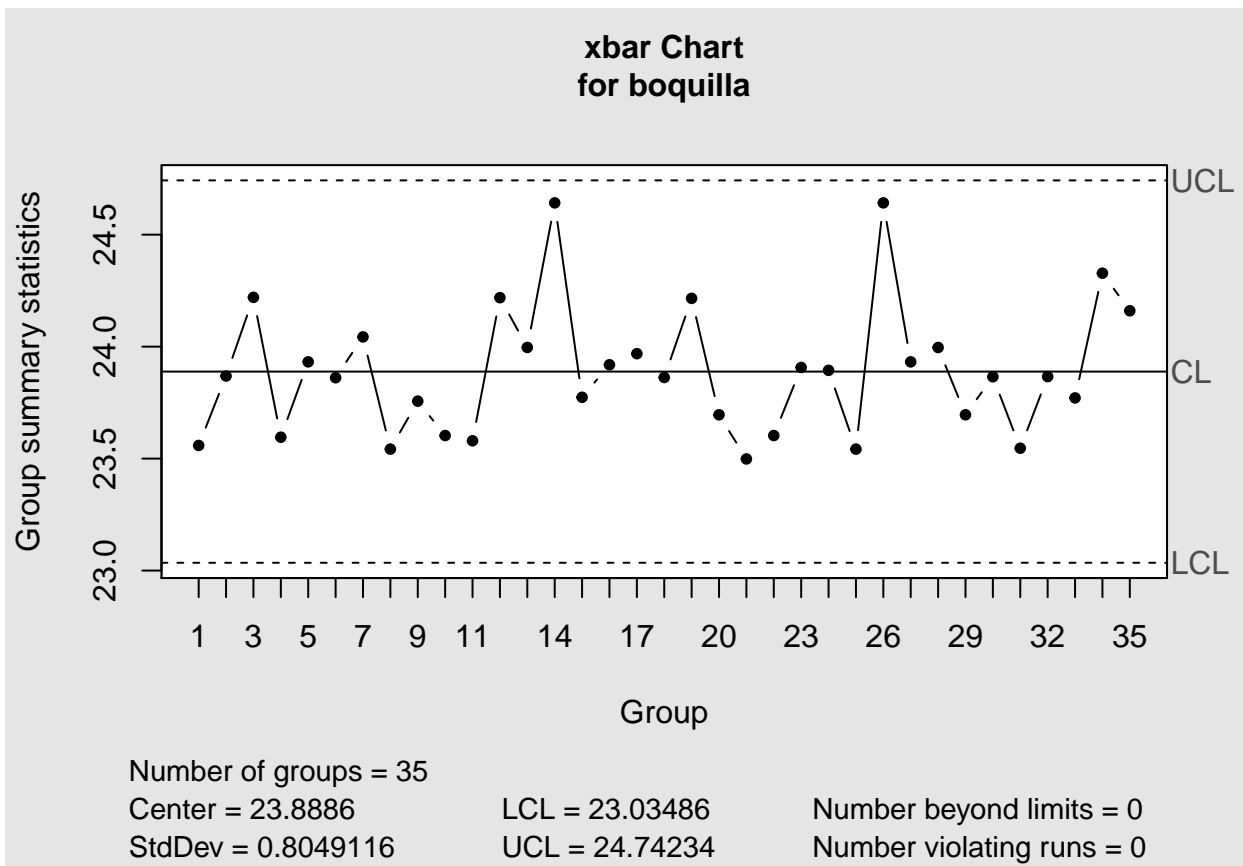# R Notebook

```r
library(qcc)
```

```
## Package 'qcc' version 2.7
```

```
## Type 'citation("qcc")' for citing this R package in publications.
```

```r
help("qcc")
```

```r
boquilla <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Boquilla.csv")
boquilla_resultado = qcc(boquilla, type = "xbar", nsigmas = 3)
```
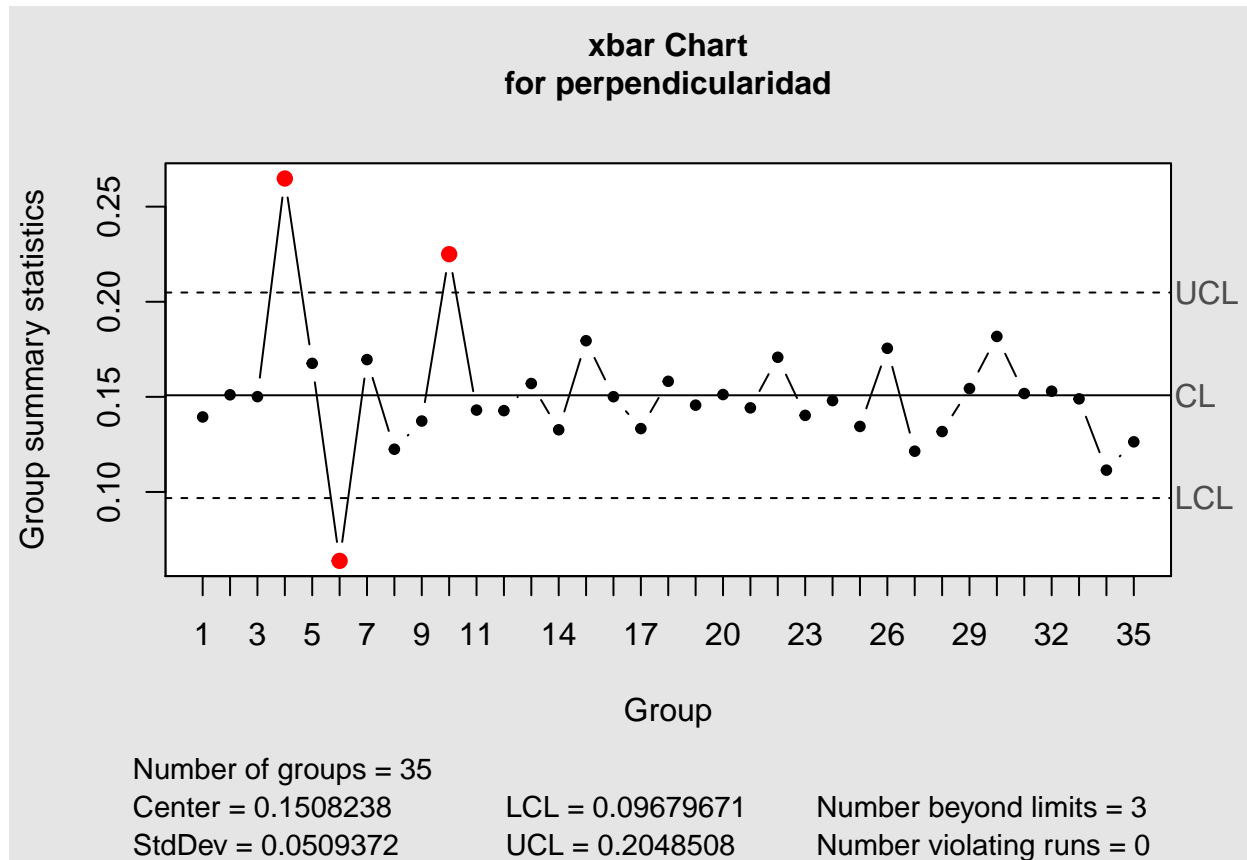


```r
boquilla_resultado
```

```
## List of 11
##  $ call      : language qcc(data = boquilla, type = "xbar", nsigmas = 3)
##  $ type      : chr "xbar"
##  $ data.name : chr "boquilla"
##  $ data      : num [1:35, 1:8] 22.9 24.6 24.8 24.3 24.2 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named num [1:35] 23.6 23.9 24.2 23.6 23.9 ...
##   ..- attr(*, "names")= chr [1:35] "1" "2" "3" "4" ...
```

1

```
## $ sizes     : int [1:35] 8 8 8 8 8 8 8 8 8 8 ...
## $ center    : num 23.9
## $ std.dev   : num 0.805
## $ nsigmas   : num 3
## $ limits    : num [1, 1:2] 23 24.7
##   ..- attr(*, "dimnames")=List of 2
## $ violations:List of 2
## - attr(*, "class")= chr "qcc"
```

```
perpendicularidad <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Perpen
perpendicularidad_resultado = qcc(perpendicularidad, type = "xbar", nsigmas = 3)
```


xbar Chart
for perpendicularidad

Number of groups = 35
Center = 0.1508238   LCL = 0.09679671   Number beyond limits = 3
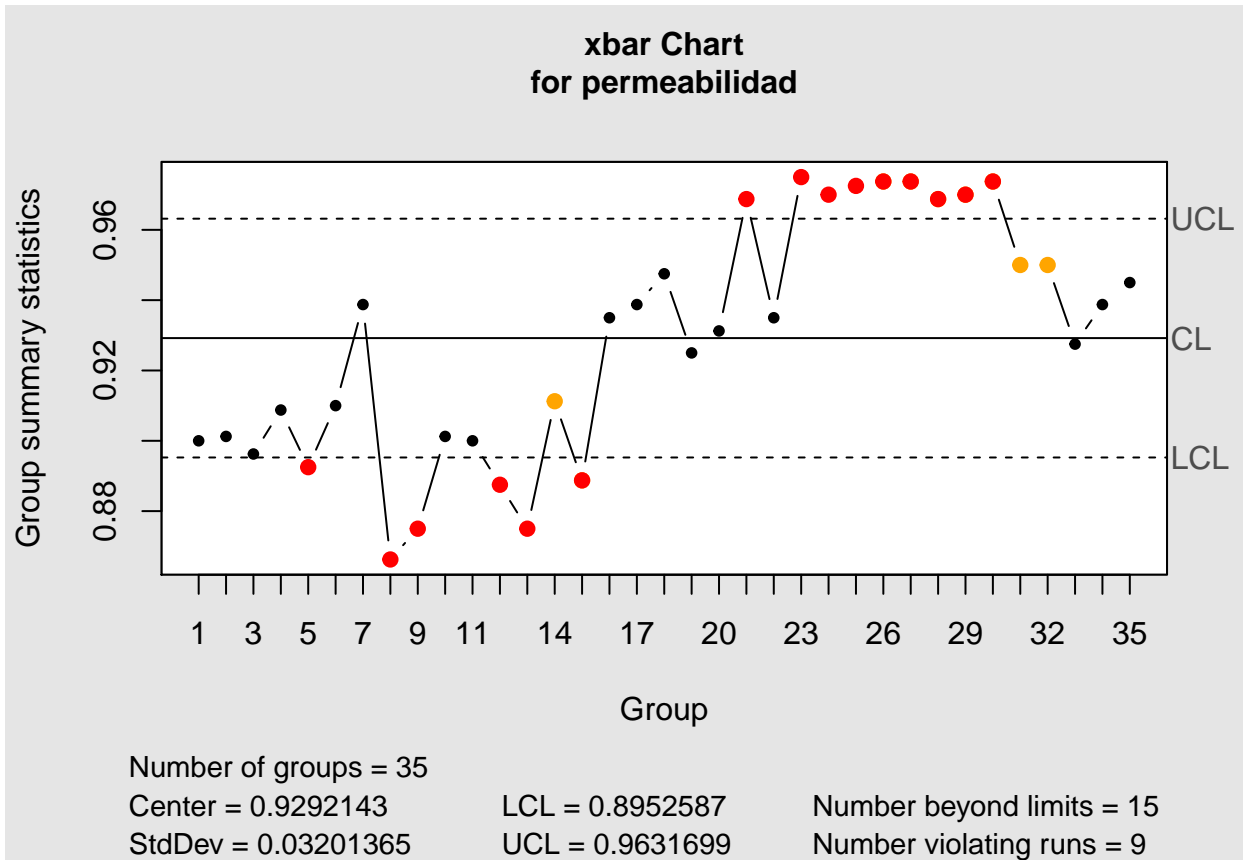StdDev = 0.0509372   UCL = 0.2048508   Number violating runs = 0

```
perpendicularidad_resultado
```

```
## List of 11
## $ call      : language qcc(data = perpendicularidad, type = "xbar", nsigmas = 3)
## $ type      : chr "xbar"
## $ data.name : chr "perpendicularidad"
## $ data      : num [1:35, 1:8] 0.0863 0.0717 0.1835 0.2811 0.2134 ...
##   ..- attr(*, "dimnames")=List of 2
## $ statistics: Named num [1:35] 0.139 0.151 0.15 0.265 0.168 ...
##   ..- attr(*, "names")= chr [1:35] "1" "2" "3" "4" ...
## $ sizes     : int [1:35] 8 8 8 8 8 8 8 8 8 8 ...
## $ center    : num 0.151
## $ std.dev   : num 0.0509
## $ nsigmas   : num 3
## $ limits    : num [1, 1:2] 0.0968 0.2049
```

```
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```
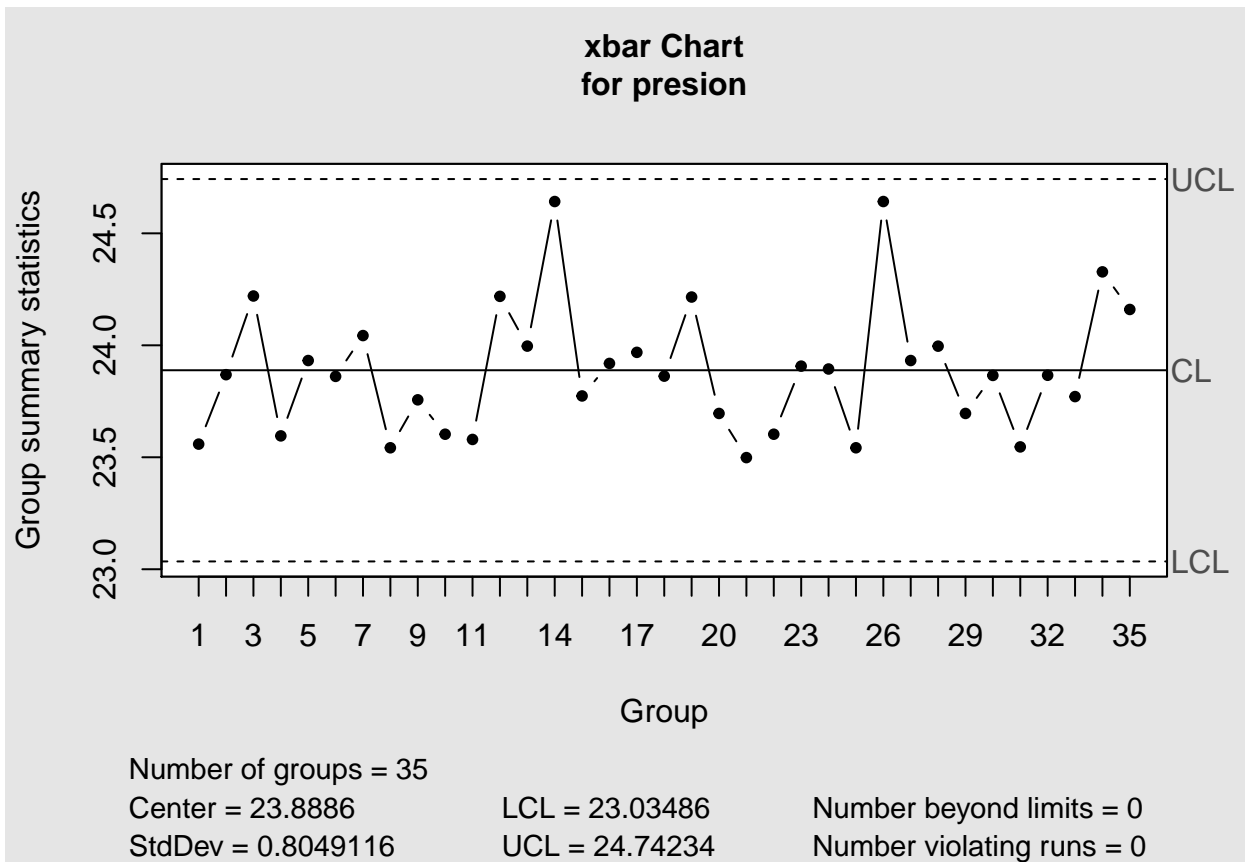
```
permeabilidad <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Permeabili
permeabilidad_resultado = qcc(permeabilidad, type = "xbar", nsigmas = 3)
```


xbar Chart
for permeabilidad

Number of groups = 35
Center = 0.9292143   LCL = 0.8952587   Number beyond limits = 15
StdDev = 0.03201365   UCL = 0.9631699   Number violating runs = 9

```
permeabilidad_resultado
```

```
## List of 11
##  $ call      : language qcc(data = permeabilidad, type = "xbar", nsigmas = 3)
##  $ type      : chr "xbar"
##  $ data.name : chr "permeabilidad"
##  $ data      : num [1:35, 1:8] 0.9 0.85 0.92 0.92 0.88 0.93 0.95 0.82 0.84 0.86 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named num [1:35] 0.9 0.901 0.896 0.909 0.893 ...
##   ..- attr(*, "names")= chr [1:35] "1" "2" "3" "4" ...
##  $ sizes     : int [1:35] 8 8 8 8 8 8 8 8 8 8 ...
##  $ center    : num 0.929
##  $ std.dev   : num 0.032
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 0.895 0.963
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```
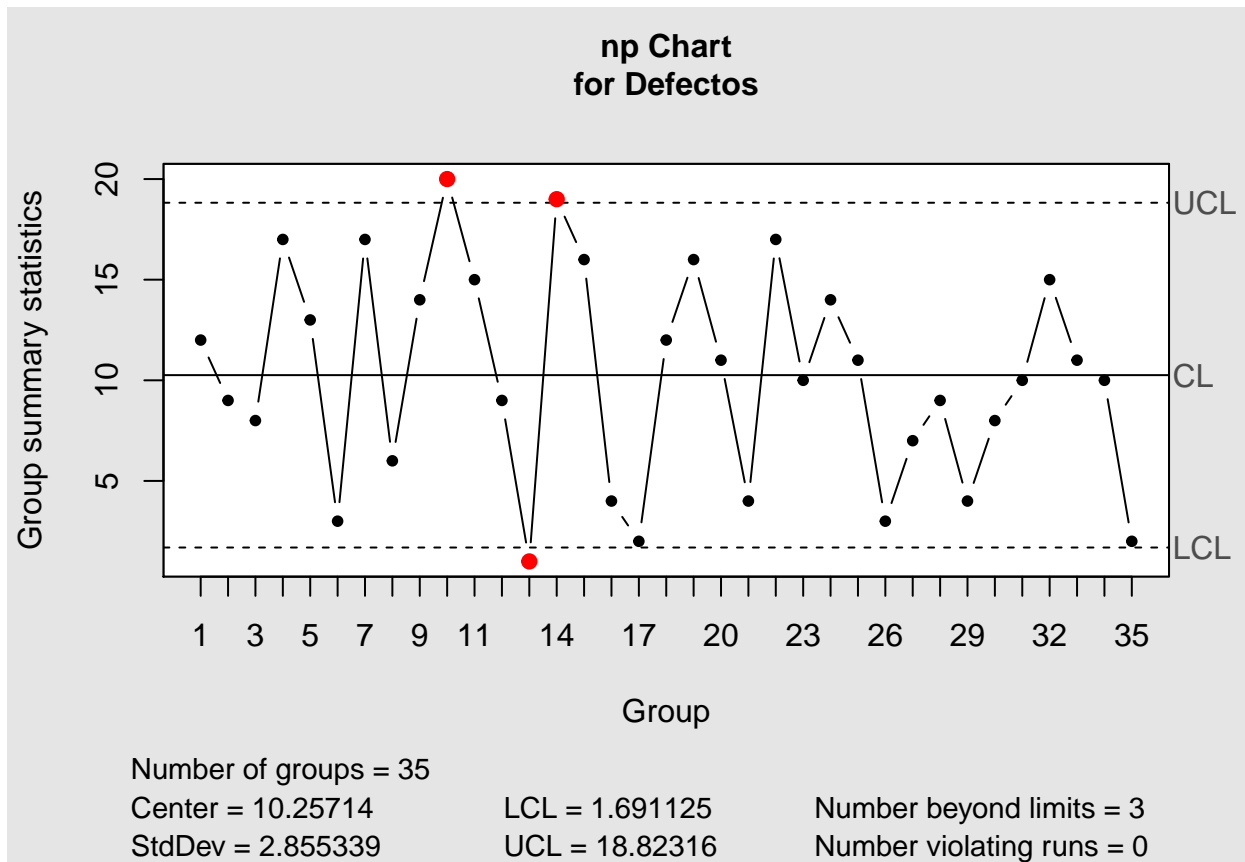
```
presion <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/presion.csv")
presion_resultado = qcc(presion, type = "xbar", nsigmas = 3)
```

xbar Chart
for presion

Number of groups = 35
Center = 23.8886   LCL = 23.03486   Number beyond limits = 0
StdDev = 0.8049116   UCL = 24.74234   Number violating runs = 0

```
presion_resultado
```

```
## List of 11
##  $ call      : language qcc(data = presion, type = "xbar", nsigmas = 3)
##  $ type      : chr "xbar"
##  $ data.name : chr "presion"
##  $ data      : num [1:35, 1:8] 22.9 24.6 24.8 24.3 24.2 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named num [1:35] 23.6 23.9 24.2 23.6 23.9 ...
##   ..- attr(*, "names")= chr [1:35] "1" "2" "3" "4" ...
##  $ sizes     : int [1:35] 8 8 8 8 8 8 8 8 8 8 ...
##  $ center    : num 23.9
##  $ std.dev   : num 0.805
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 23 24.7
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```
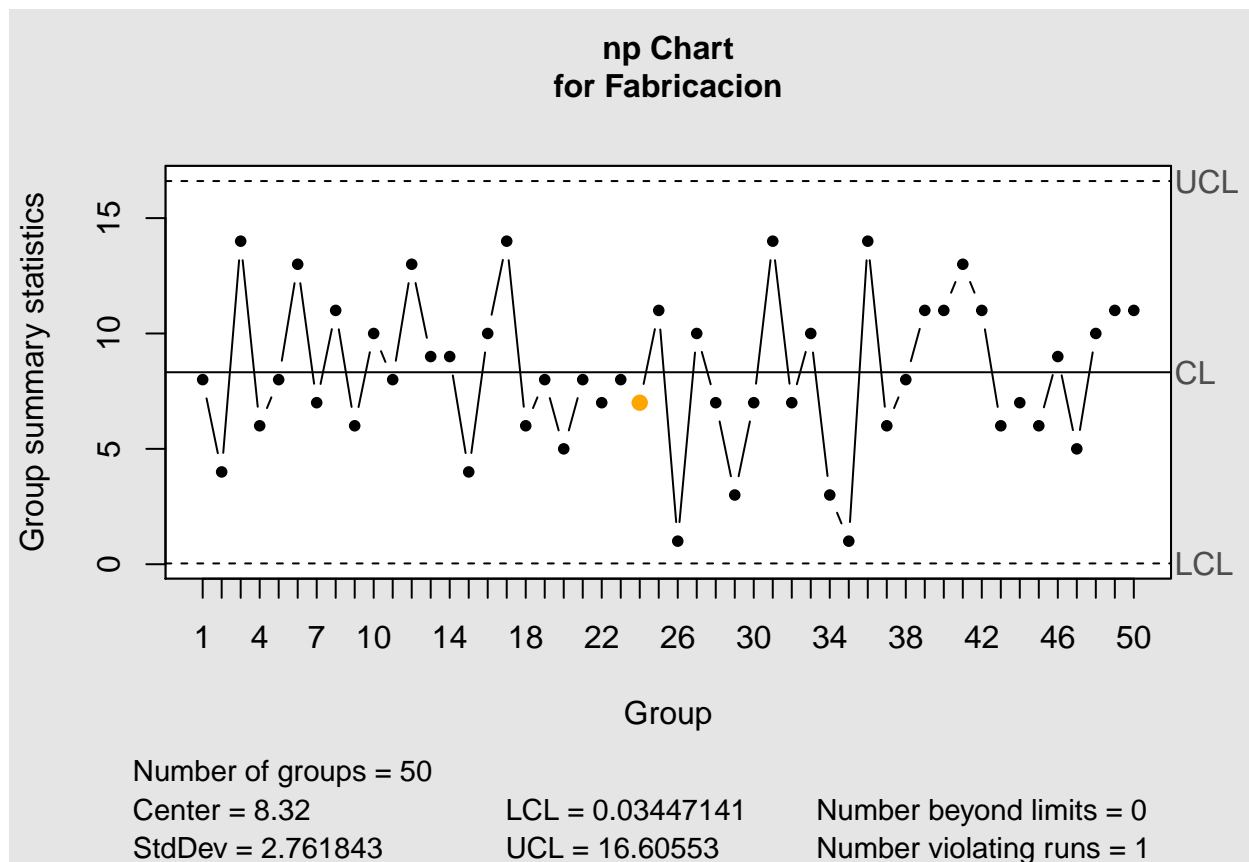
```
defectos <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/defect.csv")
defectos_resultado <- with(defectos, qcc(defectos$X, defectos$muestras, type = "np", data.name = "Defect
```

**np Chart
for Defectos**

Number of groups = 35
Center = 10.25714   LCL = 1.691125   Number beyond limits = 3
StdDev = 2.855339   UCL = 18.82316   Number violating runs = 0

defectos_resultado

```
## List of 11
##  $ call      : language qcc(data = defectos$X, type = "np", sizes = defectos$muestras, data.name = "]
##  $ type      : chr "np"
##  $ data.name : chr "Defectos"
##  $ data      : int [1:35, 1] 12 9 8 17 13 3 17 6 14 20 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:35] 12 9 8 17 13 3 17 6 14 20 ...
##   ..- attr(*, "names")= chr [1:35] "1" "2" "3" "4" ...
##  $ sizes     : int [1:35] 50 50 50 50 50 50 50 50 50 50 ...
##  $ center    : num 10.3
##  $ std.dev   : num 2.86
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 1.69 18.82
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```
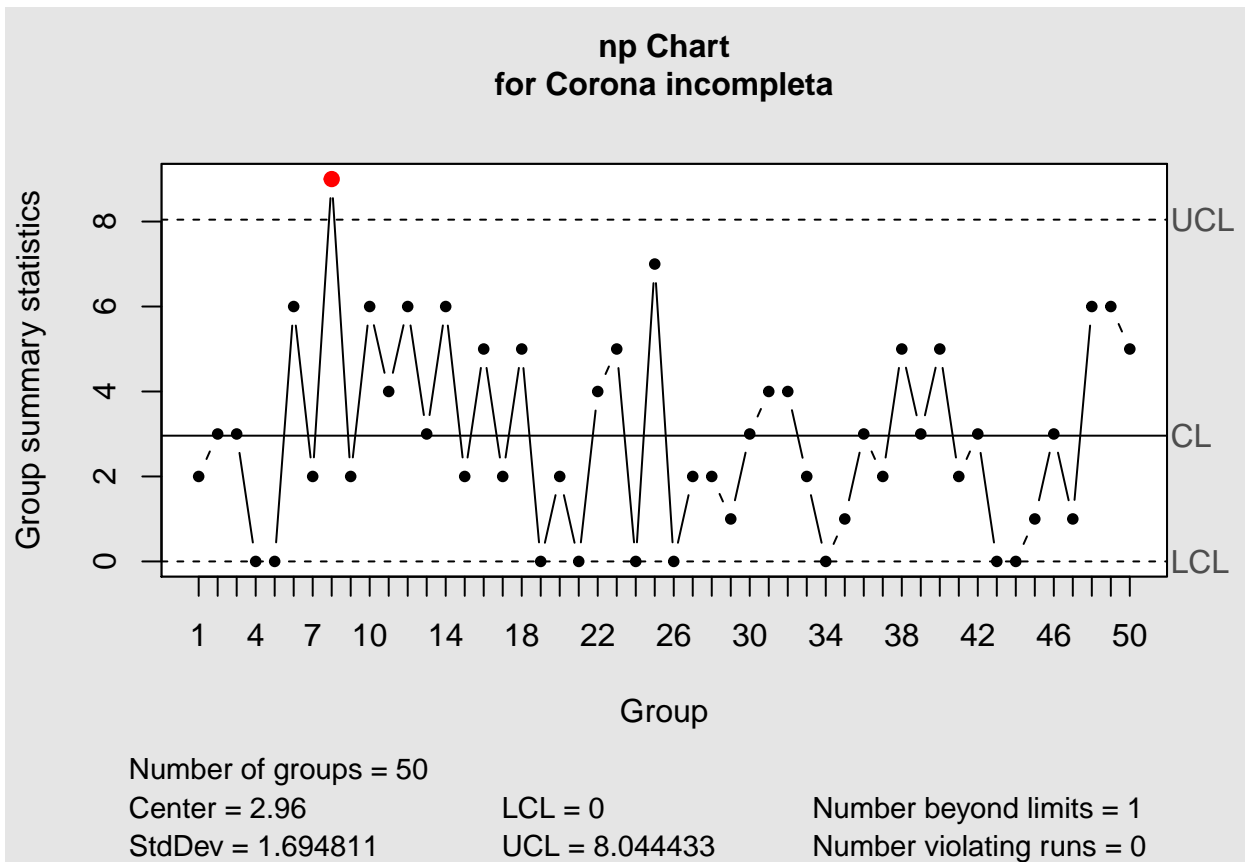
```
fabricacion <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/fabricacion.c
fabricacion <- with(fabricacion, qcc(fabricacion$Fabricacion, fabricacion$Prop, type = "np", data.name =
```

**np Chart
for Fabricacion**

Number of groups = 50
Center = 8.32
StdDev = 2.761843

LCL = 0.03447141
UCL = 16.60553

Number beyond limits = 0
Number violating runs = 1

```
fabricacion
```

```
## List of 11
##  $ call      : language qcc(data = fabricacion$Fabricacion, type = "np", sizes = fabricacion$Prop,
##  $ type      : chr "np"
##  $ data.name : chr "Fabricacion"
##  $ data      : int [1:50, 1] 8 4 14 6 8 13 7 11 6 10 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:50] 8 4 14 6 8 13 7 11 6 10 ...
##   ..- attr(*, "names")= chr [1:50] "1" "2" "3" "4" ...
##  $ sizes     : int [1:50] 100 100 100 100 100 100 100 100 100 100 ...
##  $ center    : num 8.32
##  $ std.dev   : num 2.76
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 0.0345 16.6055
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```
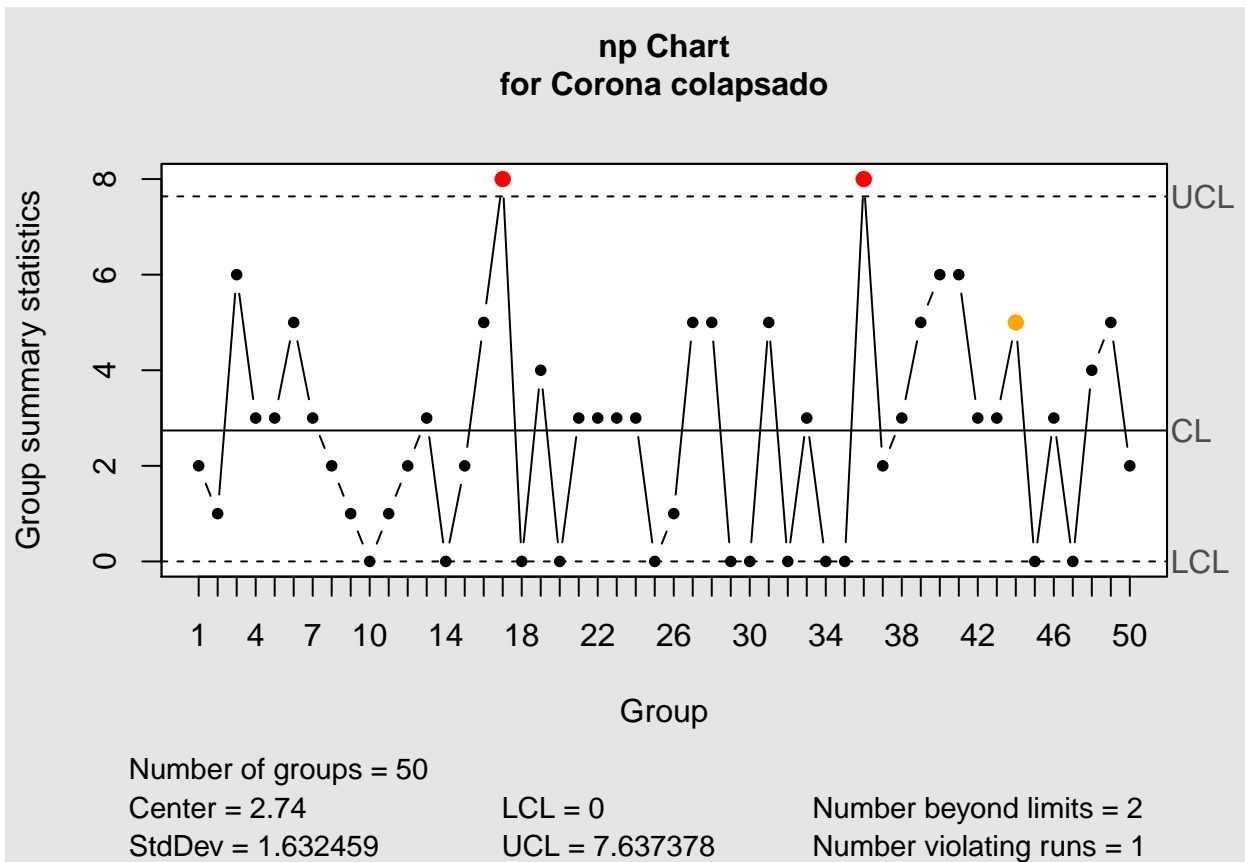
```
Corona_incompleta <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Corona
Corona_incompleta <- with(Corona_incompleta, qcc(Corona_incompleta$Corona.incompleta, Corona_incompleta$
```

np Chart
for Corona incompleta

Number of groups = 50
Center = 2.96   LCL = 0   Number beyond limits = 1
StdDev = 1.694811   UCL = 8.044433   Number violating runs = 0

Corona_incompleta

```
## List of 11
##  $ call      : language qcc(data = Corona_incompleta$Corona.incompleta, type = "np", sizes = Corona_
##  $ type      : chr "np"
##  $ data.name : chr "Corona incompleta"
##  $ data      : int [1:50, 1] 2 3 3 0 0 6 2 9 2 6 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:50] 2 3 3 0 0 6 2 9 2 6 ...
##   ..- attr(*, "names")= chr [1:50] "1" "2" "3" "4" ...
##  $ sizes     : int [1:50] 100 100 100 100 100 100 100 100 100 100 ...
##  $ center    : num 2.96
##  $ std.dev   : num 1.69
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 0 8.04
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```

```
Corona_colapsado <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Corona (
Corona_colapsado <- with(Corona_colapsado, qcc(Corona_colapsado$Corona.colapsada, Corona_colapsado$X, ty
```
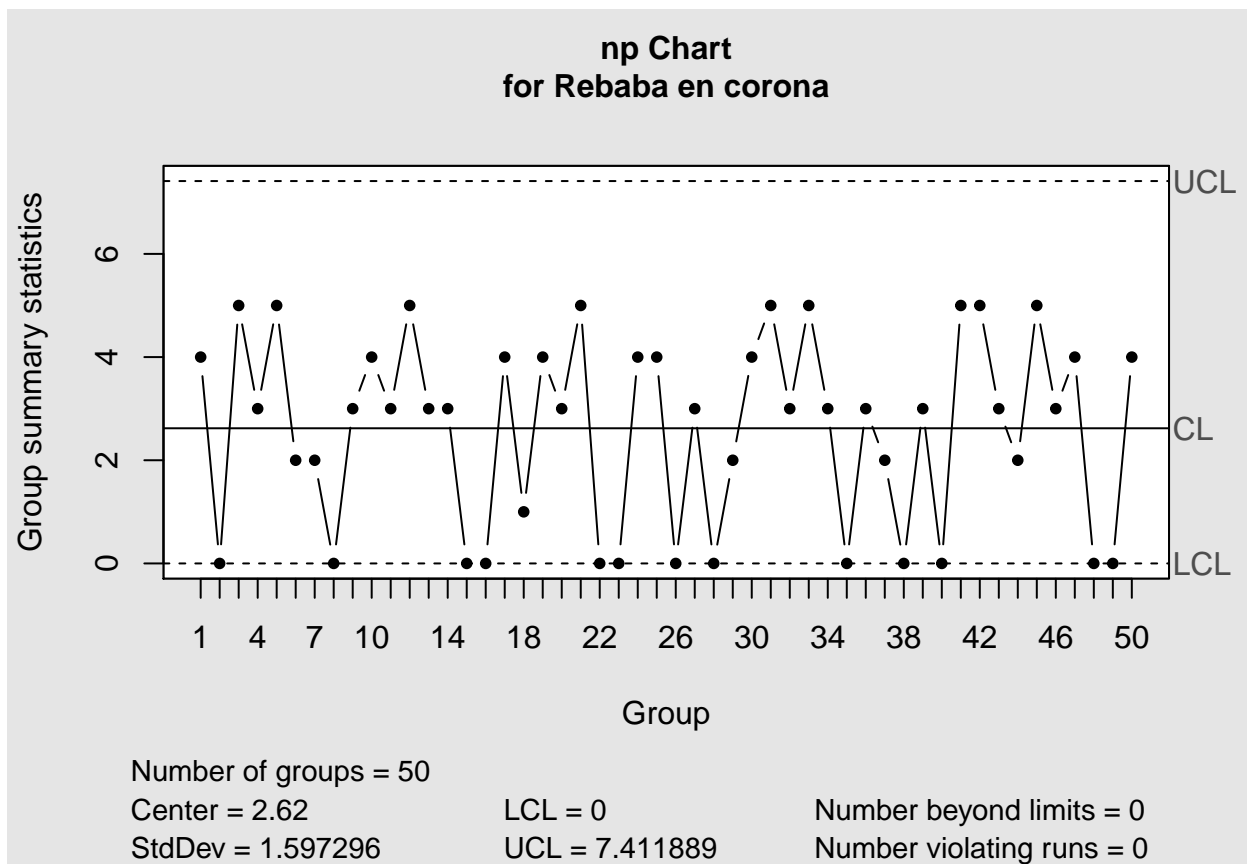
**np Chart
for Corona colapsado**

Number of groups = 50
Center = 2.74   LCL = 0   Number beyond limits = 2
StdDev = 1.632459   UCL = 7.637378   Number violating runs = 1

```
Corona_colapsado
```

```
## List of 11
##  $ call      : language qcc(data = Corona_colapsado$Corona.colapsada, type = "np", sizes = Corona_col
##  $ type      : chr "np"
##  $ data.name : chr "Corona colapsado"
##  $ data      : int [1:50, 1] 2 1 6 3 3 5 3 2 1 0 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:50] 2 1 6 3 3 5 3 2 1 0 ...
##   ..- attr(*, "names")= chr [1:50] "1" "2" "3" "4" ...
##  $ sizes     : int [1:50] 100 100 100 100 100 100 100 100 100 100 ...
##  $ center    : num 2.74
##  $ std.dev   : num 1.63
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 0 7.64
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```

```
Rebaba_en_corona <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Rebaba
Rebaba_en_corona <- with(Rebaba_en_corona, qcc(Rebaba_en_corona$Rebaba.en.corona, Rebaba_en_corona$X, ty
```

np Chart
for Rebaba en corona

Number of groups = 50
Center = 2.62   LCL = 0   Number beyond limits = 0
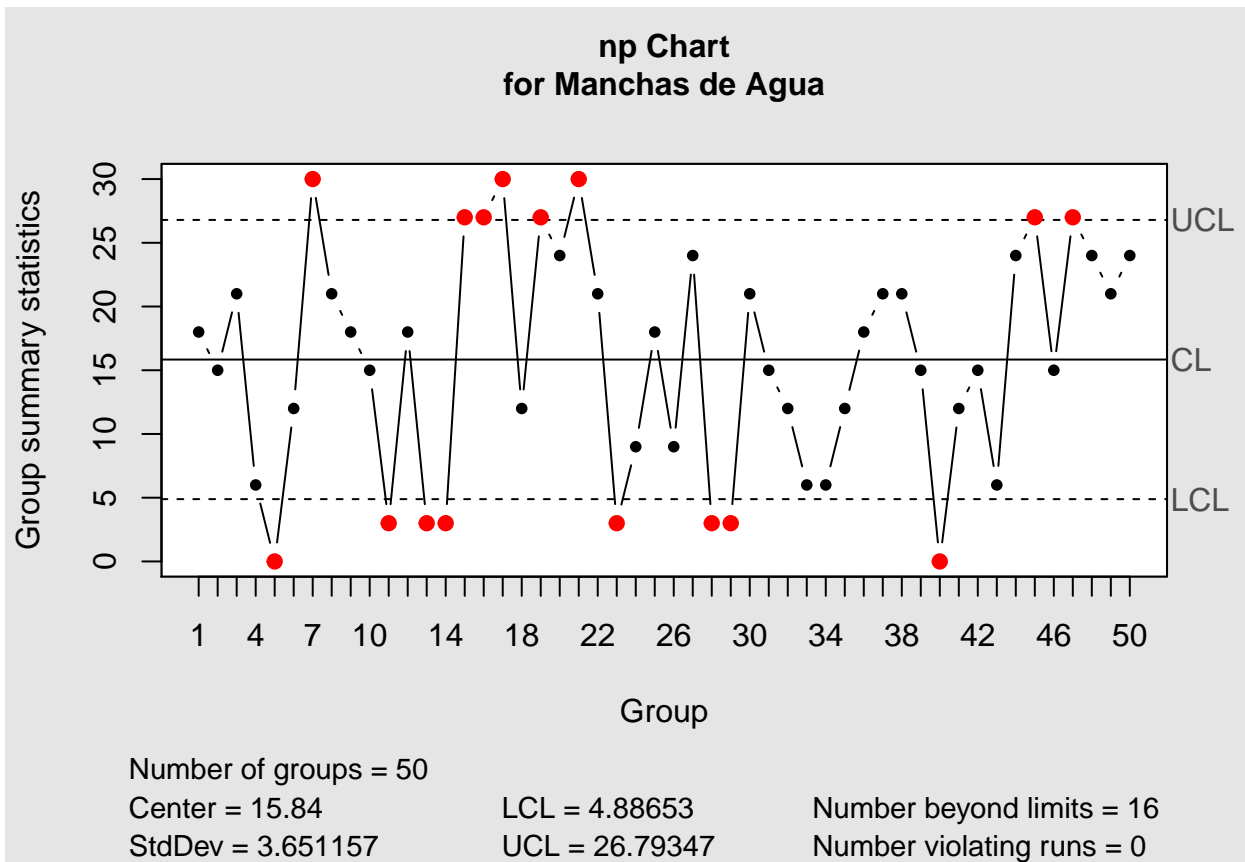StdDev = 1.597296   UCL = 7.411889   Number violating runs = 0

Rebaba_en_corona

```
## List of 11
##  $ call      : language qcc(data = Rebaba_en_corona$Rebaba.en.corona, type = "np", sizes = Rebaba_en_
##  $ type      : chr "np"
##  $ data.name : chr "Rebaba en corona"
##  $ data      : int [1:50, 1] 4 0 5 3 5 2 2 0 3 4 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:50] 4 0 5 3 5 2 2 0 3 4 ...
##   ..- attr(*, "names")= chr [1:50] "1" "2" "3" "4" ...
##  $ sizes     : int [1:50] 100 100 100 100 100 100 100 100 100 100 ...
##  $ center    : num 2.62
##  $ std.dev   : num 1.6
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 0 7.41
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```
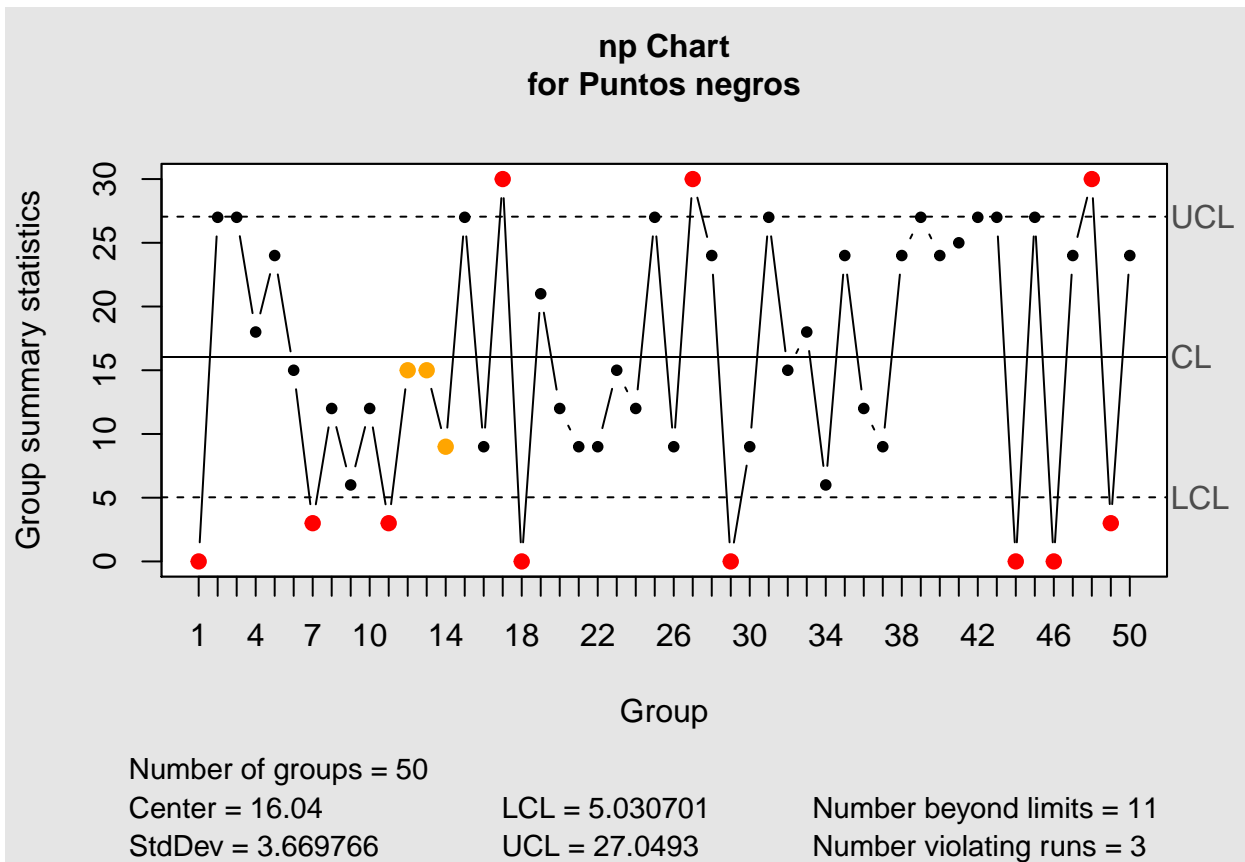
```
Manchas_De_Agua <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Manchas
Manchas_De_Agua <- with(Manchas_De_Agua, qcc(Manchas_De_Agua$Manchas.de.agua, Manchas_De_Agua$X, type =
```

np Chart
for Manchas de Agua

Number of groups = 50

Center = 15.84	LCL = 4.88653	Number beyond limits = 16
StdDev = 3.651157	UCL = 26.79347	Number violating runs = 0

```
Manchas_De_Agua
```

```
## List of 11
##  $ call      : language qcc(data = Manchas_De_Agua$Manchas.de.agua, type = "np", sizes = Manchas_De_A
##  $ type      : chr "np"
##  $ data.name : chr "Manchas de Agua"
##  $ data      : int [1:50, 1] 18 15 21 6 0 12 30 21 18 15 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:50] 18 15 21 6 0 12 30 21 18 15 ...
##   ..- attr(*, "names")= chr [1:50] "1" "2" "3" "4" ...
##  $ sizes     : int [1:50] 100 100 100 100 100 100 100 100 100 100 ...
##  $ center    : num 15.8
##  $ std.dev   : num 3.65
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 4.89 26.79
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```
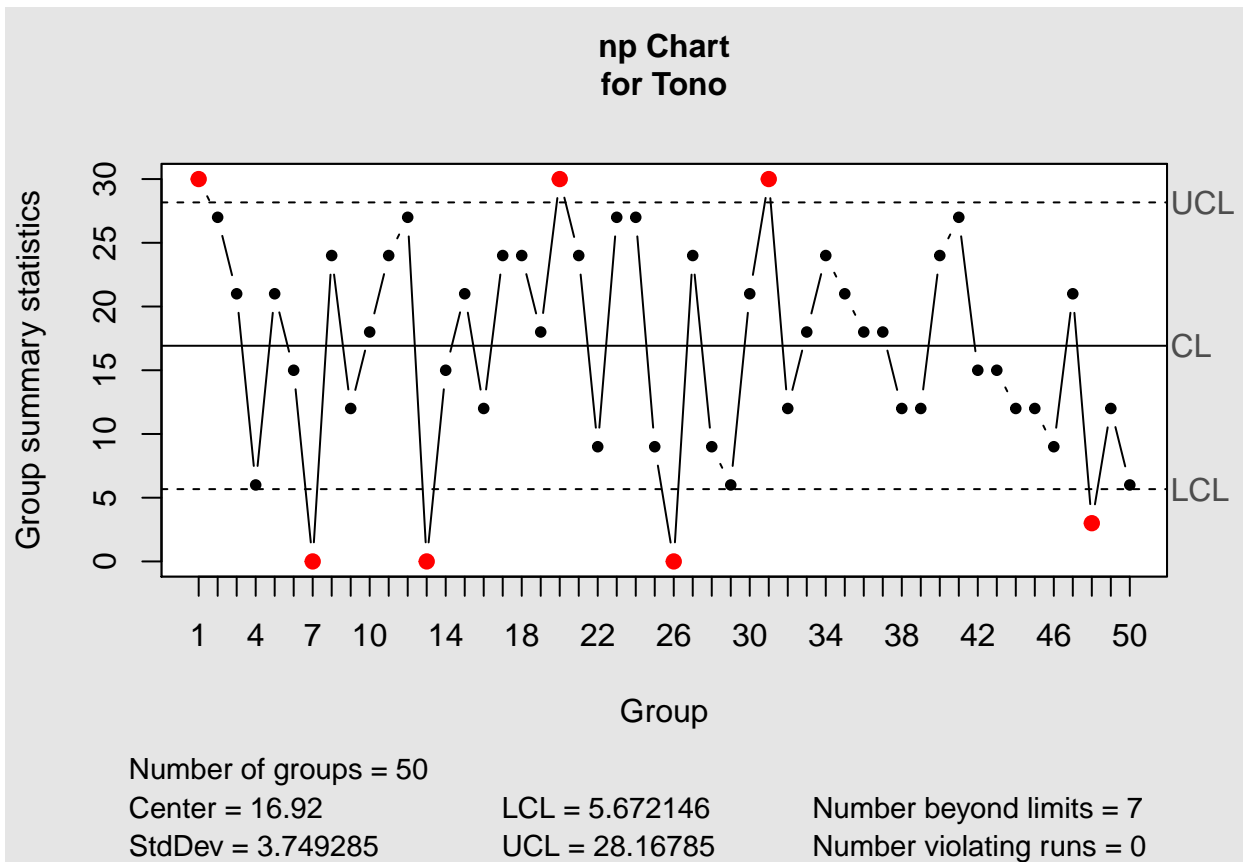
```
Puntos_negros <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica -Caso 2/DBs/Puntos neg
Puntos_negros <- with(Puntos_negros, qcc(Puntos_negros$Puntos.negros, Puntos_negros$X, type = "np", dat
```

**np Chart
for Puntos negros**

Number of groups = 50
Center = 16.04
StdDev = 3.669766

LCL = 5.030701
UCL = 27.0493

Number beyond limits = 11
Number violating runs = 3

```
Puntos_negros
```

```
## List of 11
##  $ call      : language qcc(data = Puntos_negros$Puntos.negros, type = "np", sizes = Puntos_negros$X
##  $ type      : chr "np"
##  $ data.name : chr "Puntos negros"
##  $ data      : int [1:50, 1] 0 27 27 18 24 15 3 12 6 12 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:50] 0 27 27 18 24 15 3 12 6 12 ...
##   ..- attr(*, "names")= chr [1:50] "1" "2" "3" "4" ...
##  $ sizes     : int [1:50] 100 100 100 100 100 100 100 100 100 100 ...
##  $ center    : num 16
##  $ std.dev   : num 3.67
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 5.03 27.05
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```

```r
Tono <- read.csv("/Users/rudiks/Git/Estadistica_Inferencial/Estadistica –Caso 2/DBs/Tono.csv")
Tono <- with(Tono, qcc(Tono, X, type = "np", data.name = "Tono"))
```

np Chart for Tono

Number of groups = 50
Center = 16.92   LCL = 5.672146   Number beyond limits = 7
StdDev = 3.749285   UCL = 28.16785   Number violating runs = 0

Tono

```
## List of 11
##  $ call      : language qcc(data = Tono, type = "np", sizes = X, data.name = "Tono")
##  $ type      : chr "np"
##  $ data.name : chr "Tono"
##  $ data      : int [1:50, 1] 30 27 21 6 21 15 0 24 12 18 ...
##   ..- attr(*, "dimnames")=List of 2
##  $ statistics: Named int [1:50] 30 27 21 6 21 15 0 24 12 18 ...
##   ..- attr(*, "names")= chr [1:50] "1" "2" "3" "4" ...
##  $ sizes     : int [1:50] 100 100 100 100 100 100 100 100 100 100 ...
##  $ center    : num 16.9
##  $ std.dev   : num 3.75
##  $ nsigmas   : num 3
##  $ limits    : num [1, 1:2] 5.67 28.17
##   ..- attr(*, "dimnames")=List of 2
##  $ violations:List of 2
##  - attr(*, "class")= chr "qcc"
```