# DynDocs with Word Example

Duncan Temple Lang

In this example, we embed parts of the examples from the kruskal.test help page into a Word document. This is taken as an almost direct copy of the example in the Sweave manual to aid understanding the similarities and differences between Sweave and this approach. Then we can process the document to

1. extract the code from the document to run directly in R or save to a file(s)
2. evaluate the code in order and insert the results into a new document along with the original text.

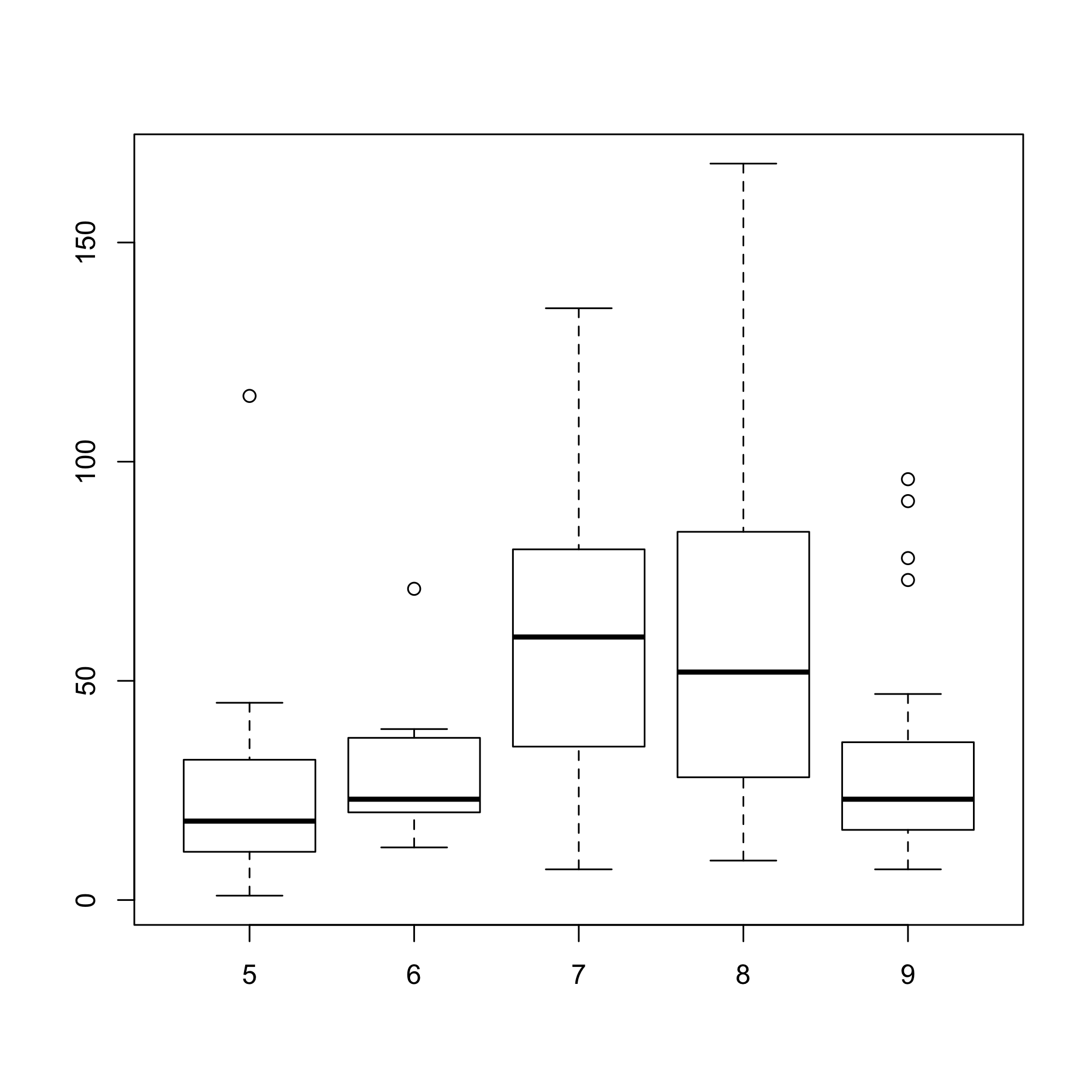
We start with the code and put it in a paragraph (with soft-line breaks) and set the style to be Rcode:

data(airquality)  
library(stats)  
kruskal.test(Ozone ~ Month, data = airquality)

Kruskal-Wallis rank sum test  
  
data: Ozone by Month   
Kruskal-Wallis chi-squared = 29.2666, df = 4, p-value =  
6.901e-06

This shows that the location parameter of the Ozone distribution varies significantly from month to month. We end by including a boxplot of the data:

boxplot(Ozone ~ Month, data = airquality)



## The Motor Trends cars data!

Here we look at the age-old mtcars dataset in R. We compute a simple two-way frequency table for the variables cyl and gear.

data(mtcars)  
xtabs( ~ cyl + gear, mtcars)

gear  
cyl 3 4 5  
 4 1 8 2  
 6 2 4 1  
 8 12 0 2

This illustrates the method for converting an R object of class table to a Word table.

# Adding styling information for R output

This illustrates how we can generate content from R and put it into an existing and formatted element of the Word document. In this case, the element is a table.

sapply(c(3, 10, 20), function(lambda) rpois(6, lambda))

[,1] [,2] [,3]  
[1,] 7 10 16  
[2,] 3 8 20  
[3,] 4 11 19  
[4,] 3 11 18  
[5,] 6 4 30  
[6,] 3 8 20

|  |  |  |
| --- | --- | --- |
| 1 | 7 | 13 |
| 2 | 8 | 14 |
| 3 | 9 | 15 |
| 4 | 10 | 16 |
| 5 | 11 | 17 |
| 6 | 12 | 18 |

This is another table that we can fill in from the result of the R code

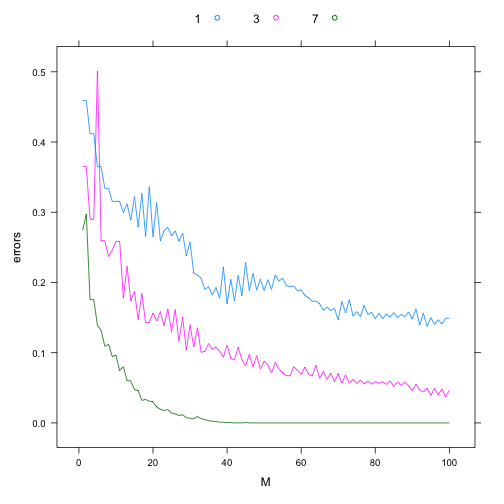
replicate(3, rnorm(5))

[,1] [,2] [,3]  
[1,] -0.3319724 1.8860461 -1.4821644  
[2,] -0.1529839 1.7633012 0.7947782  
[3,] -1.1275231 -0.1081769 -1.1547989  
[4,] 0.8875584 -1.5365964 -0.3968551  
[5,] 0.4913062 -0.6296783 0.1420654

|  |  |  |
| --- | --- | --- |
| 1 | 6 | 11 |
| 2 | 7 | 12 |
| 3 | 8 | 13 |
| 4 | 9 | 14 |
| 5 | 10 | 15 |

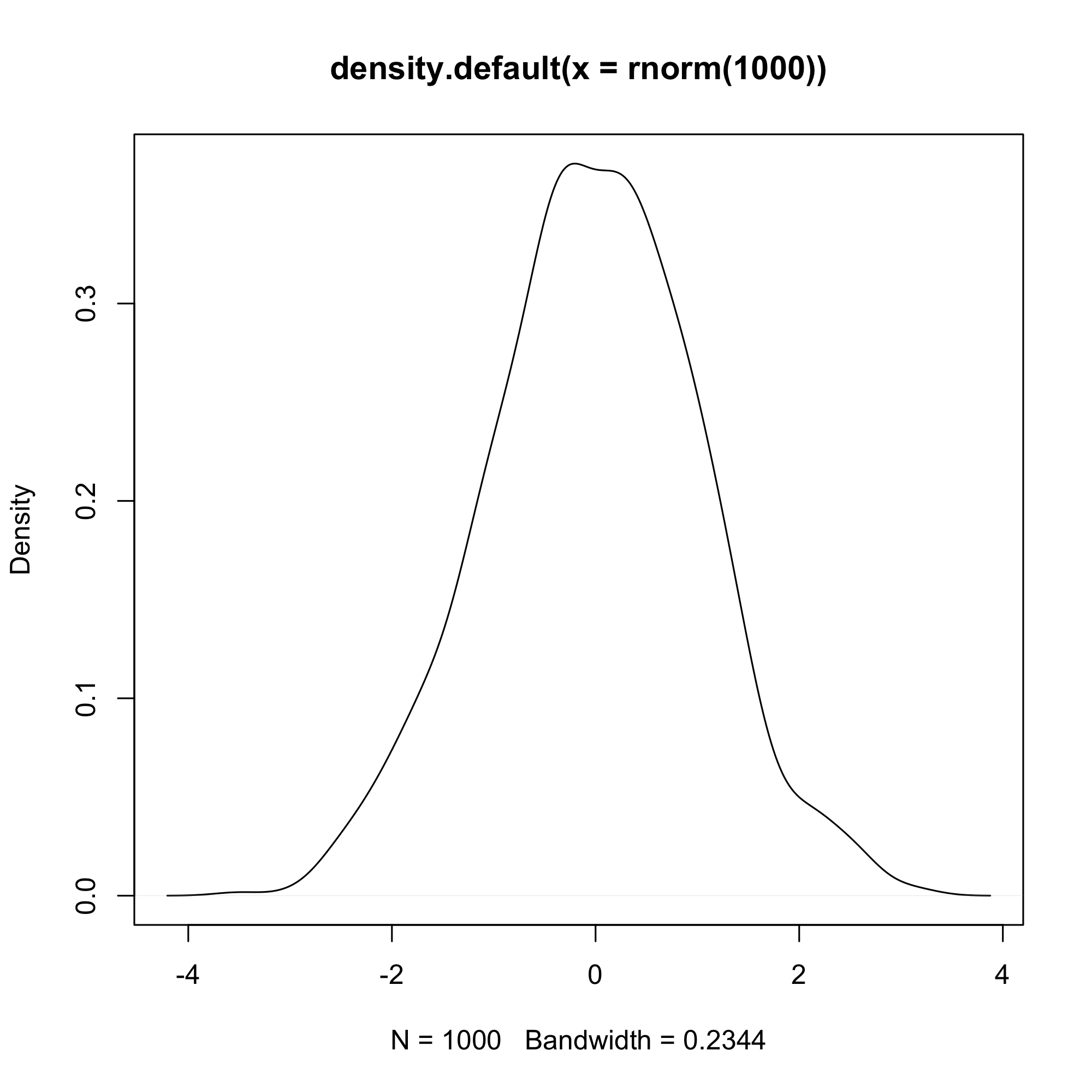
Next we insert a picture

plot(1:10, col = "red", type = "l")



Next we look at creating a plot and adding to the document immediately after the code but without an output "template".

plot(density(rnorm(1000)))



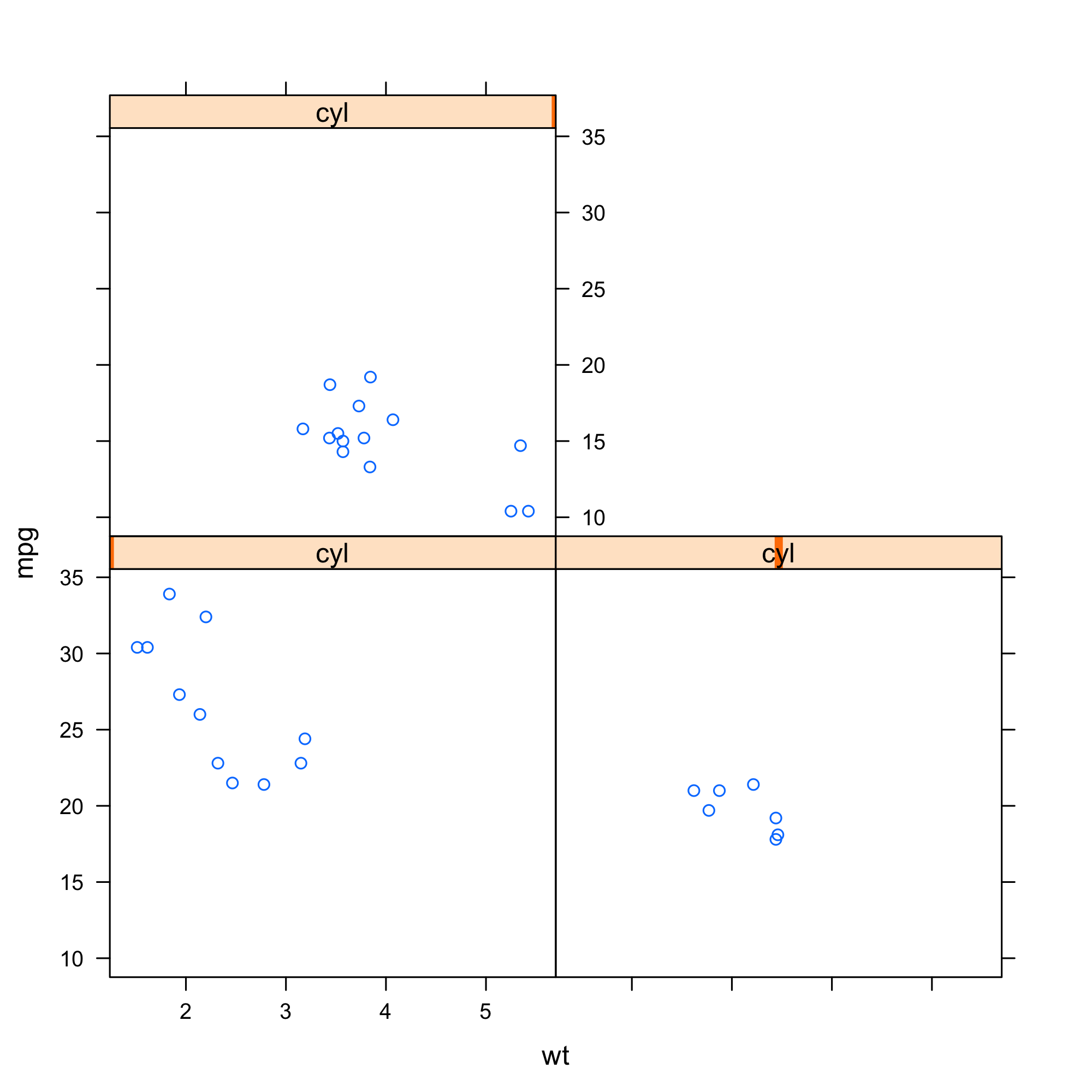
The following is an example of a lattice plot. We first load the lattice package:

library(lattice)

[1] "lattice" "RWordXML" "ROOXML" "stats" "graphics"   
 [6] "grDevices" "datasets" "utils" "methods" "base"

Then we can create the plot:

xyplot(mpg ~ wt | cyl, mtcars)



and illustrates conditioning.

And finally, another plot

plot(1:20)

