

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

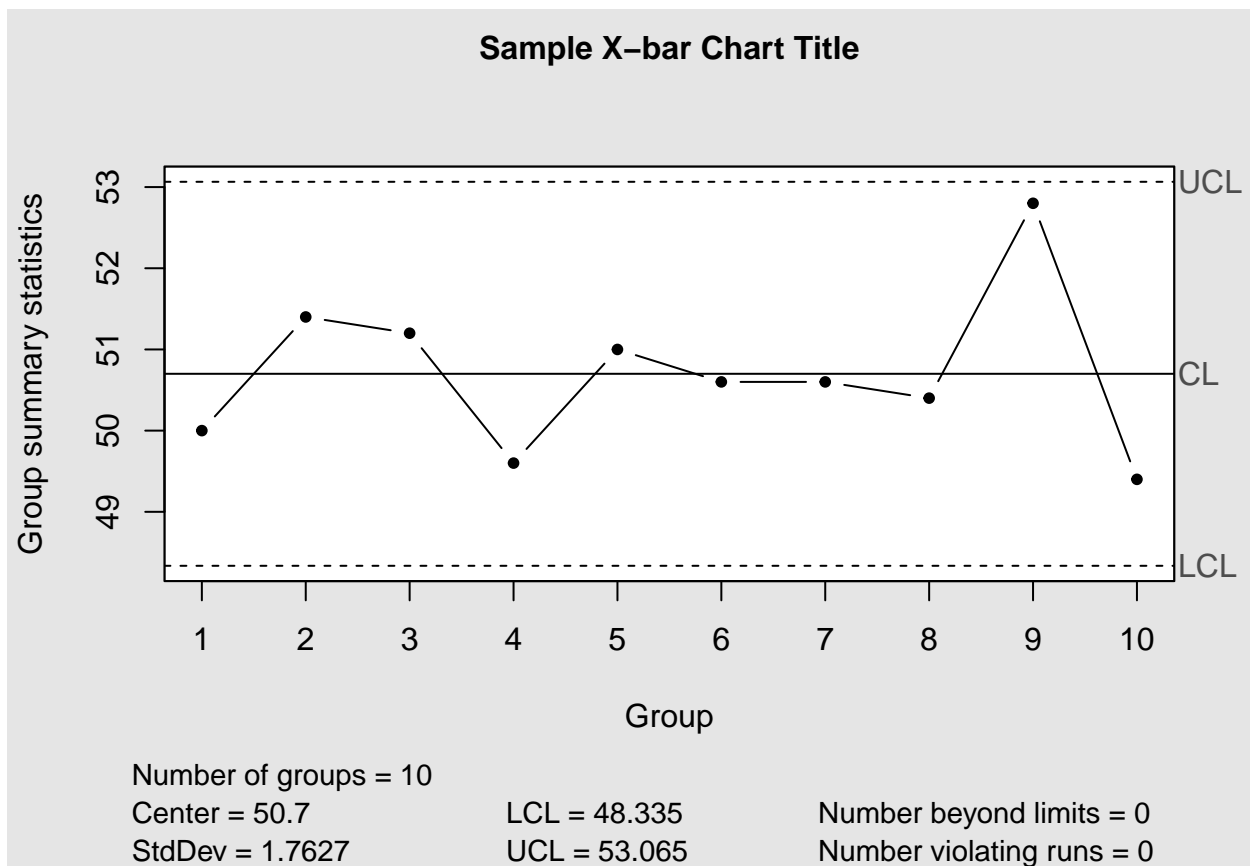
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
library(qcc)
```

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

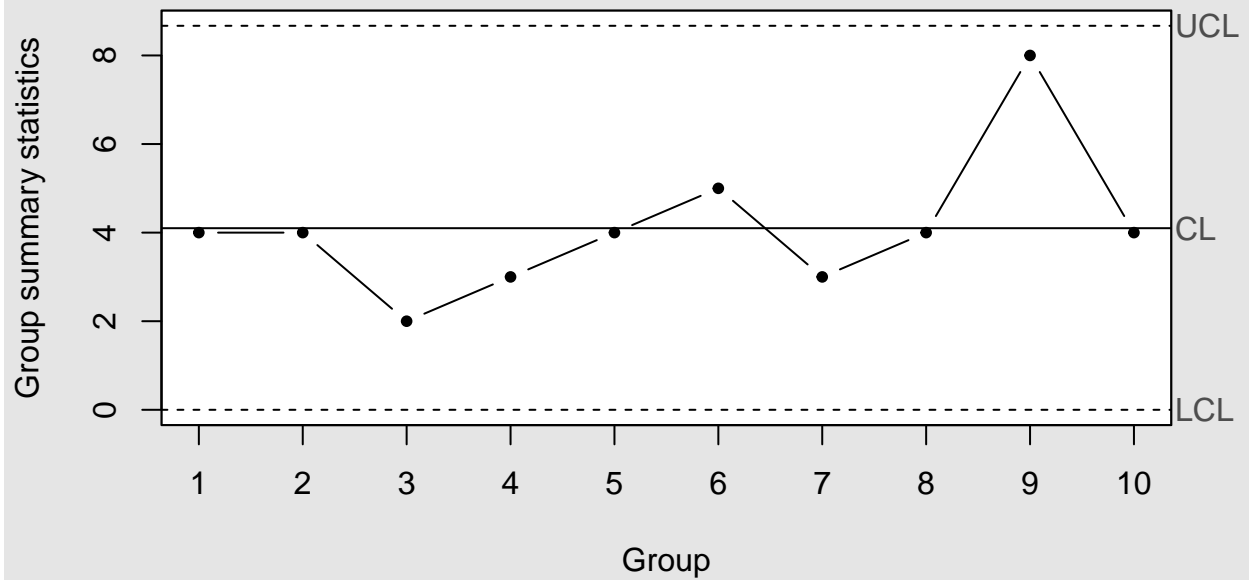
```
## Type 'citation("qcc")' for citing this R package in publications.
```

```
#Chart Data (5 samples (n=5) taken each hour for 10 hours)
chartdata <- read.table(header = FALSE, text = "
49 50 49 49 53
51 53 51 53 49
51 52 52 50 51
48 50 50 51 49
50 51 49 53 52
48 51 51 53 50
51 52 49 51 50
48 50 52 51 51
49 52 53 53 57
48 50 48 52 49")
# plot xbar chart
xbar <- qcc(data = chartdata,
  type = "xbar",
  sizes = 5,
  title = "Sample X-bar Chart Title",
  digits = 5,
  plot = TRUE, bg.margin = "white", bg.figure = "white")
```



```
# R Chart
rbar <- qcc(data = chartdata,
  type = "R",
  sizes = 5,
  title = "Sample R Chart Title",
  digits = 5,
  plot = TRUE, bg.margin = "white", bg.figure = "white")
```

Sample R Chart Title



Number of groups = 10

Center = 4.1

StdDev = 1.7627

LCL = 0

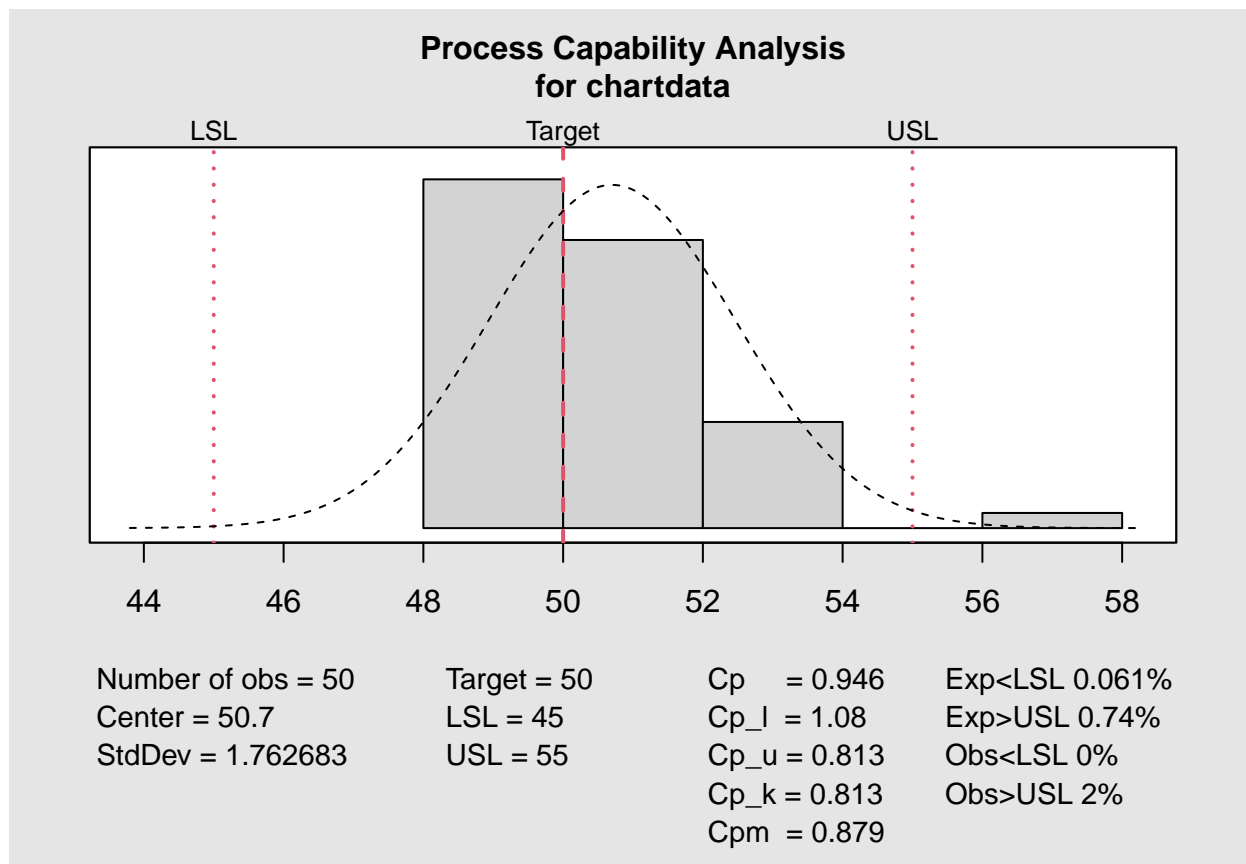
UCL = 8.6693

Number beyond limits = 0

Number violating runs = 0

Determine the Process Capability

```
process.capability(xbar,spec.limits=c(45,55),target= 50)
```



```
##
## Process Capability Analysis
##
## Call:
## process.capability(object = xbar, spec.limits = c(45, 55), target = 50)
##
## Number of obs = 50          Target = 50
##      Center = 50.7          LSL = 45
##      StdDev = 1.763          USL = 55
##
## Capability indices:
##
##      Value      2.5%    97.5%
## Cp      0.9455  0.7588  1.1319
## Cp_l    1.0779  0.8827  1.2731
## Cp_u    0.8132  0.6574  0.9689
## Cp_k    0.8132  0.6275  0.9988
## Cpm     0.8788  0.6957  1.0615
##
## Exp<LSL 0.061%    Obs<LSL 0%
## Exp>USL 0.74%    Obs>USL 2%
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.