Session 2 - Introducing R 2

January 2015

Subsetting

Vectors

- Using an Integer Index
- Using Integer Index Vectors
- Using Name Indices
- Using Logical Vectors

Matrices and Arrays

- Entire Rows or Columns
- Using Indices
- Using Index Matrices
- Not dropping

Data Frames

- Retrieving rows using row indices
- Retrieving columns using column indices
- Retrieving columns using column names
- Retrieving data based on conditions

Input/Output Data

Data Input

- Reading Tabular Data : read.table(), read.csv()
- Reading text files and web pages: readLines()

Output to Files

- Write Tabular Data: write.table(), write.csv()

- Write to text files: writeLines()

Output to Screen

- Object name

- print()

- cat()

Basic R Functions

Exploratory Data Analysis Functions

- Viewing some rows of data: head(), tail()

- Structure of data: str()

Factor functions

- What are factors?

- Creating factors

- Changing other types to factors

apply family functions

- apply()

- lapply(), sapply()

- tapply(), mapply()

Date and time functions

- Date

- Time

Basic graphic functions

- hist()

- barplot()

- plot()

- boxplot()

R Packages

Introduction

- What is a Package?

- Base packages

Listing/Installing/Uninstalling Packages

- Listing available packages: library()

- Installing using install.packages()

- Installing using menu options

- Uninstalling: remove.packages()

Loading/Unloading Packages

- Loading packages: library(), require()

- Unloading packages: detach()

Getting Help

Getting Help with Packages

- help(), ?

- Using CRAN site

Getting Help with Functions

- help(), ?

- str(), args()

- Run function examples: example()