Short introduction to R

Start R:
> R
Exit R:
> q() or Ctrl+D

Help to commands
> ?plot
or more general
> ??solve #equals to
> help.search("solve")
e.g. search for ?help.search for more information

Execute an R script within R:
> source("script.R")

Vectors:
> K = c(1,2,3,4,5) #is equal to
> K = 1:5 # and leads to a vector of 5 elements from 1 to 5

Access vectors:
> K[1] #→ 1 **vectors start with 1 not with 0**
> K[K%%2==0] # →returns all value modulo (%%) 2 equals to zero
> K
[1] 2 4

Matrices
> K = matrix(1:25,nrow=5,ncol=5) # leads to a 5x5 matrix with values from 1-25
> K #if no command is used the content of the variable is printed
```
     [,1] [,2] [,3] [,4] [,5]
[1,]   1    6   11   16   21
[2,]   2    7   12   17   22
[3,]   3    8   13   18   23
[4,]   4    9   14   19   24
[5,]   5   10   15   20   25
```

Return first column:
> K[,1]
[1] 1 2 3 4 5
Returns the first row
> K[1,]
[1] 1 6 11 16 21
Return the first two rows
> K[1:2,]
```
     [,1] [,2] [,3] [,4] [,5]
[1,]   1    6   11   16   21
[2,]   2    7   12   17   22
```

Useful links:
- A more comprehensive introduction for R:
  - http://cran.r-project.org/doc/manuals/R-intro.pdf
- Other cheatsheets:
  - http://cran.r-project.org/doc/contrib/refcard.pdf
  - http://cran.r-project.org/doc/contrib/Baggott-refcard-v2.pdf
- Search engine related to R:
  - http://www.rseek.org/