R: The premier data analysis and visualization platform

https://cran.r-project.org/



The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages, Windows and Mac users most likely want one of these versions of R:

- Download R for Linux
- Download R for (Mac) OS X
- Download R for Windows

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download the precompiled binaries listed in the upper

R Studio: A nice user interface for R

https://www.rstudio.com/products/rstudio/download/

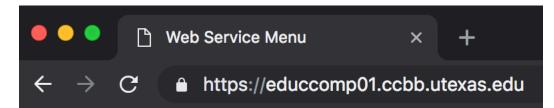


• • •			R	Studio							
• •	😤 • 🔒 🔒 🏊	Go to file/function	- Addins -							Project: (N	None) 🝷
🕥 clas	s1.Rmd 🗶				Environment	History				t	
40	🗊 🔒 🗳 💁 💰 Kr	it 👻 🛞 🕶 🔁 Insert 🕶 💡	🖁 🕂 🕞 Run 🗸 🚽 🤹	• E	🞯 🔒 🖃	Import Datas	et + 🛛 🎻			📃 List 🗸	C
1 * 2	<pre>```{r global_options, library(knitr)</pre>	-		≚ ►	🐴 Global Env	ironment 👻			Q,		
3 4	opts_chunk\$set(fig.ali	gn="center", fig.heig	ht=4, fig.width=4)				Environn	nent is emp	-v		
5 + 6	<pre>##In-class worksheet 1</pre>						LINIOIII	nent is emp	- Y		
7 8 9	**Jan 17, 2017 <mark>*</mark> *										
10	Much of the work in th documents. R Markdown code, and R output, ir produce self-contained	documents are documer cluding figures. They	its that combine te are a great way t					=			
11					Files Plots	Packages	Help	Viewer		t	
12	In this first workshee markdown editing. Afte	r you have made a cha	inge to the documen		🗢 🔿 🏠	1 d l a			Q)	C
	press "Knit HTML" in F get.	Studio and see what	kind of a result y	ou	Home - Find	in Topic					
13 14	Edit only below this l	ine.		н	R R	Resource	es	R R	Studio		_
15 7:15	🖶 In-class worksheet 1 🛊		R Mar	kdown ‡	Loornin	a P Online		DC tudi		•	
_		=				ng R Online Fask Views			o IDE Suppor o Cheat Shee		
					R on St	ackOverflow	N	RStudio	o Tip of the I	Day	_
You a	ree software and comes e welcome to redistrib license()' or 'licence	ute it under certain	conditions.		Getting	Help with	R		o Packages o Products		

Access R Studio through your web browser

- 1. https://educcomp01.ccbb.utexas.edu/
- 2. https://educcomp02.ccbb.utexas.edu/
- 3. <u>https://educcomp03.ccbb.utexas.edu/</u>
- 4. https://educcomp04.ccbb.utexas.edu/

Select RStudio



Please choose one of the following applications:

- <u>RStudio</u>
- Jupyterhub

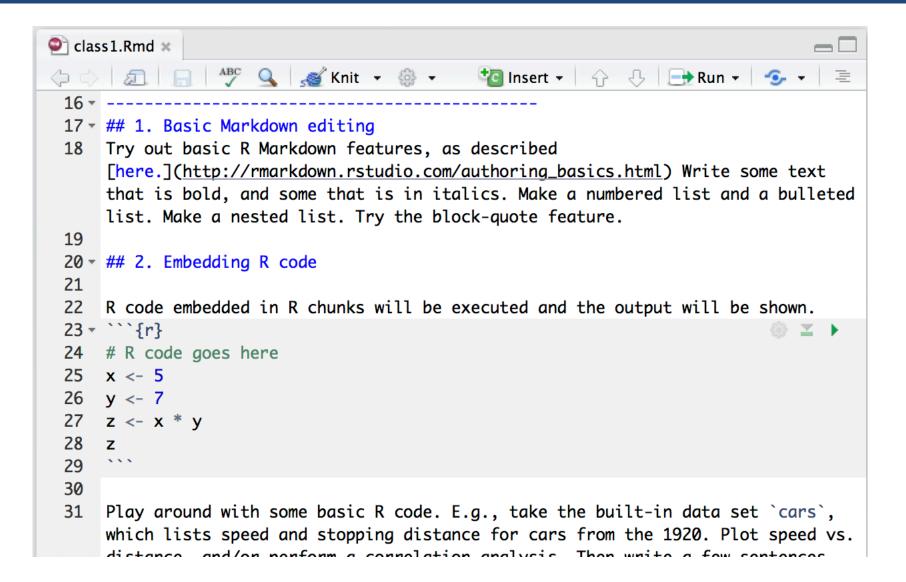
Sign in with your UT EID and password

•••	RStudio Sign In	× +
$\leftrightarrow \rightarrow G$	https://educcomp01.c	bb.utexas.edu/rstudio/auth-sign-in



Sign in to RStudio
Username:
Password:
Stay signed in
Sign In

R Markdown: Writing documents with embedded R code



R Markdown: Writing documents with embedded R code

1. Basic Markdown editing

Try out basic R Markdown features, as described here. Write some text that is bold, and some that is in italics. Make a numbered list and a bulleted list. Make a nested list. Try the block-quote feature.

2. Embedding R code

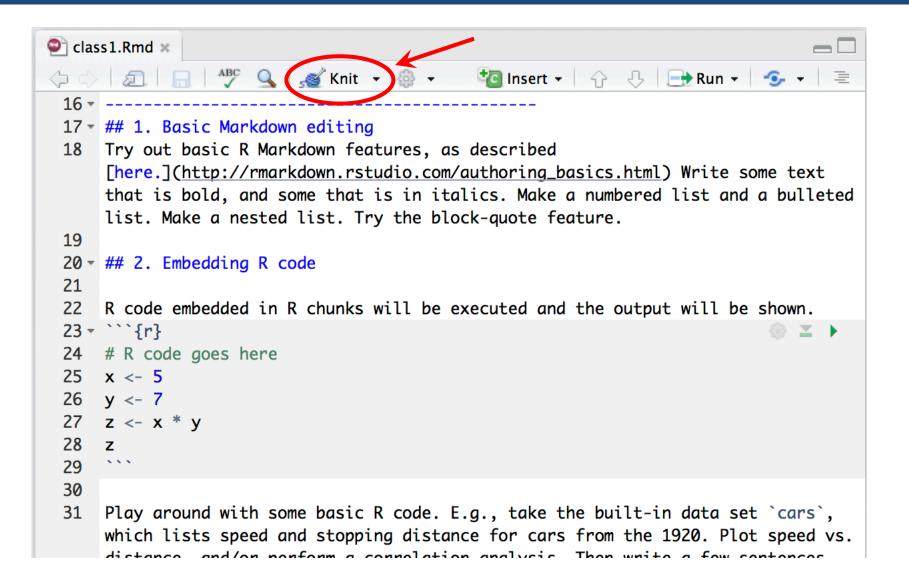
R code embedded in R chunks will be executed and the output will be shown.

```
# R code goes here
x <- 5
y <- 7
z <- x * y
z</pre>
```

```
## [1] 35
```

Play around with some basic R code. E.g., take the built-in data set cars, which lists speed and stopping distance for cars from the 1920. Plot speed vs. distance, and/or perform a correlation analysis. Then write a few sentences describing what you see.

We convert R Markdown to HTML by "knitting" the Markdown file



Convert to pdf: knit to HTML, open in browser, print, save as pdf



Jan 19, 2016

Much of the work in this class will be done via R Markdown documents. R Markdown documents are documents that combine text, R code, and R output, including figures. They are a great way to produce self-contained and documented statistical analyses.

In this first worksheet, you will learn how to do some basic markdown editing. After you have made a change to the document, press "Knit HTML" in R Studio and see what kind of a result you get.

Edit only below this line.

1. Basic Markdown editing

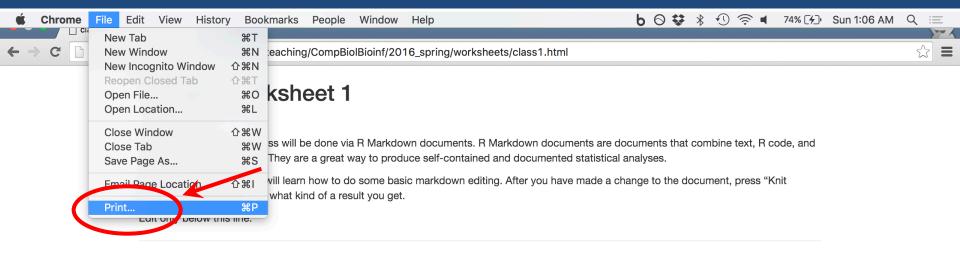
Try out basic R Markdown features, as described here. Write some text that is bold, and some that is in italics. Make a numbered list and a bulleted list. Make a nested list. Try the block-quote feature.

2. Embedding R code

R code embedded in R chunks will be executed and the output will be shown.

```
# R code goes here
x <- 5
y <- 7
```

Convert to pdf: knit to HTML, open in browser, print, save as pdf



1. Basic Markdown editing

Try out basic R Markdown features, as described here. Write some text that is bold, and some that is in italics. Make a numbered list and a bulleted list. Make a nested list. Try the block-quote feature.

2. Embedding R code

R code embedded in R chunks will be executed and the output will be shown.

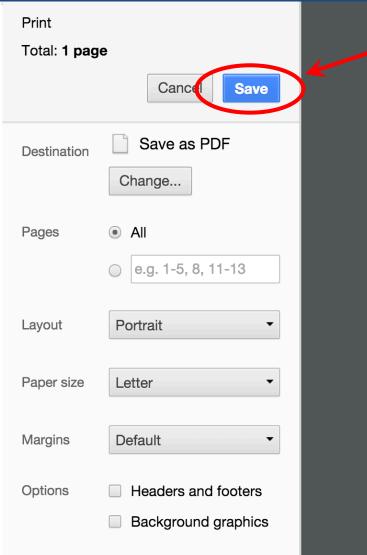
```
# R code goes here
x <- 5
y <- 7
z <- x * y
z</pre>
```

```
## [1] 35
```

Play around with some basic R code. E.g., take the built-in data set cars, which lists speed and stopping distance for cars from the 1920. Plot speed vs. distance, and/or perform a correlation analysis. Then write a few sentences describing what you see.

3. If this was easy

Convert to pdf: knit to HTML, open in browser, print, save as pdf



Print using system dialog... (\\%P)

In-class worksheet 1

Jan 19, 2016

Much of the work in this class will be done via R Markdown documents. R Markdown documents are documents that combine text, R code, and R output, including figures. They are a great way to produce self-contained and documented statistical analyses.

In this first worksheet, you will learn how to do some basic markdown editing. After you have made a change to the document, press "Knit HTML" in R Studio and see what kind of a result you get.

Edit only below this line.

1. Basic Markdown editing

Try out basic R Markdown features, as described here.

(http://rmarkdown.rstudio.com/authoring_basics.html) Write some text that is bold, and some that is in italics. Make a numbered list and a bulleted list. Make a nested list. Try the block-quote feature.

2. Embedding R code

R code embedded in R chunks will be executed and the output will be shown.

# R coo x <- 5 y <- 7 z <- x z		here			
## [1]	35				

Play around with some basic R code. E.g., take the built-in data set cars, which lists speed and stopping distance for cars from the 1920. Plot speed vs. distance, and/or perform a correlation analysis. Then write a few sentences describing what you see.

3. If this was easy

If this was easy, use Google to find out how to type-set mathematical formulas inside of R markdown.

Markdown basics

http://rmarkdown.rstudio.com/authoring_basics.html

normal text *italics* **bold** # Header 1 ## Header 2 List: 1. Item 1 2. Item 2 3. Item 3

normal text

italics

bold

Header 1

Header 2

List:

- 1. Item 1
- 2. Item 2
- 3. Item 3

Markdown basics

Embedded R code will be evaluated and printed

```
```{r}
head(cars)
plot(cars$speed, cars$dist)
```
```

Embedded R code will be evaluated and printed

head(cars)

| ## | | speed | dist |
|----|---|-------|------|
| ## | 1 | 4 | 2 |
| ## | 2 | 4 | 10 |
| ## | 3 | 7 | 4 |
| ## | 4 | 7 | 22 |
| ## | 5 | 8 | 16 |
| ## | 6 | 9 | 10 |

plot(cars\$speed, cars\$dist)

