

Northeastern University

CS6020: Collecting, Storing, and Retrieving Information

Data Import

Data Import

INSTALLING & LOADING PACKAGES

Lesson Objectives

- After completing this lesson, you are able to:
 - determine when to use a package
 - locate a package
 - install a package
 - load a package into R
 - use contents of package

What is a Package?

- Packages are collections of **R** functions, data, and compiled code in a well-defined format.
- The directory where packages are stored is called the library.
- **R** comes with a standard set of packages, but others are available for download.
- Once installed, they have to be loaded into the session before they can be used.

Functions to Use With Packages

- `.libPaths()` to get library location
- `library()` to list all installed packages
- `search()` to list currently loaded packages
- `require()` to load a package for use

Installation Steps

1. Choose **Install Packages** from the **Packages** menu
2. Select a **CRAN Mirror**
3. Select a package (*e.g.*, XML or xlsx)
4. Then use the `library(XML)` function to load it for use

Installing packages in *RStudio*

- To install a package (*e.g.*, XML) in *RStudio*, go to console and type:

```
> install.packages("XML")
```

Loading Packages into Environment

- Simply installing the package is not sufficient enough.
- Before the functions in a package can be used, the contents of a package has to be loaded into environment.

```
> library(XML)
> # or
> require(XML)
```


Using a Package

- Once the package is loaded, all the functions of the package can be used like any other user defined functions.
- For example, to use the `plot()` function of the ***ggplot2*** package, once the library is loaded just call it with its required parameters.

Summary

- In this lesson, you learned that:
 - packages extend the functionality of R
 - there are numerous contributed packages available for download through a CRAN mirror
 - packages must be installed and then loaded into the environment
 - the functions of a package, once loaded, are usable like built-in functions



Summary, Review, & Questions...