CUADRO 1

```
lkCSV="https://docs.google.com/spreadsheets/d/e/2PACX-1vSHA5LiaHbzjfoO89KTFlyn_fwUYtIpdirRE-8IUgmGPsrAP
dataroad=read.csv(lkCSV)
```

```
str(dataroad)
```

```
## 'data.frame':    271 obs. of  9 variables:
##  $ Country.Name            : Factor w/ 269 levels "","Afghanistan",..: 2 3 4 5 6 7 8 9 10 11 ...
##  $ Country.Code            : Factor w/ 267 levels "","ABW","AFG",..: 3 5 62 11 6 4 12 7 9 10 ...
##  $ Indicator.Name          : Factor w/ 2 levels "","Quality of roads [rank]": 2 2 2 2 2 2 2 2 2 2 ..
##  $ Indicator.Code          : Factor w/ 2 levels "","QA.ROAD.TRANS.IN.RANK": 2 2 2 2 2 2 2 2 2 2 ...
##  $ X2013..YR2013.          : Factor w/ 154 levels "","..","1","10",..: 2 129 154 2 2 48 2 2 8 136 ..
##  $ X2013.2014..YR2013.2014.: Factor w/ 2 levels "","..": 2 2 2 2 2 2 2 2 2 2 ...
##  $ X2014..YR2014.          : Factor w/ 149 levels "","..","1","10",..: 2 118 12 2 2 46 2 2 16 129 ..
##  $ X2015..YR2015.          : Factor w/ 143 levels "","..","1","10",..: 2 91 10 2 2 2 2 2 13 116 ...
##  $ X2016..YR2016.          : Factor w/ 2 levels "","..": 2 2 2 2 2 2 2 2 2 2 ...
```

```
dataroad[5:9]=lapply(dataroad[5:9], as.numeric)
```

```
str(dataroad)
```

```
## 'data.frame':    271 obs. of  9 variables:
##  $ Country.Name            : Factor w/ 269 levels "","Afghanistan",..: 2 3 4 5 6 7 8 9 10 11 ...
##  $ Country.Code            : Factor w/ 267 levels "","ABW","AFG",..: 3 5 62 11 6 4 12 7 9 10 ...
##  $ Indicator.Name          : Factor w/ 2 levels "","Quality of roads [rank]": 2 2 2 2 2 2 2 2 2 2 ..
##  $ Indicator.Code          : Factor w/ 2 levels "","QA.ROAD.TRANS.IN.RANK": 2 2 2 2 2 2 2 2 2 2 ...
##  $ X2013..YR2013.          : num  2 129 154 2 2 48 2 2 8 136 ...
##  $ X2013.2014..YR2013.2014.: num  2 2 2 2 2 2 2 2 2 2 ...
##  $ X2014..YR2014.          : num  2 118 12 2 2 46 2 2 16 129 ...
##  $ X2015..YR2015.          : num  2 91 10 2 2 2 2 2 13 116 ...
##  $ X2016..YR2016.          : num  2 2 2 2 2 2 2 2 2 2 ...
```

```
names(dataroad)=c("pais","codigo","indicador","COD indicador","2013","eliminar1","2014","2015","elimina
names(dataroad)
```

```
## [1] "pais"          "codigo"        "indicador"     "COD indicador"
## [5] "2013"          "eliminar1"     "2014"          "2015"
## [9] "eliminar2"
```

```
install.packages("dplyr")
```

```
## Installing package into '/home/rstudio-user/R/x86_64-pc-linux-gnu-library/3.6'
## (as 'lib' is unspecified)
```

```
dataroad$eliminar1=NULL
dataroad$eliminar2=NULL
dataroad$`COD indicador`=NULL
dataroad$codigo=NULL
```

```
str(dataroad)
```

```
## 'data.frame':    271 obs. of  5 variables:
##  $ pais     : Factor w/ 269 levels "","Afghanistan",..: 2 3 4 5 6 7 8 9 10 11 ...
##  $ indicador: Factor w/ 2 levels "","Quality of roads [rank]": 2 2 2 2 2 2 2 2 2 2 ...
##  $ 2013     : num  2 129 154 2 2 48 2 2 8 136 ...
##  $ 2014     : num  2 118 12 2 2 46 2 2 16 129 ...
##  $ 2015     : num  2 91 10 2 2 2 2 2 13 116 ...
```

CUADRO 2

```
install.packages("htmltab")
```

```
## Installing package into '/home/rstudio-user/R/x86_64-pc-linux-gnu-library/3.6'
## (as 'lib' is unspecified)
```

```
library(htmltab)
```

asda

```
linkCIA_road = "https://www.cia.gov/library/publications/resources/the-world-factbook/fields/385rank.htm
linkPath_road='/html/body/div/div[1]/div/div[1]/section/div[2]/div[2]/article/div/div/div/div[2]/section

Road = htmltab(doc = linkCIA_road,
                which =linkPath_road)
```

```
## No encoding supplied: defaulting to UTF-8.
```

```
str(Road)
```

```
## 'data.frame':    215 obs. of  4 variables:
##  $ Rank               : chr  "1" "2" "3" "4" ...
##  $ Country            : chr  "United States" "China" "India" "Brazil" ...
##  $ (km)               : chr  "6,586,610" "4,960,600" "4,699,024" "2,000,000" ...
##  $ Date of Information: chr  "2012" "2017" "2015" "2018" ...
```

```
names(Road)=c("ranking","Pais","Kilometros","año")
names(Road)
```

```
## [1] "ranking"    "Pais"       "Kilometros" "año"
```

```
Road[!complete.cases(Road),]
```

```
##     ranking             Pais Kilometros  año
## 188     187          Curacao        550 <NA>
## 211     210     Sint Maarten         53 <NA>
## 216     215 Pitcairn Islands          0 <NA>
```

```
Road <- na.omit(Road)
```

```
Road[!complete.cases(Road),]
```

```
## [1] ranking    Pais       Kilometros año
## <0 rows> (or 0-length row.names)
```

```
Road$Kilometros=gsub(',',"",Road$Kilometros)
```

```
str(Road)
```

```
## 'data.frame':    212 obs. of  4 variables:
##  $ ranking   : chr  "1" "2" "3" "4" ...
##  $ Pais      : chr  "United States" "China" "India" "Brazil" ...
##  $ Kilometros: chr  "6586610" "4960600" "4699024" "2000000" ...
##  $ año       : chr  "2012" "2017" "2015" "2018" ...
##  - attr(*, "na.action")= 'omit' Named int  187 210 215
##   ..- attr(*, "names")= chr  "188" "211" "216"
```