans(temperatura[,2:13]),)
head(temperatura)
```

```
##   Anual  Ene  Feb  Mar  Abr  May  Jun  Jul  Ago  Sep  Oct  Nov  Dic media_anual
## 1  2000 22.5 18.9 19.4 14.0 16.0 22.0 15.0 13.4 18.8 12.4 22.9 21.1          18
## 2  2001 19.3 20.3 18.5 24.1 17.5 29.4 17.2 22.6 16.2 17.8 25.7 20.2          21
## 3  2002 23.2 12.9 12.6 26.8 24.6 20.9 20.5 21.5 15.6 24.3 24.8 16.7          20
## 4  2003 27.6 17.3 16.4 19.6 21.6 21.3 17.5 21.3 15.9 21.1 23.3 30.7          21
## 5  2004 18.8 20.6 17.7 25.0 17.4 19.6 12.2 21.7 19.6 13.8 18.4 23.2          19
## 6  2005 18.8 14.2 25.3 21.8 22.6 10.4 20.3 16.6 21.7 20.9 23.8  9.9          19
```

```
write.csv(temperatura, "temp_final.csv")
temp <- temperatura[,2:13]
temp10 <- temperatura[11:21,2:13]
temperatura[2,2]
```

```
## [1] 19.3
```

```
# importar datos web -------------------------------------------------------
url <- "https://repodatos.atdt.gob.mx/api_update/senasica/actividades_inspeccion_movilizacion/29_activi

url2 <- paste("https://repodatos.atdt.gob.mx/api_update/senasica/",
              "actividades_inspeccion_movilizacion/",
              "29_actividades-inspeccion-movilizacion.csv")

url3 <- "https://repodatos.atdt.gob.mx/api_update/senasica/programa_trabajo_organismos_auxiliares_sanid

read.csv("https://repodatos.atdt.gob.mx/api_update/senasica/programa_trabajo_organismos_auxiliares_sani
```

```
##             entidad aportante proyecto_peces_anfibios proyecto_crustaceos
## 1    Aguascalientes   federal                 1429625                   0
## 2    Aguascalientes   estatal                  200000                   0
## 3   Baja California   federal                  616630                380926
## 4   Baja California   estatal                  350000                 90000
## 5   Baja California   federal                  182873               1114037
## 6   Baja California   estatal                       0                   0
## 7           Campeche   federal                 1880204                105632
## 8           Campeche   estatal                       0                   0
## 9           Coahuila   federal                       0                   0
## 10          Coahuila   estatal                       0                   0
## 11            Colima   federal                  308797               1611731
## 12            Colima   estatal                       0                   0
## 13           Chiapas   federal                 2239491                831237
## 14           Chiapas   estatal                       0                   0
## 15         Chihuahua   federal                 2683686                   0
## 16         Chihuahua   estatal                  250000                   0
## 17 Ciudad de México   federal                       0                   0
## 18 Ciudad de México   estatal                       0                   0
## 19           Durango   federal                       0                   0
## 20           Durango   estatal                       0                   0
## 21        Guanajuato   federal                       0                   0
## 22        Guanajuato   estatal                       0                   0
## 23          Guerrero   federal                 1893293               1529500
## 24          Guerrero   estatal                       0                   0
## 25           Hidalgo   federal                 3687205                   0
## 26           Hidalgo   estatal                       0                   0
## 27           Jalisco   federal                 4863440                   0
## 28           Jalisco   estatal                       0                   0
## 29 Estado de México   federal                 4008258                   0
## 30 Estado de México   estatal                  300000                   0
## 31         Michoacán   federal                 4484995                   0
## 32         Michoacán   estatal                 1850000                   0
## 33           Morelos   federal                 2389956                   0
## 34           Morelos   estatal                  960000                   0
## 35           Nayarit   federal                  787153               3290104
## 36           Nayarit   estatal                       0                200000
## 37        Nuevo León   federal                       0                   0
## 38        Nuevo León   estatal                       0                   0
## 39             Oaxaca   federal                 2297114                329315
## 40             Oaxaca   estatal                       0                   0
## 41             Puebla   federal                 3675526                   0
## 42             Puebla   estatal                       0                   0
## 43         Querétaro   federal                 1191755                   0
## 44         Querétaro   estatal                  464460                   0
## 45      Quintana Roo   federal                 1007875                884497
## 46      Quintana Roo   estatal                       0                   0
## 47  San Luis Potosí   federal                 1524446                   0
## 48  San Luis Potosí   estatal                       0                   0
## 49           Sinaloa   federal                 2757021              15975706
## 50           Sinaloa   estatal                       0                   0
## 51             Sonora   federal                  691098              12210468
```

```
## 52           Sonora   estatal                    0                  0
## 53          Tabasco   federal              1522848            1050423
## 54          Tabasco   estatal              4661500            1133500
## 55       Tamaulipas   federal               967154            2294340
## 56       Tamaulipas   estatal                    0                  0
## 57         Tlaxcala   federal              1178664                  0
## 58         Tlaxcala   estatal                    0                  0
## 59         Veracruz   federal              1135898             198088
## 60         Veracruz   estatal                    0                  0
## 61          Yucatán   federal              1469792             432455
## 62          Yucatán   estatal               589500              50000
## 63        Zacatecas   federal              1633903                  0
## 64        Zacatecas   estatal               470000                  0
##    proyecto_moluscos
## 1                  0
## 2                  0
## 3            1276335
## 4             821058
## 5            1550389
## 6                  0
## 7                  0
## 8                  0
## 9                  0
## 10                 0
## 11                 0
## 12                 0
## 13                 0
## 14                 0
## 15                 0
## 16                 0
## 17                 0
## 18                 0
## 19                 0
## 20                 0
## 21                 0
## 22                 0
## 23            949782
## 24                 0
## 25                 0
## 26                 0
## 27                 0
## 28                 0
## 29                 0
## 30                 0
## 31                 0
## 32                 0
## 33                 0
## 34                 0
## 35            665463
## 36                 0
## 37                 0
## 38                 0
## 39                 0
## 40                 0
```

```
## 41                0
## 42                0
## 43                0
## 44                0
## 45                0
## 46                0
## 47                0
## 48                0
## 49          1603956
## 50                0
## 51           992936
## 52                0
## 53          1121465
## 54          1725000
## 55                0
## 56                0
## 57                0
## 58                0
## 59           965037
## 60                0
## 61                0
## 62                0
## 63                0
## 64                0
```

```
senasica <-read.csv(url3,header=T)
View(senasica)
```