



# RSTUDIO BASICS: COMMON ISSUES WITH RMD



# OUTLINE

## RStudio

- What is Rstudio?
- R vs RMD
- RMD file vs Console

## Common Issues / FAQs

- Installing vs Loading Packages
- Set Working Directory
- Paths: Absolute vs Relative
- Pipe Operator: Update tidyverse
- Macs
  - XQuartz
- Trouble Shooting
  - Read Error Messages
  - Inspect Console

## Knitting RMD Files

- Steps
- Common Issues
  - I/O
  - View()
  - Xquartz (Mac)

## Github

- What is Github
- How do I get files
- Pull Requests

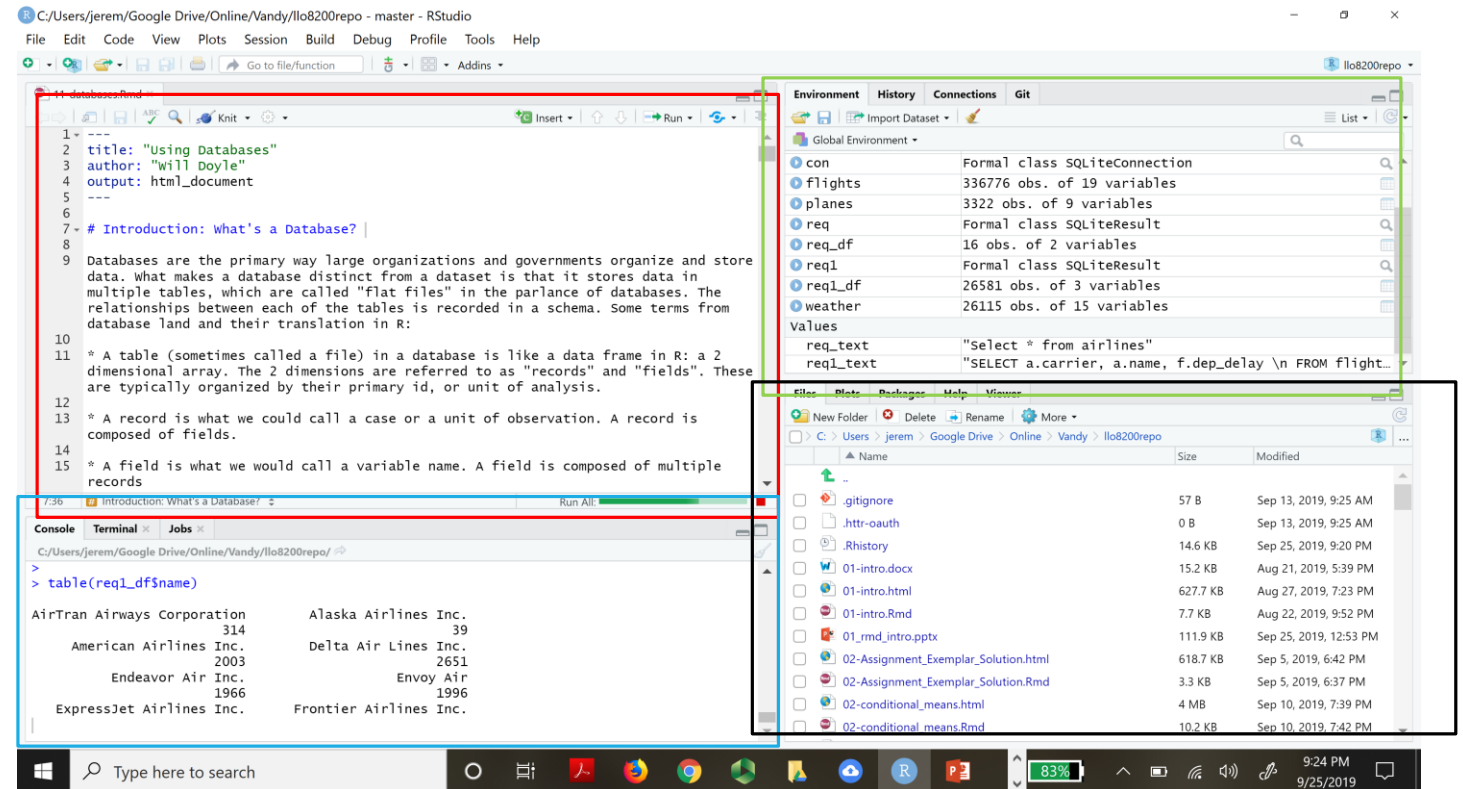
# RSTUDIO INTERFACE

## Interpreter

- Executes R code

## Interface

- Split into quadrants
- **Viewer**
- **Environment**
- **Console**
- **Files / Directory**



# VIEWER VS CONSOLE

## Viewer vs Console

- Files vs console
- Command prompt

The screenshot displays the RStudio environment with the following components:

- Source Editor:** Contains an R script titled "11-databases.Rmd". The script includes a YAML header with title, author, and output, followed by an introduction to databases and a code chunk named "Introduction: What's a Database?".
- Environment Pane:** Lists objects in the Global Environment, including 'con', 'flights', 'planes', 'req', 'req\_df', 'req1', 'req1\_df', and 'weather', along with their data types and dimensions.
- Files Pane:** Shows the file structure of the project, including .gitignore, .httr-oauth, .Rhistory, and various HTML and Rmd files.
- Console:** Shows the execution of the command `table(req1_df$name)`, resulting in a table of airline names and their frequencies.

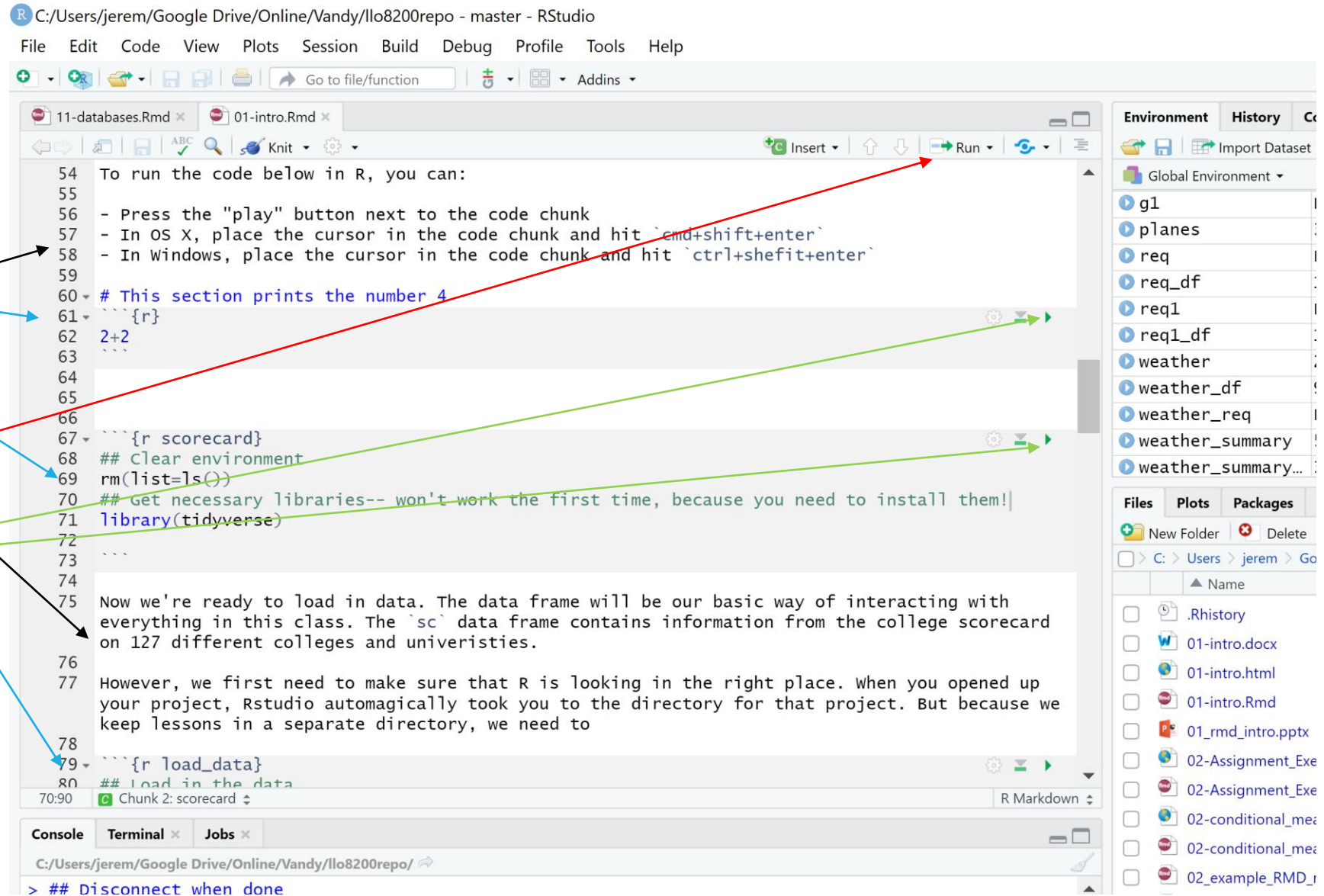
**Console Output:**

Airline	Count
AirTran Airways Corporation	314
American Airlines Inc.	2003
Endeavor Air Inc.	1966
ExpressJet Airlines Inc.	1996
Alaska Airlines Inc.	39
Delta Air Lines Inc.	2651
Envoy Air	1996
Frontier Airlines Inc.	1996

# R VS RMD

## RMD

- R-chunks
- Plain Text
- Formatting
  - See knit tutorial
- Execution
  - Run
  - Run by chunk



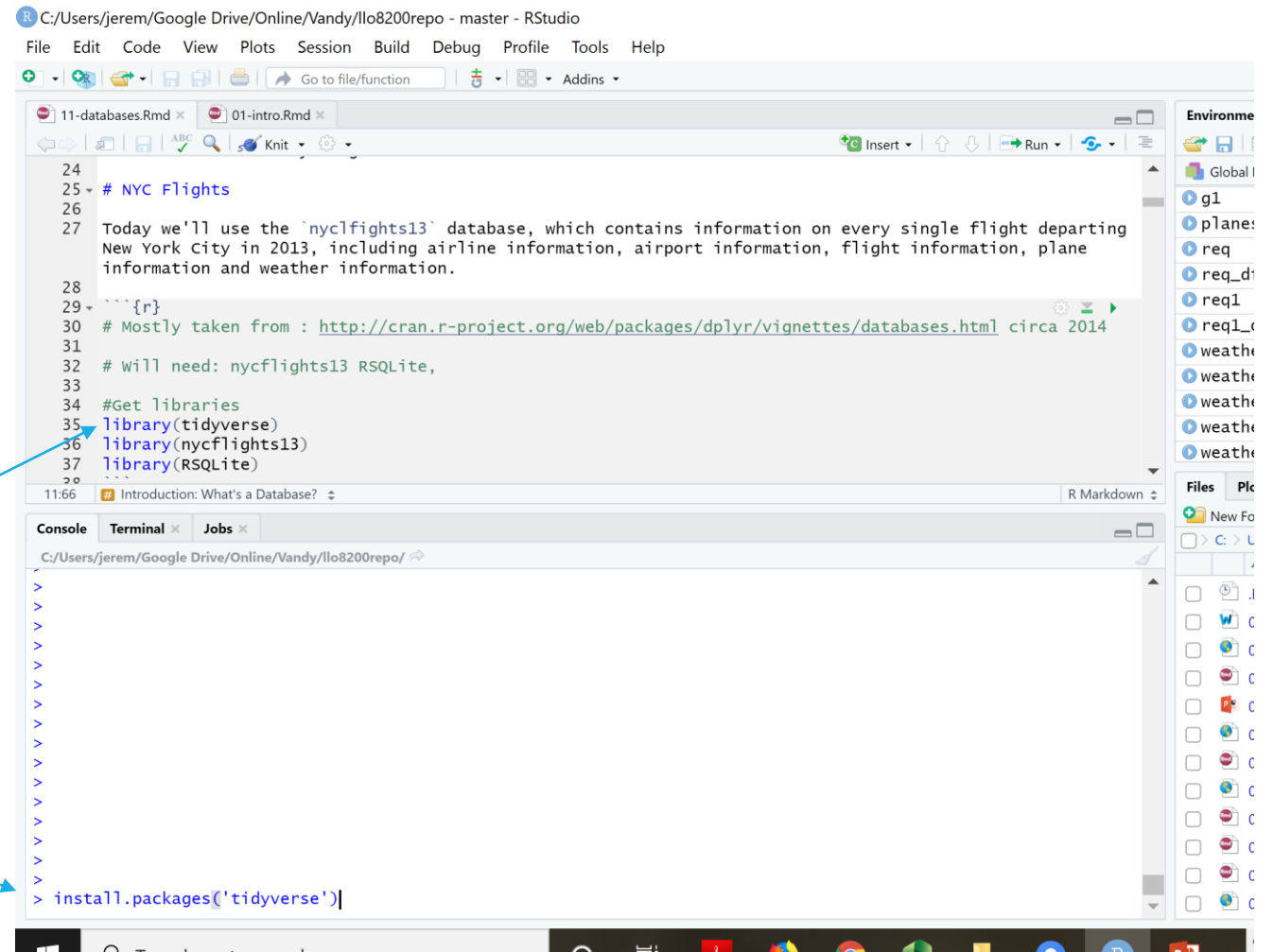
# INSTALLING VS LOADING PACKAGES

## Packages

- We will use many packages throughout the term
- Each package will need to be installed once
- Each package to be used must be loaded prior to each use

## ▪ Example

- Install tidyverse
- Load tidyverse



The screenshot shows the RStudio interface with a script editor and a console. The script editor contains the following R code:

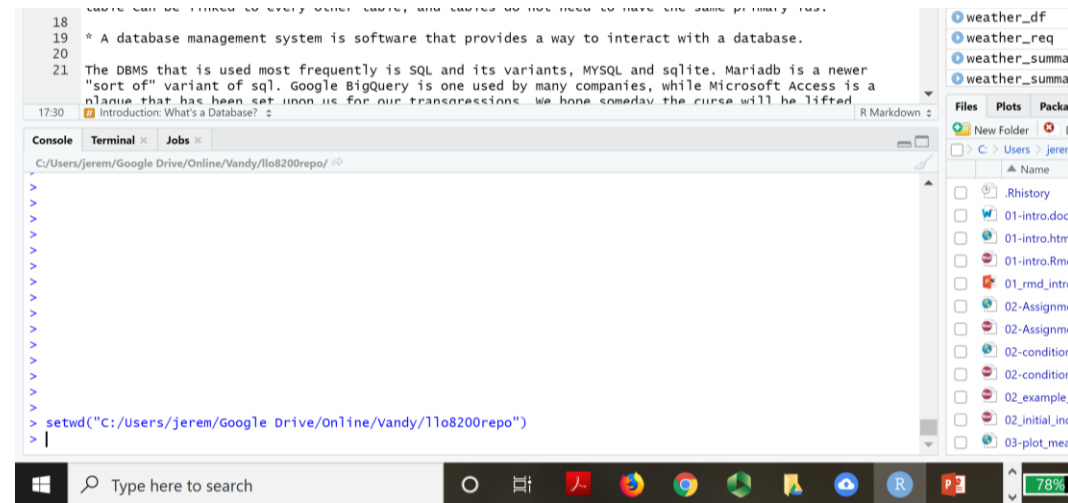
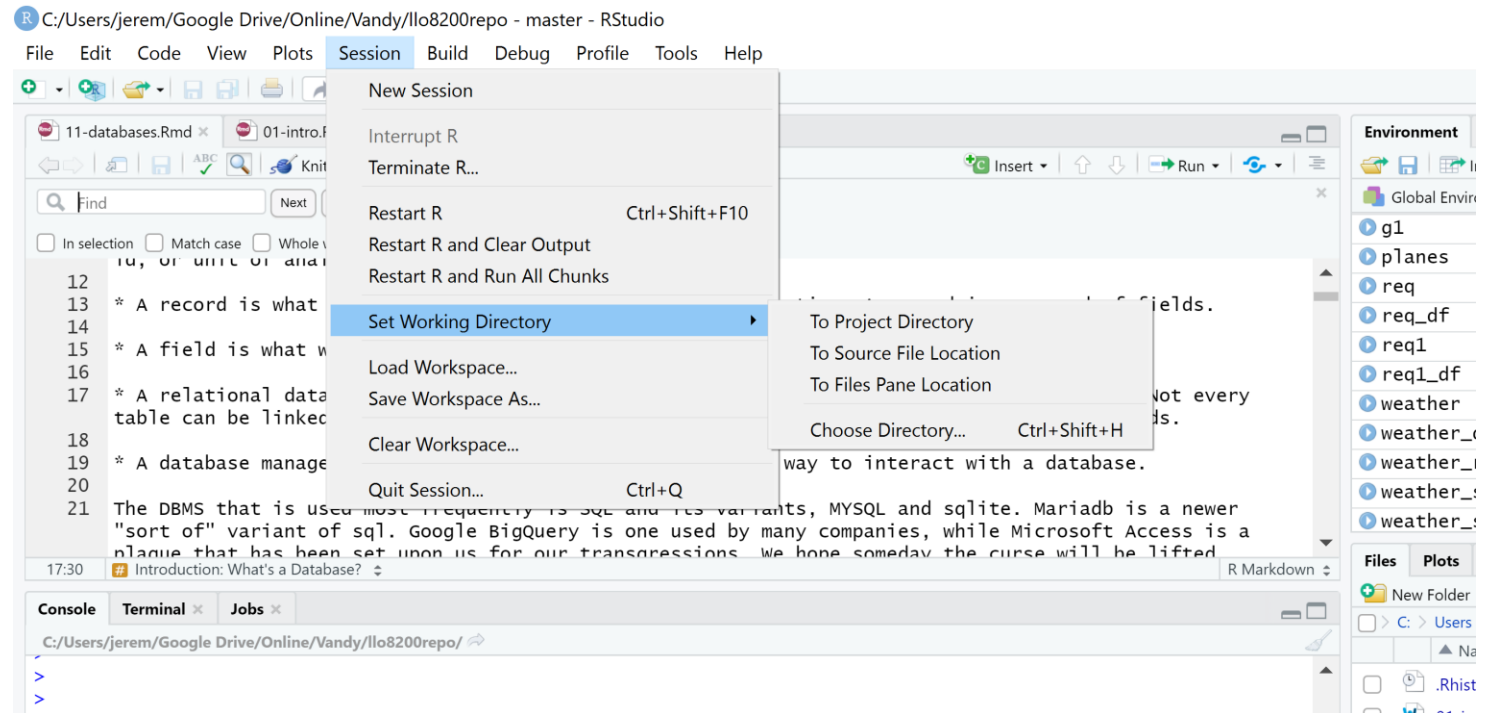
```
24  
25 # NYC Flights  
26  
27 Today we'll use the `nycflights13` database, which contains information on every single flight departing  
28 New York City in 2013, including airline information, airport information, flight information, plane  
29 information and weather information.  
30  
31 # Mostly taken from : http://cran.r-project.org/web/packages/dplyr/vignettes/databases.html circa 2014  
32  
33 # Will need: nycflights13 RSQLite,  
34  
35 #Get libraries  
36 library(tidyverse)  
37 library(nycflights13)  
38 library(RSQLite)  
39  
40
```

The console shows the command `install.packages('tidyverse')` being entered, which corresponds to the 'Install tidyverse' example in the list. A blue arrow points from the 'Load tidyverse' example to the `library(tidyverse)` line in the script. Another blue arrow points from the 'Install tidyverse' example to the `install.packages('tidyverse')` line in the console.

# WORKING DIRECTORY

The working directory is the folder where you executing program has access

- To read files
- Load data
- Write files
- etc





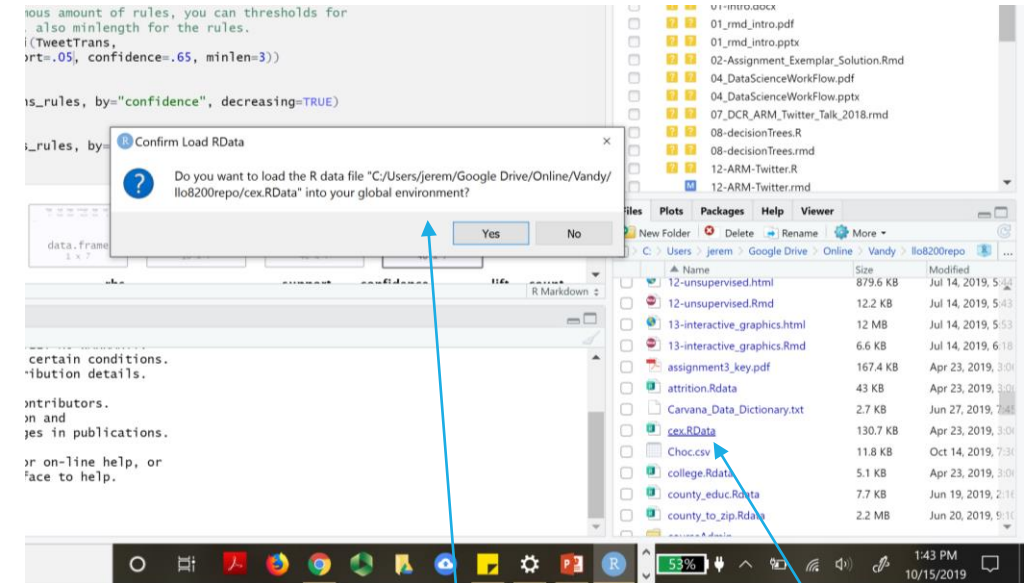
# ABSOLUTE VS RELATIVE PATHS

Absolute path is a sequence of names of folders starting at the root directory and ending at a file name

```
load("C:/Users/jerem/Google Drive/Online/Vandy/1lo8200repo/cex.Rdata")
```

Relative path may only include the file name.

```
load("cex.Rdata")
```



Click here

Find absolute path here



# PIPE OPERATOR

Pipe Operator: `%>%`

Common issues / fixes

update tidyverse

mac users: install xquartz

On **Mac OS X** if you use RStudio or R from the terminal, you must have a copy of XQuartz, the X11 window manager, installed. This is no longer a default install since Mac OS X 10.8. You need to install XQuartz. Logout and login for the installation to take effect.

You can get it from <https://xquartz.macosforge.org/landing/>.

This page is also linked from the [Download R for \(Mac\) OS X](#) page.

# TROUBLE SHOOTING

Troubleshooting and debugging is part of the programming experience. I cannot help you overcome all obstacles; instead you will learn to be self-sufficient.

1. Read the error messages – they can be very useful
  1. What lines are mentioned?
  2. What key words are mentioned?
2. Check the console
  1. Error messages are here
  2. Assess the state of execution

# KNITTING RMD FILES

## Knitting RMD Files

- FIRST: *Read the tutorial I posted ... it contains all info you will need.*
- Common Issues
  - I/O
    - Remove I/O if possible, otherwise you may not be able to knit ... which is OK
  - View()
    - Fix: Simply remove or comment out this code as it is for viewing only
  - Xquartz (Mac)
    - Install and run xquartz
    - See tutorial posted.
  - R-Chunk Labels must be unique!!

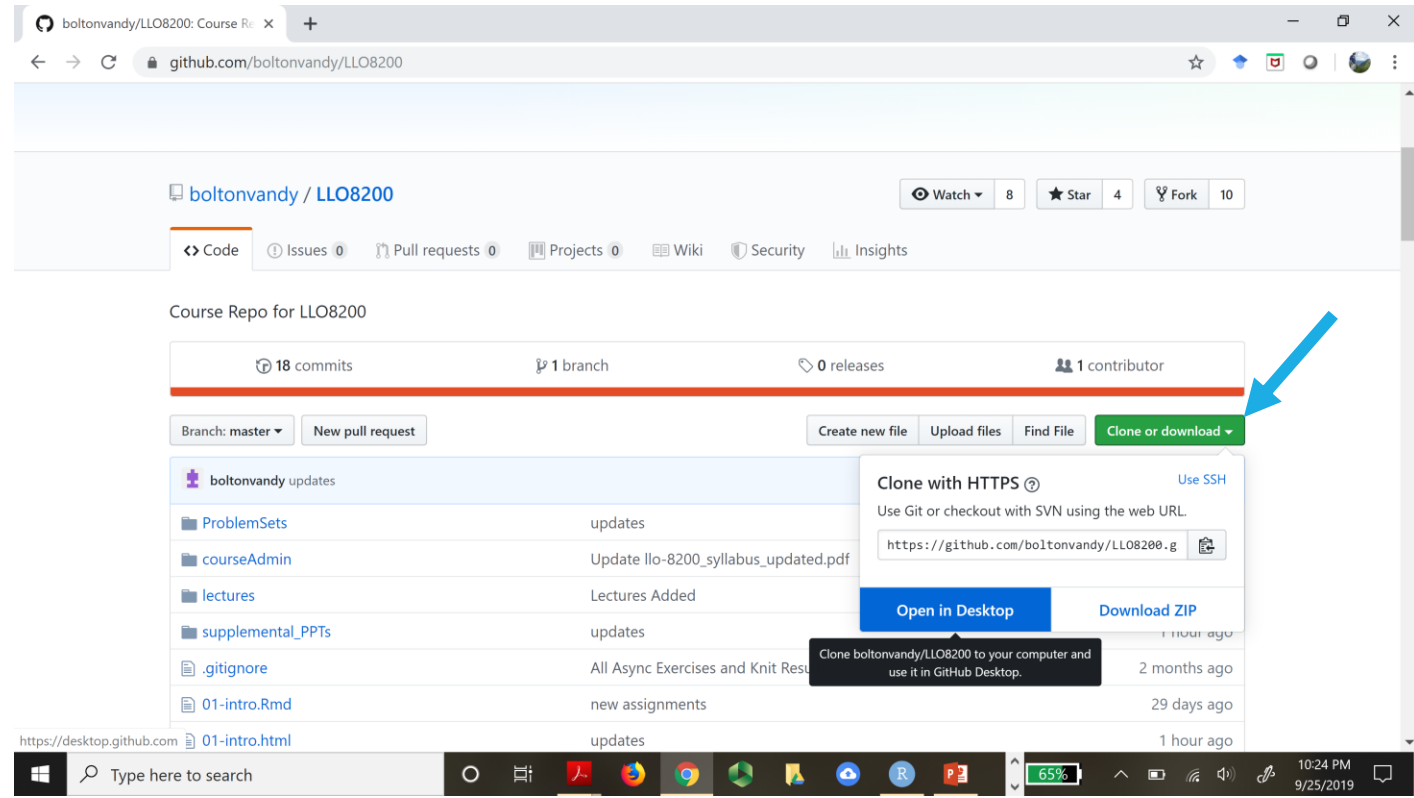
# GITHUB

## Github

- A repository for documents which supports
  - Version control
  - Cloud storage / access
  - Collaboration

## Course

- ALL course documents are on course Git Repository.  
**Do not use files on LMS.**
- Get course documents by cloning the course repo
- You may also “link” Rstudio with Git but this is not necessary.



# CLONE AND PULL (FETCH) REQUESTS

## Git nomenclature

- Clone: download a copy of the repository
  - Previous slide
- Pull: update your copy of the repository to include any recent updates

## Github Desktop or Git GUI

- Interface to manage repositories
- Download Github desktop to help with pull requests

