A brief introduction to R and Rstudio

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R version

- version 3.4.3 (2017.11)

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- 32 bit / 64 bit (3.0)

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- Microsoft R Open 3.4.3 (Microsoft)

Program installment

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  //msdn.microsoft.com/en-us/microsoft-r/

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Program installment

- R website: http://www.r-project.org/
- Microsoft R(Revolution Analytics):https://msdn.microsoft.com/en-us/microsoft-r/
- Integrated Development Environment (IDE):Notepad++, Submile, Eclipse (StatET)...
- Rstudio: http://www.rstudio.com/

Rstudio settings

- menu:Tools-> Global options
- appearance (tomorrow night bright)
- default directory (preference->default woring directory)
- svn/git (details about version control later)

Rstudio interface

- console: interactive (ctrl+L)

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- Enviorment,history,presentation
- plot,packages

help

```
help('lm')    #"" can be omited,but not for +-*/
?lm
example('lm') # "" can be omited
apropos("mean") # "" can't be omited
vignette("caret") #"" can't be omited
```

- English
- www.google.com
- http://www.rseek.org/
- http://stackoverflow.com/tags
- http://www.r-bloggers.com/

Workspace

```
search() #loaded package
```

```
 [1] ".GlobalEnv"        "package:vcd"       "package:grid'
 [4] "package:dplyr"     "package:foreign"   "package:xtabl
 [7] "package:knitr"     "package:stats"     "package:graph
[10] "package:grDevices" "package:utils"     "package:datas
[13] "package:methods"   "Autoloads"         "package:base'
```

R 初始状态载入包列表

包	描述
stats	常用统计函数
graphics	基础绘图函数
grDevices	基础或 grid 图形设备
utils	R 工具函数
datasets	基础数据集

packages

Packages are collections of R functions, data, and compiled code in a well-defined format.

- https://mirrors.ustc.edu.cn/CRAN/

Workspace

```r
ls() #user-defined object
#up/down arrow: command history
getwd()
list.files()
# setwd("~/desktop") # special case for windows.
```

file and folder

R	Stata/Linux
getwd()	pwd
setwd()	cd
list.files()/dir()	ls
dir.create()	mkdir

packages installment

- search() .libPaths()
- install.packages() ## need "",with menu
- install.packages("packageName.tgz",repos = "http://cran.us.r-project.org/", type="source")
- system('R CMD INSTALL packageName.tgz') ##local package
- install.packages("packageName.tgz",repos = NULL) ## local package
- install_github(repo =, username =) library(devtools) #be cautious.

packages loading/unloading

- library(foreign); require(foreign)

```
if(!require(foreign)) install.packages('foreign')
```

packages loading/unloading

- library(foreign); require(foreign)
- detach(package:foreign)

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packages loading/unloading

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- bonus

```
if(!require(foreign)) install.packages('foreign')
```

options

- options()
- options()$digits
- options(stringsAsFactors)