Module 1: R Programming Language

https://cran.r-project.org/doc/manuals/R-intro.pdf

RStudio is a four pane work-space for 1) creating file containing R script, 2) typing R commands, 3) viewing command histories, 4) viewing plots and more.
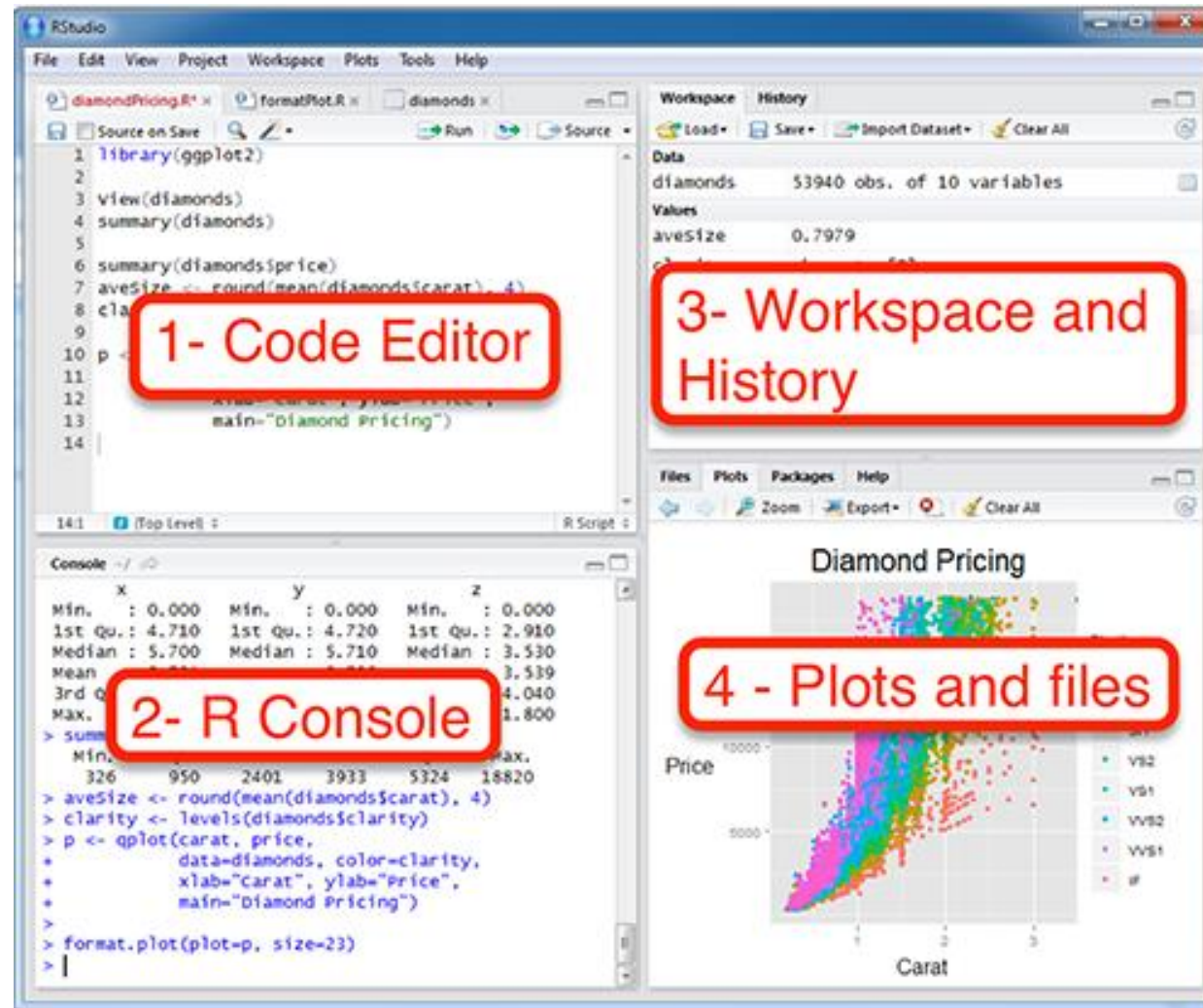
1.Top-left panel:
◦Code editor allowing you to create and open a file containing R script.
◦The R script is where you keep a record of your work. R script can be created as follow:
File –> New –> R Script

2.Bottom-left panel:
◦R console for typing R commands

3.Top-right panel:
◦Workspace tab: shows the list of R objects you created during your R session
◦History tab: shows the history of all previous commands

4.Bottom-right panel:
◦Files tab: show files in your working directory
◦Plots tab: show the history of plots you created. From this tab, you can export a plot to a PDF or an image files
◦Packages tab: show external R packages available on your system. If checked, the package is loaded in R.

Importing your data

R allows for the import of different data formats using specific packages that can make your job easier:

- readr: importing flat files into R
- readxl: getting excel files into R
- haven: import SAS, STATA and SPSS data files into R.
- RMySQL and RpostgreSQL: Databases, access and manipulate via DBI
- rvest: webscraping

Example: mydata=read.csv(file="C:/.....csv", header=TRUE)

https://www.datacamp.com/community/tutorials/r-data-import-tutorial

Manipulating your data

- tidyr package: tidying the data

- stringr package: string manipulation

- dplyr package: for data frame like objects
  - set of verbs: mutate(), select(), filter(), summarise(), arrange()

- data.table package: heavy data wrangling tasks

- zoo, xts and quantmod: Performing time series analysis

Use R!

Phil Spector

Data Manipulation
with R

Springer
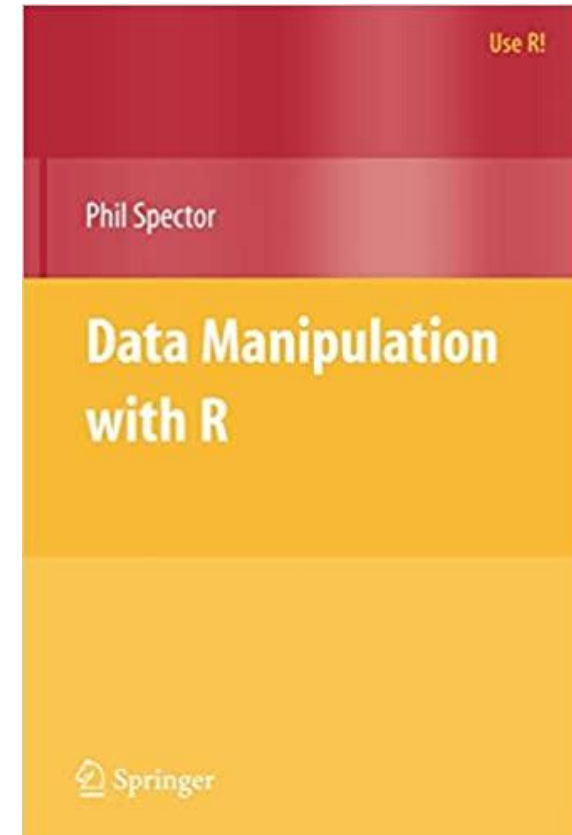
Using packages

1

install.packages("readr")

Downloads files to computer
1 x per computer

2

library("readr")

Loads package
1 x per R Session