Recitation 1: Introduction to Research Methods for Politics

Dept. of Politics, NYU

POL-850

Spring 2020

Announcement

Office hours:

- Tuesday 4:30-6:30pm (Massimo Pulejo, Office 416)
- Thursday 4:00-6:00pm (Jiawei Fu, Office 416)

Expectations

1. Attend both class and recitation (horrible rule: taking attendance)
2. Turn in homework on-time (use Rmarkdown)
3. Ask me questions early and often (I am your servant)
4. Check out the textbook for additional insights (Of Course)
5. Frequently check: `https://github.com/Jiawei-Fu/POL-UA850`
6. After this semester, become a data scientist

Agenda

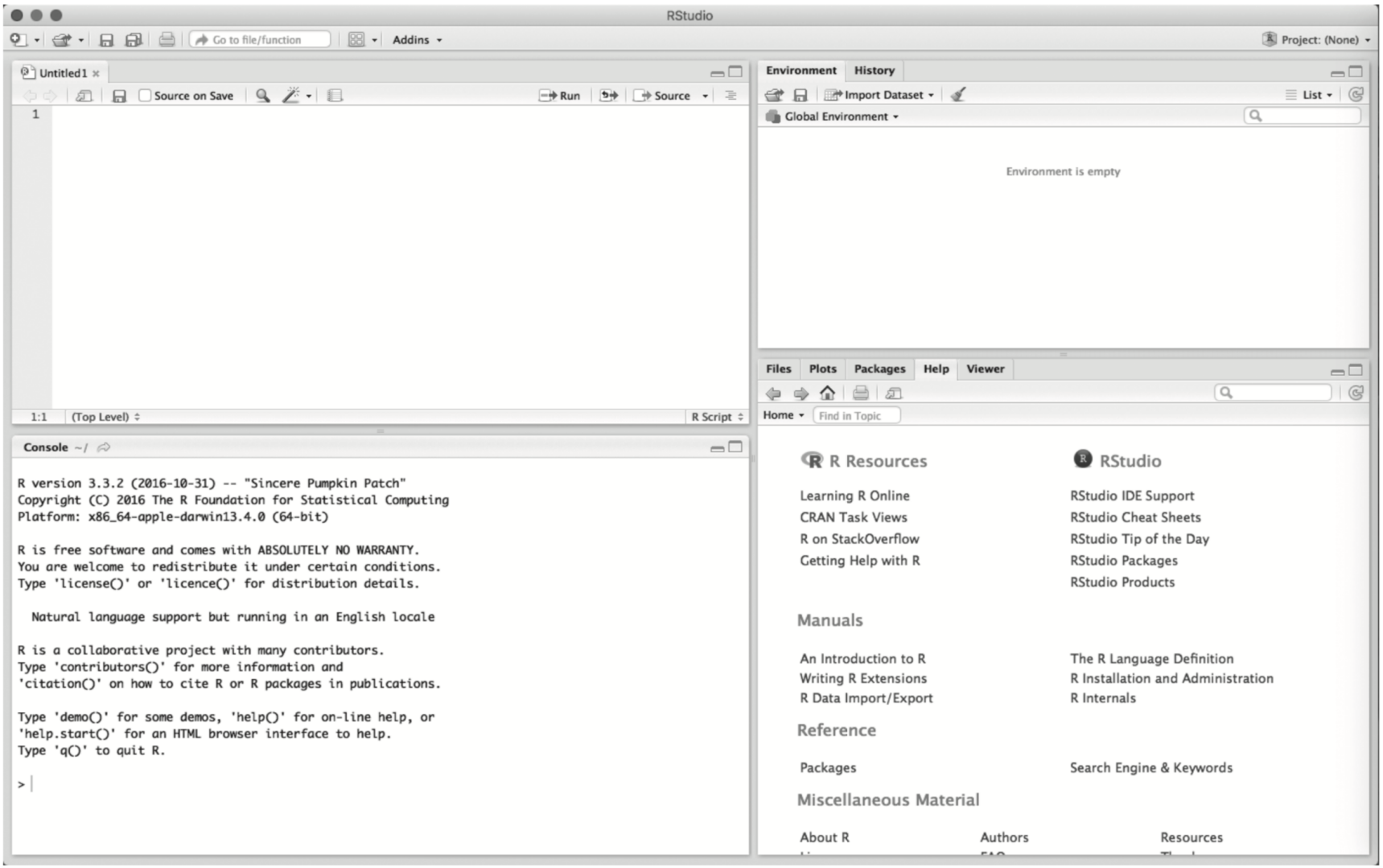
1. Introduction to R Studio
2. Data structure (vector, matrix, data frame)
3. Basic functions
4. Introduction to R Markdown

Introduction to R Studio

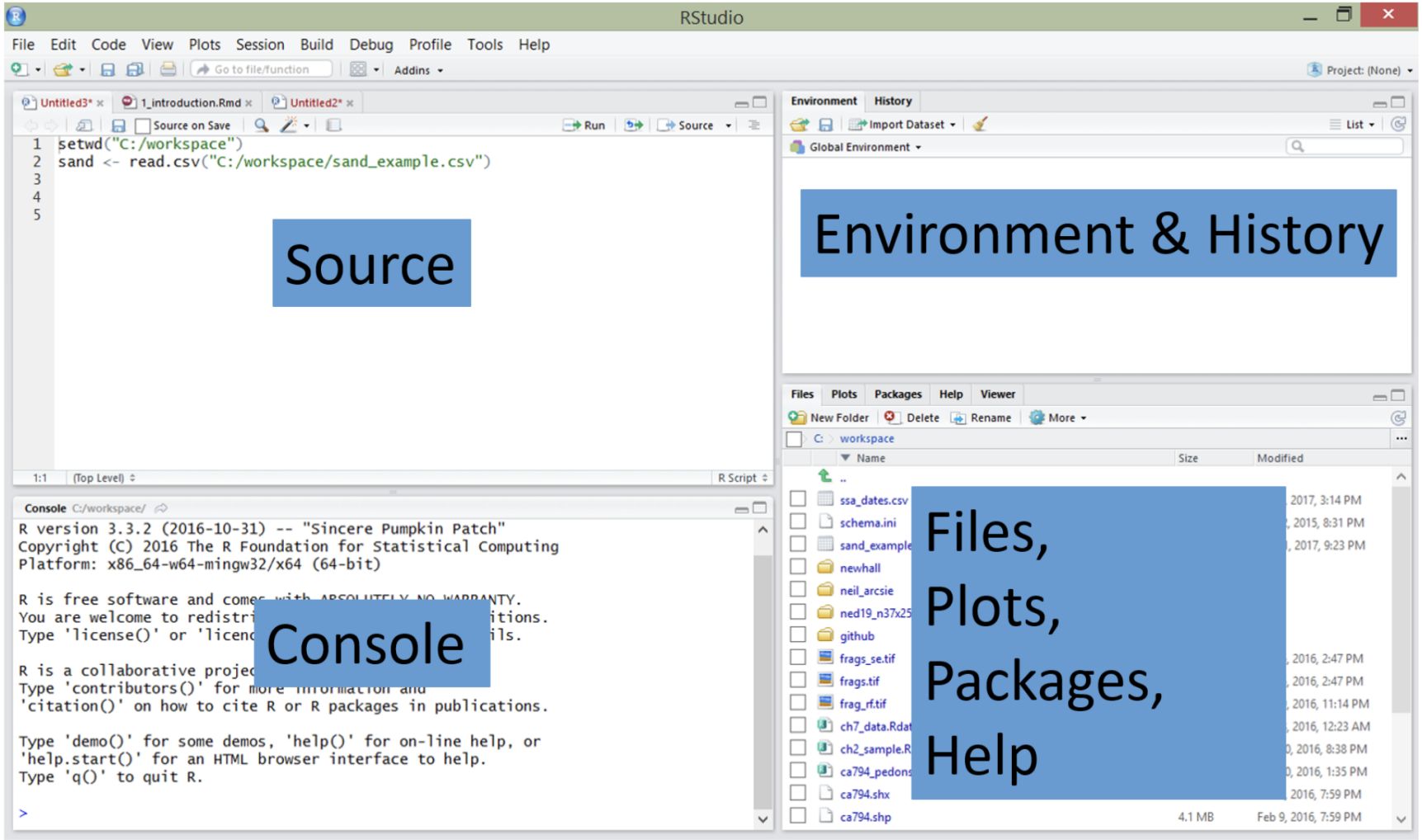
What is R Studio?

- Open-source program that facilitates the use of R
- For your homework, you can save your R codes in R Studio
- You can also generate pdf file with R codes and results

What is R Studio?



What is R Studio?



Directly see the recitation 1 R script

Introduction to R Markdown

Introduction to R Markdown

Why do you need R markdown?

- When you submit your homework, you need to submit both your R codes *and* results
- R markdown automatically does that for you
- Rather than copying and pasting R codes and results in Words, just use R markdown!

Introduction to R Markdown

If you use R Markdown, you can generate pdf file like ...

Code for QSS Chapter 1: Introduction

Kosuke Imai

First Printing

Section 1.1: Overview of the Book

Section 1.2: How to Use this Book

```
install.packages("swirl") # install the package
library(swirl) # load the package
install_course_github("kosukeimai", "qss-swirl") # install the course
library(swirl)
swirl()
```

Section 1.3: Introduction to R

Section 1.3.1: Arithmetic Operations

```
5 + 3
```

```
## [1] 8
```

Introduction to R Markdown

R Markdown file template will be provided

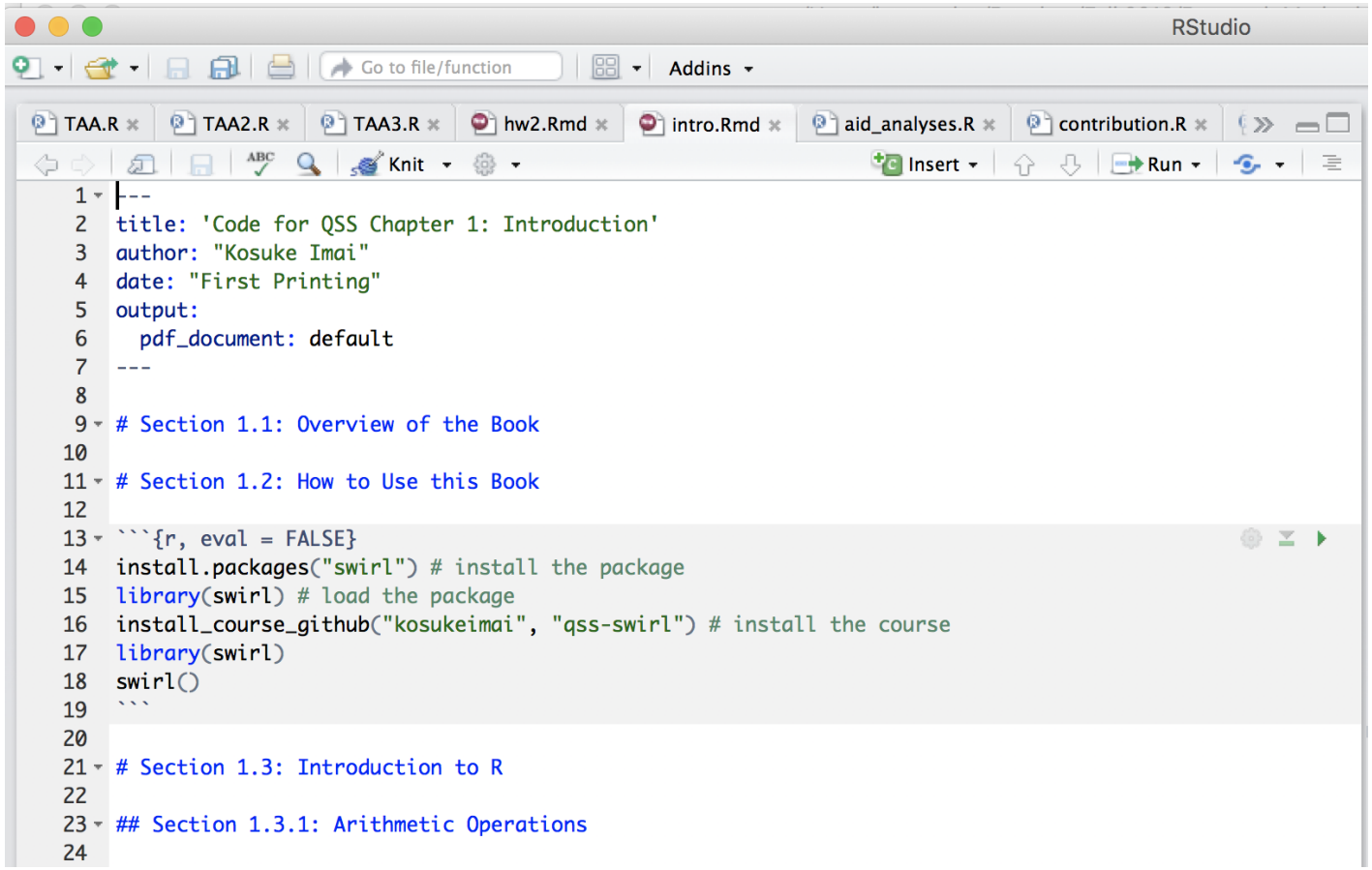
Elements of R Markdown file

1. Document information
2. Chunks of R code

Introduction to R Markdown

Document information (title/ author/ date/ output)

- R markdown file is saved as .Rmd, whereas R code file is saved as .R



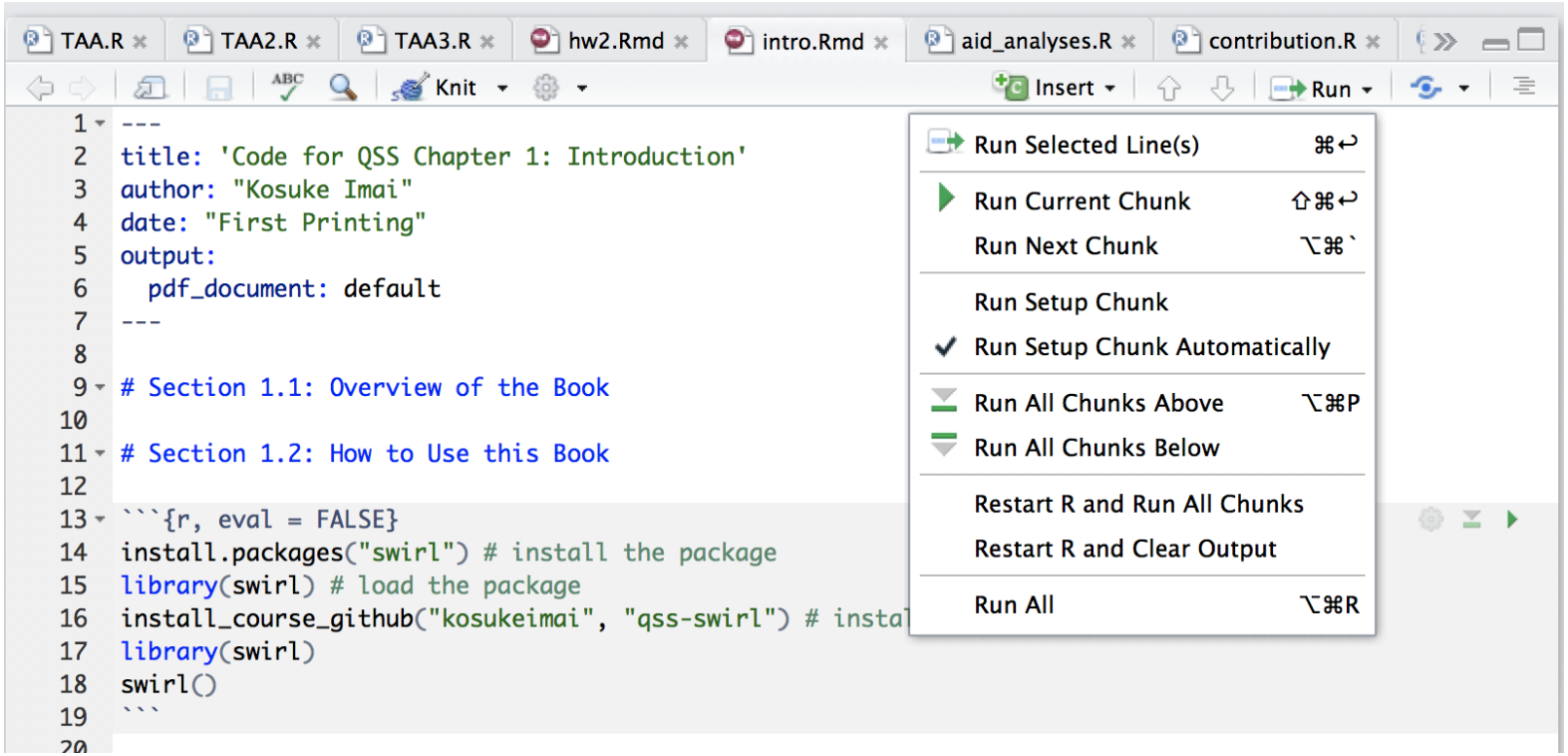
Introduction to R Markdown

Chunks of R code

````
23 ## Section 1.3.1: Arithmetic Operations
24
25 ```{r}
26 5 + 3
27 5 - 3
28 5 / 3
29 5 ^ 3
30 5 * (10 - 3)
31 sqrt(4)
32 ```
````

- The chunk should start with ‘‘‘{r } and end with ‘‘‘
- Make sure that each chunk has different names (*e.g.* r first, r second ...)
- To add texts (not R code), use #

Introduction to R Markdown



- To check whether your R codes run well, click Run button on the upper-right side of source window
- To generate pdf file from Rmd file, click Knit button