Stevens Institute of Technology

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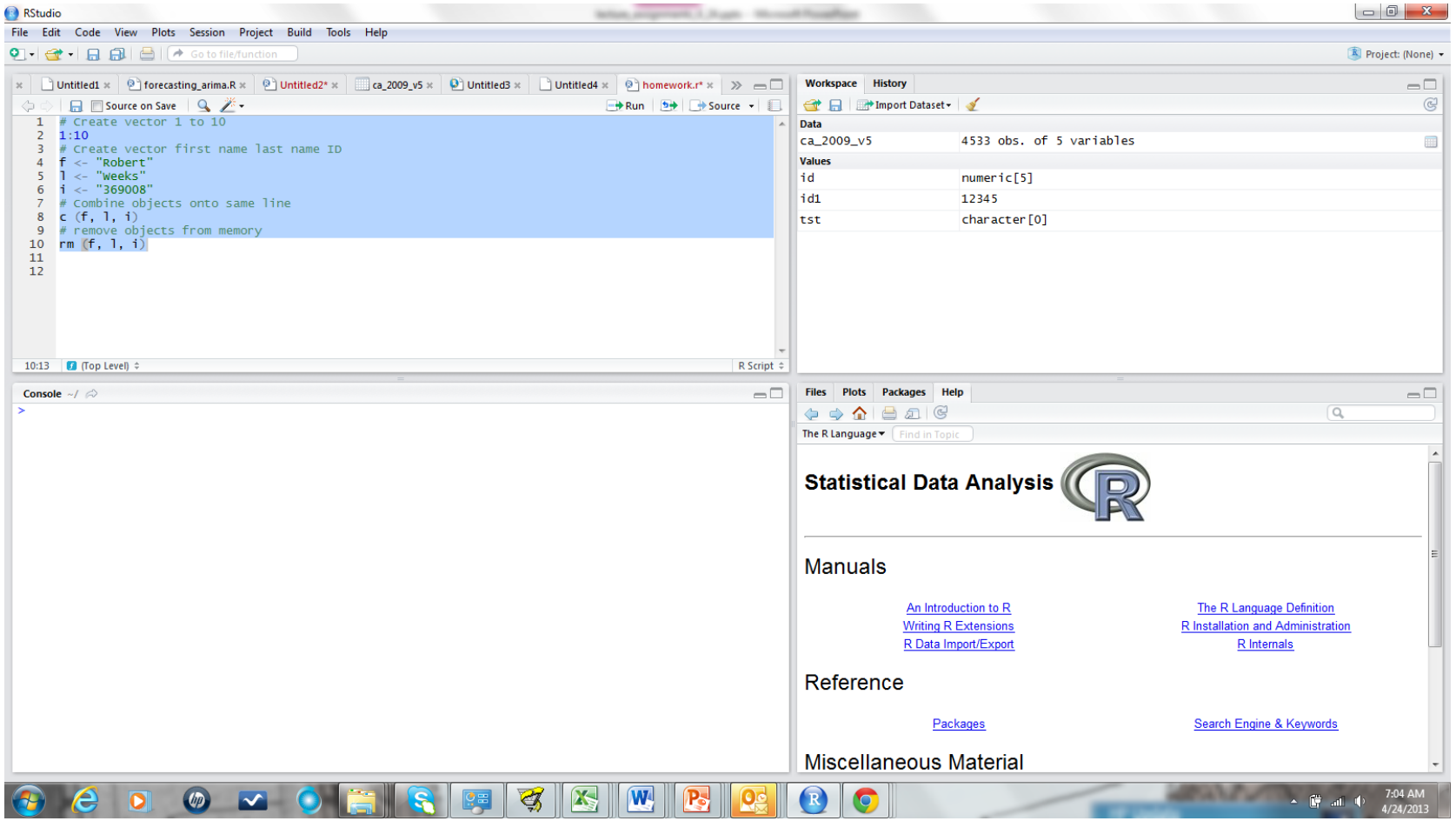
R and R-Studio - - Download

R and R Studio Download

http://www.r-project.org/

http://www.rstudio.com/ide/download/

Intro to R: R-Studio



Intro to R Help

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Intro to R: Help

- Online Manuals
  - http://127.0.0.1:40040/doc/html/index.html
- Google

What is R?

- R is a dialect of S
- S language was designed for data analysis and not programming
- S is a language that was developed by John Chambers and others at the old Bell Telephone Laboratories in 1970s.
- R was created by Ross Ihaka and Robert Gentleman in the Department of Statistics at the University of Auckland. In 1993

Advantages: R

- Is free. Downloads from "Comprehensive R Archive Network[15], also known as CRAN" are free.
- Runs on almost any standard computing platform and operating system. modern tablets, phones, PDAs, and game consoles
- Has frequent releases
- Is both useful for interactive work, but contains a powerful programming language for developing new tools
- Sophisticated graphics capabilities

Disadvantages

- R lacks reliable/standard technical support
- There are over 4000 packages on CRAN
- There is no reliable listing of all these packages.
- R object are stored in physical memory
- R has little built in support for dynamic or 3-D graphics (but things have improved greatly since the “old days”).
- R functionality is based on consumer demand and(voluntary) user contributions.

R Philosophy: R should

- make data analysis easier. So it is designed for data analysts and not programmers. But
- support programming when needed
- support interactive environment

R Philosophy

- R at heart is a FUNCTIONAL language

Function

- A relation between two sets in which one element of the second set is assigned to each element of the first set

$$z(x_1, x_2) = x_1 + x_2$$

$$z(X) = x_1 + x_2$$

$$z(x_1, x_2, y_1, y_2) = x_1 + y_1, x_2 + y_2$$

$$z(X, Y) = (X + Y) = x_1 + y_1, x_2 + y_2$$