

Introduction to R Workshop

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Agenda

Logistics

Intro to R and Importing Datasets

RMarkdown

Break

Data Manipulation

Data Visualization

Logistics

Zoom Emojis

I'm good

I'm stuck



Stuck? Ask your partner

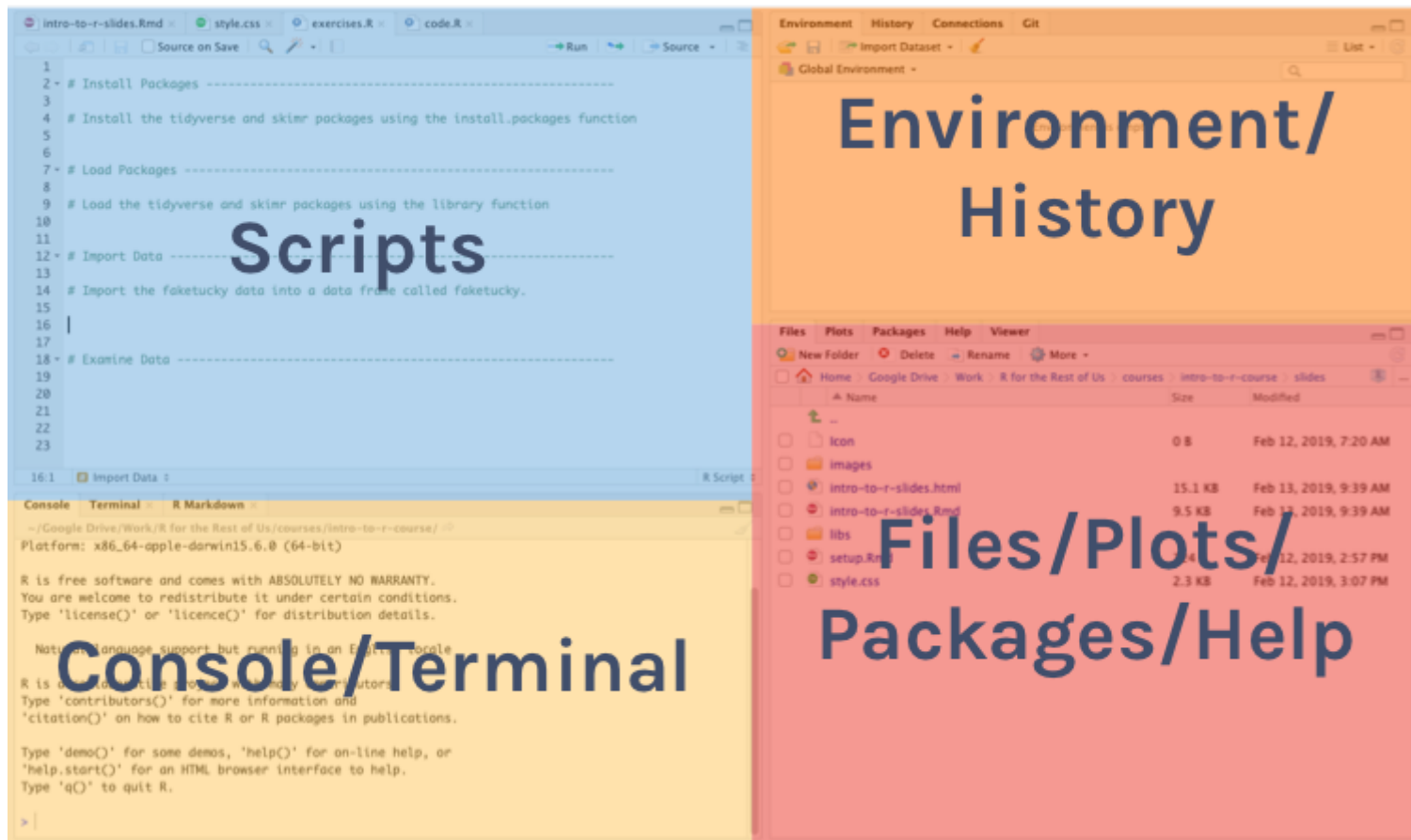


Stuck? Ask your partner



Intro to R and Importing Datasets

Tour of RStudio



File Types

There are **two main file types** that you'll work with:

R scripts (.R)

Text is assumed to be executable R code unless you comment it (more on this soon)

```
# This is a comment
```

```
data <- read_csv("data.csv")
```

RMarkdown files (.Rmd)

Text is assumed to be text unless you put it in a code chunk (more on this soon)

R Scripts

Create new script file: File -> New File -> R Script

How to Run Code

Run the code:

- control + enter on Windows
- command + enter on Mac keystrokes or use Run button

Comments

Do them for others and for your future self!

```
# Show the first 5 rows of my data
```

```
head(data, n = 5)
```

Install Packages

The syntax to install packages is as follows:

```
install.packages("tidyverse")  
install.packages("skimr")
```

The package name must be in quotation marks.

Packages should be installed **once per computer**.

Load Packages

To load packages, use the following syntax:

```
library(tidyverse)  
library(skimr)
```

Packages should be loaded **once per session**.

Import Data

CSV

```
chds6162_data <- read_csv(here("data", "chds6162_data.csv"))  
chds6162_data <- read_csv("data/chds6162_data.csv")
```


Excel

```
library(readxl)  
  
chds6162_data <- read_excel("data/chds6162_data.xls")
```

SPSS

```
library(haven)  
  
chds6162_data <- read_sav("data/chds6162_data.sav")
```

R is Case Sensitive

R is **case sensitive** so choose one of the following for all objects and **be consistent**.

Option

snake_case

camelCase

periods.in.names

Example

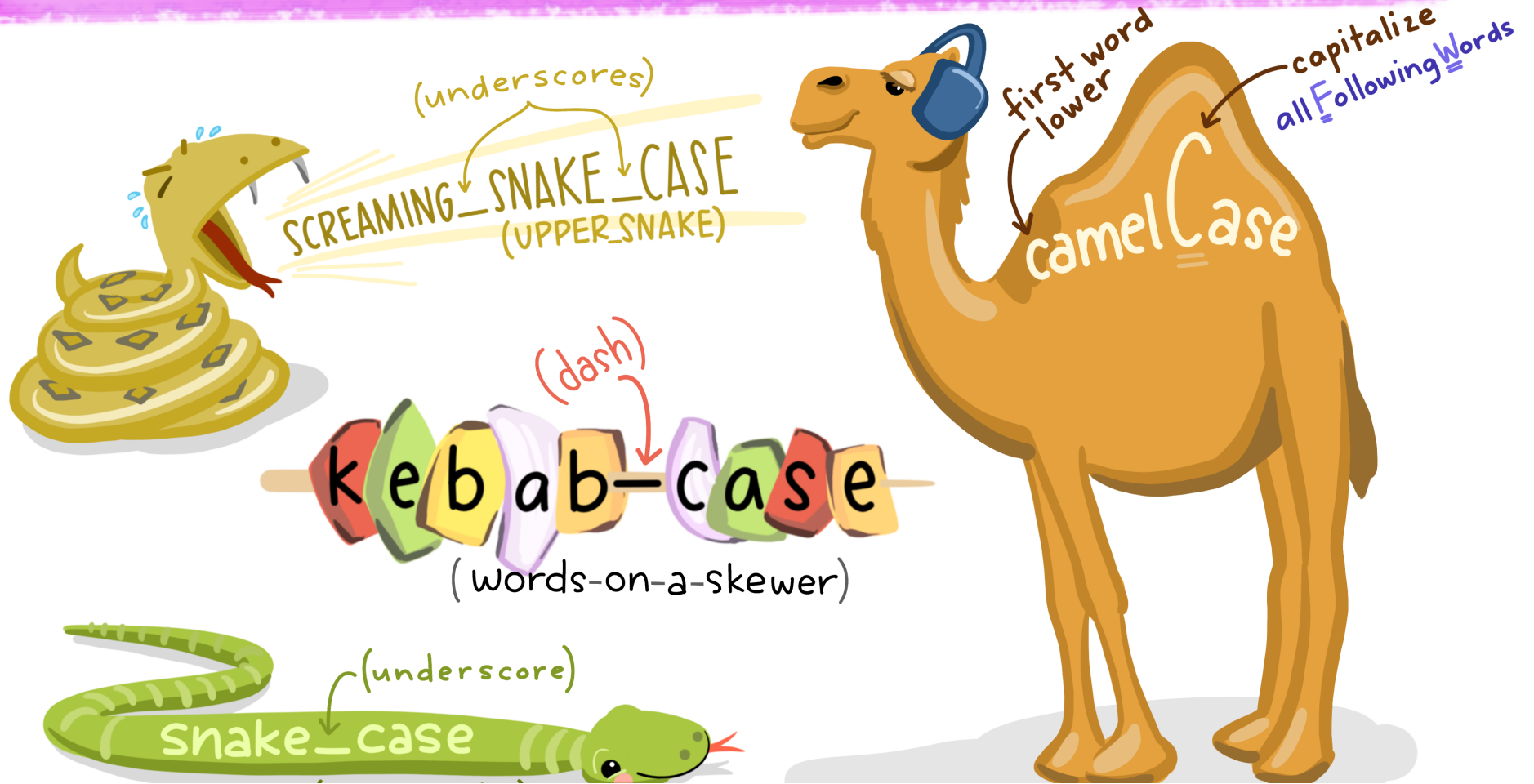
student_data

studentData

student.data

Art by @allison_horst

in that case...



Directories

If the data file is in the working directory, you only need to specify its name.

```
chds6162_data <- read_csv("chds6162_data.csv")
```

If the data file is not in the working directory, you need to specify the full path name.

```
chds6162_data <- read_csv("data/chds6162_data.csv")
```

Using an RStudio project sets your working directory to the folder where your project lives so you only need to specify the location relative to that

Where Does Our Dataset Live?

Data we have imported is available in the environment/history pane.

The screenshot displays the RStudio interface with four main panes, each labeled with a large blue text overlay:

- Scripts:** The top-left pane shows R code for installing packages, loading the tidyverse and skimr packages, importing data from a file called 'faketucky', and examining the data. The code is as follows:

```
1 # Install Packages -----
2 # Install the tidyverse and skimr packages using the install.packages function
3
4 # Load Packages -----
5 # Load the tidyverse and skimr packages using the library function
6
7 # Import Data -----
8 # Import the faketucky data into a data frame called faketucky.
9
10 # Examine Data -----
11
12
13
14
15
16
17
18
19
20
21
22
23
```
- Environment/History:** The top-right pane shows the 'Global Environment' with a search bar and a list of objects. The text 'Environment/History' is overlaid on this pane.
- Files/Plots/Packages/Help:** The bottom-right pane shows a file explorer view of the current project. The text 'Files/Plots/Packages/Help' is overlaid on this pane.
- Console/Terminal:** The bottom-left pane shows the R console output, including the R platform information and the R license text. The text 'Console/Terminal' is overlaid on this pane.

?function

Use the ? to get help about anything you're confused about

```
?read_csv
```