

# R Lesson 1

# Comparison of R and SAS

# R vs. SAS

## R

- Free
- No warranty
- Open source (CRAN) - 18095 packages and growing @ 1K – 2K/year
- No GUI
- Function/object based programming
- Nice, simple graphics

## SAS

- Annual license fee
- Excellent technical support
- Corporate R&D/QC
- Enterprise Guide GUI
- Conversational programming
- Complex graphics – GUI available

# R vs. SAS

## R

- Loops are slow -> Vectorize!!!
- Limitations on the types of data that R handles well
- Unable to handle large data sets quickly and efficiently
- No default method for writing out tabular reports
- Popular in Academia

## SAS

- All code loops
- Robust interface to all commercial data
- Scalable/efficient for large data
- ODS writes reports to all common formats
- Used extensively in FDA drug trials

# The Basics of R

# The R Environment

## ➤ Console

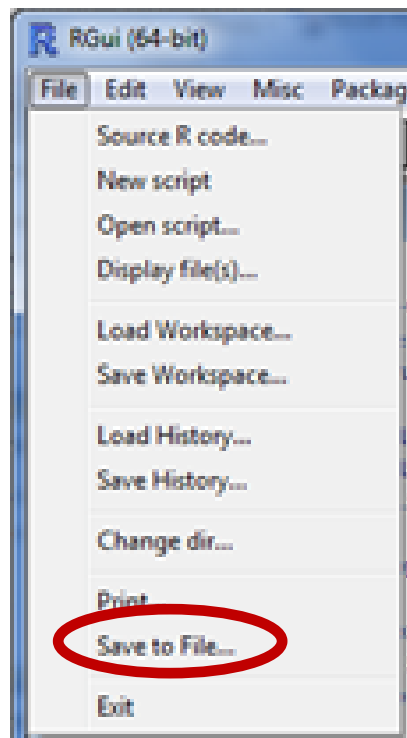
- Accepts commands, displays results and messages
- > Command prompt
- + Incomplete command
- Case sensitive
- Use Up arrow to retrieve previous command
- Use ; or new line to separate commands
- Use # to designate comments



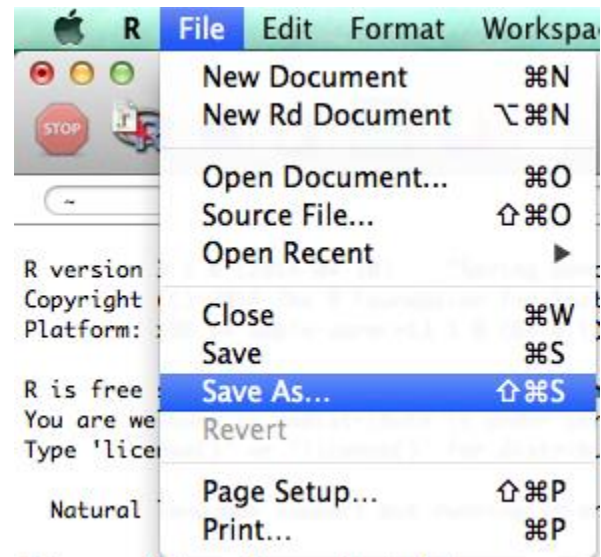
# The R Environment

## Saving the Console

- Windows



- Mac



# The R Environment

## ➤ Redirecting TEXT Output (results)

- `sink("filename", split=TRUE)`
  - `filename` = name & path of output file
  - `split=TRUE` – sends output to both file and console
  - `split=FALSE` – sends output to file only
- `sink()` - closes file
- `getwd()` – shows default path