code style

(Much of this presentation is based on the tidyverse style guide)

R and whitespace "R doesn't care" until it does

words, tabs, and line breaks) go. R doesn't care about those things!

```
Feelings$InGroup=="Yes", ]$percents)
```

newDF\$ratio <- (Feelings[Feelings\$InGroup == "FALSE" | Feelings\$InGroup == "No",]\$percents) -</pre> (Feelings[Feelings\$InGroup == "TRUE" | Feelings\$InGroup == "Yes",]\$percents)

- Code style suggests adding whitespace for readability.
 - around both sides of assignment operators, <- and =
 - around logical and boolean operators like ==, <, &, [
 - after a comma, just like in English
- But, no whitespace around parentheses for regular function calls

Some languages are very picky about where whitespace (like spaces between

newDF\$ratio<-(Feelings[Feelings\$InGroup=="FALSE"|Feelings\$InGroup=="No",]\$percents)-(Feelings[Feelings\$InGroup=="TRUE"|

R and whitespace "R doesn't care" until it does

- file names, and folder (directory) names.
- Instead of spaces:
 - use snake_case with underscores to separate words (periods have tidyverse guide advocates!

Or

screen readers

https://style.tidyverse.org/files.html, https://style.tidyverse.org/syntax.html#object-names

Like most computer languages, R does care about spaces in variable names,

additional meaning in R, so that can be confusing). This is what the

use CamelCase and capitalize words. This may be more accessible to



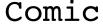
Line length Shorter lines are easier for humans to read

- Add line breaks wherever logical
- After |> in dplyr chains
- After + in ggplot2 graphics

```
ggplot(comic characters) + geom histogram(aes(x = year, fill = publisher), binwidth = 1, color = "white", lwd = 0.1) +
Book Characters Introduced Per Year")
```

```
ggplot(comic characters) +
 geom histogram(aes(x = year, fill = publisher), binwidth = 1, color = "white", lwd = 0.1) +
 facet wrap(~publisher) +
 theme fivethirtyeight() +
  scale fill manual(values = c("#008fd5", "#ff2700")) +
  labs(title = "New Comic Book Characters Introduced Per Year")
```

facet_wrap(~publisher) + theme_fivethirtyeight() + scale_fill_manual(values = c("#008fd5", "#ff2700")) + labs(title = "New Comic

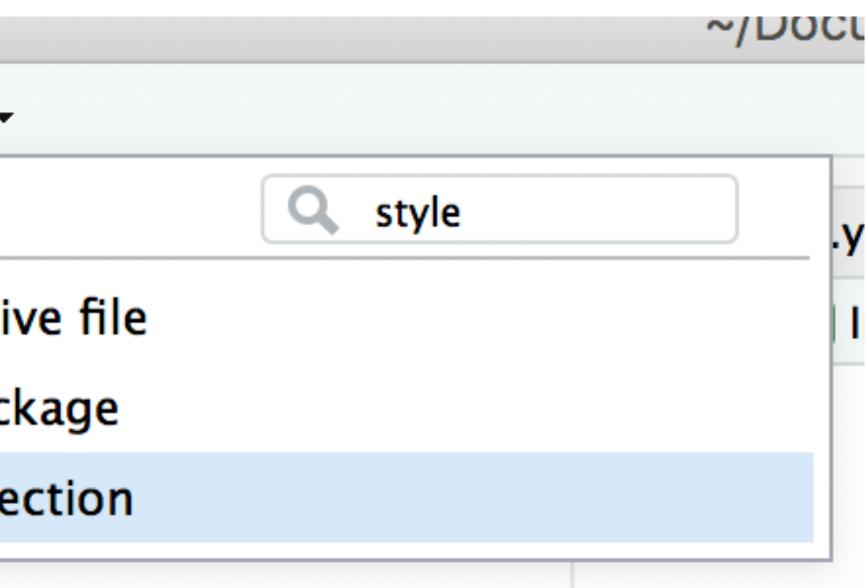


Styling code The styler package make styling code easy!

library(styler)

- Load the package
- Use the add-in!

•	Addins -
n	STYLER
	Style acti
	Style pac
	Style sele



Never use attach() Where are y'all learning this?!

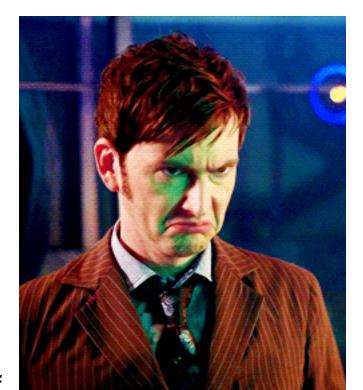
> cyl

Error: object 'cyl' not found

- > attach(mtcars)
- > cyl

- attach() is extremely bad R practice
- the same dataset floating around in there!

https://stackoverflow.com/questions/10067680/why-is-it-not-advisable-to-use-attach-in-r-and-what-should-i-use-instead



 Every time you run attach() a new version of the data is attached into your Environment, but invisibly. This means you may have hundreds of versions of

> attach(mtcars)

> cyl

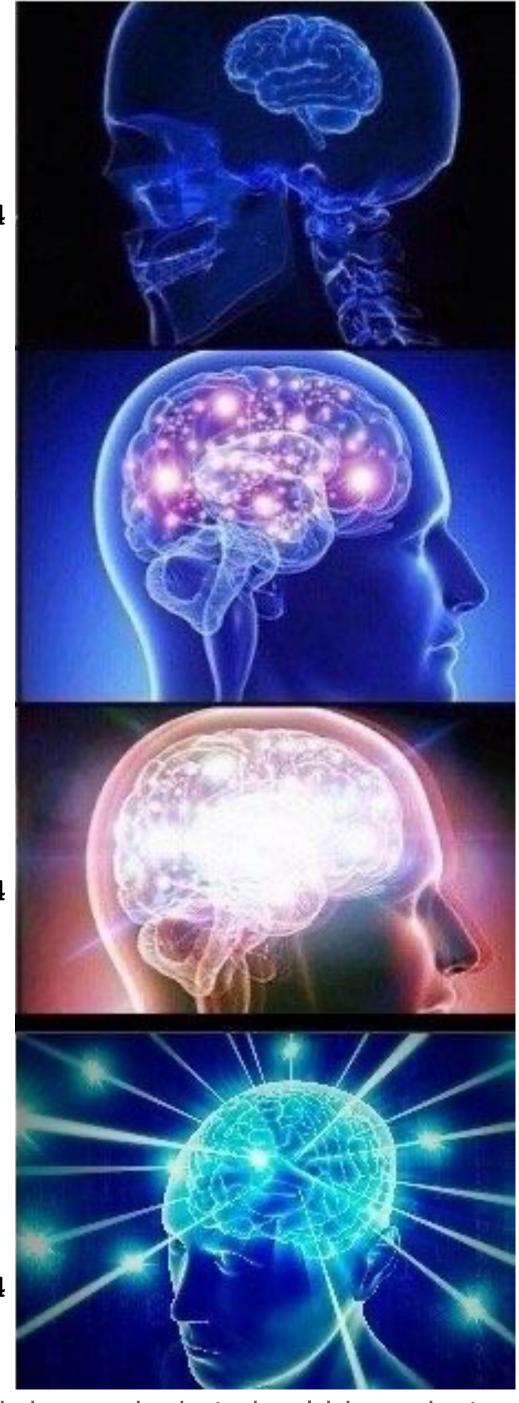
[1] 6 6 4 6 8 6 8 4

> detach(mtcars)

> mtcars\$cyl [1] 6 6 4 6 8 6 8 4

> mtcars %>%
pull(cyl)
[1] 6 6 4 6 8 6 8 4

https://stackoverflow.com/questions/10067680/why-is-it-not-advisable-to-use-attach-in-r-and-what-should-i-use-instead



If you have been using attach() it's time to clean up

- > search()
- [1] ".GlobalEnv"
- [4] "package:fivethirtyeight"
- [7] "package:stringr"
- [10] "package:readr"
- [13] "package:ggplot2"
- [16] "package:stats"
- [19] "package:utils"
- [22] "package:testthat"
- [25] "package:methods"

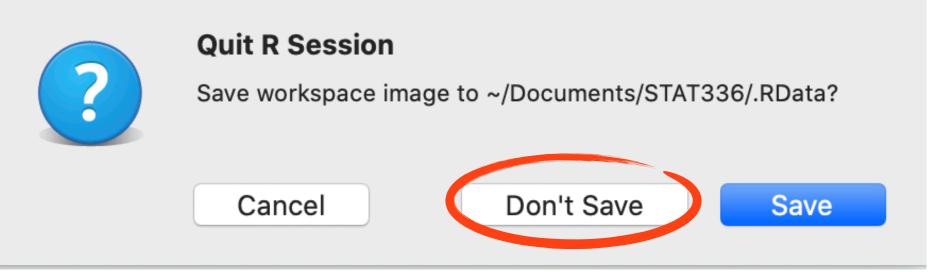
- "mtcars"
- "package:lubridate"
- "package:dplyr"
- "package:tidyr"
- "package:tidyverse"
- "package:graphics"
- "package:datasets"
- "package:devtools"
- "Autoloads"
- Use search() to see what you have attached
 - .GlobalEnv and Autoloads are fine
 - anything that starts with package: or tools: is also fine
- Use detach() to remove any data that is attached
- > detach(mtcars)

- "package:ggthemes"
- "package:forcats"
- "package:purrr"
- "package:tibble"
- "tools:rstudio"
- "package:grDevices"
- "package:reprex"
- "package:usethis"
- "package:base"



Don't save your Workspace That's why we save code!

box



• If you haven't been doing this, it's again time for a clean up!



• When you quit RStudio, you should be selecting "Don't save" on the dialog

First, clean up your Environment

	1	🖓 Filte				
	Year 👘	ID ÷	LaborStatus 🗧	MaritalStatus 🗧	NumChildren	Age 🦷
1	2014	1	Working fulltime	Divorced	0	53.000000
2	2014	2	Working fulltime	Married	0	26.000000
3	2014	3	Unempl, laid off	Divorced	1	59.000000
4	2014	4	Working parttime	Married	2	56.000000
5	2014	5	Retired	Married	3	74.000000
6	2014	6	Working fulltime	Married	1	56.000000
7	2014	7	No answer	Married	2	63.000000
	ving 1 to 8	rminal				
~/	\$					
• F169			urce packages a pbwU0xs/downloa			

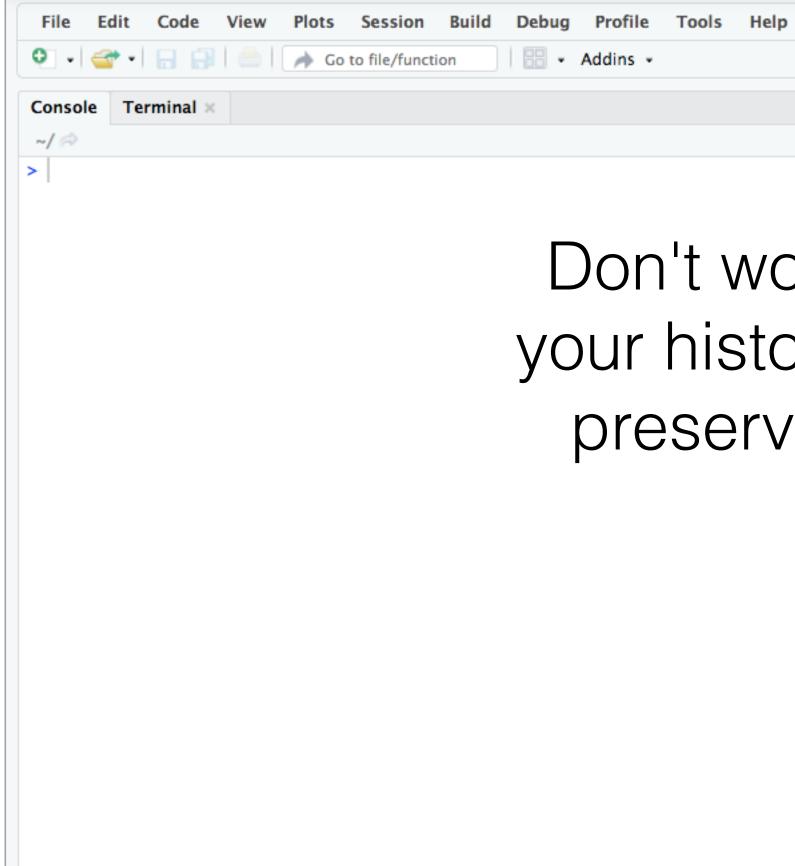
р								
								R 3.4.2 •
_			ronment	-		ctions		
Q,			- -	mport Da	tas (t 🔹 🔤	٤		🗏 List 🗸 🛛 🕑 🕶
HighestSchoolCompleted	Se	e 📫 O	Global Envi	ronment			Q	,
10	6	Data	I					
10	6	O bo	abynames	1	858689 0	bs. of 5	variables	
1	3	O bo	and	3	obs. of	2 varia	bles	
1	6	O G S					ariables	
1	7					- 6 45 -		
1	7			-		Viewer		
1	2			🤨 Up	oload 🤤	Delete	Rename	💱 More 🔹 📿
•	_		Home					
			A Na				Size	Modified
			proje	ect				
_			🧰 R					
	1							

It's okay to remove all, we've got the code

	nimbus ×	Tilte	S × GSS1 ×	band ×			
-	Year	ID ¢	LaborStatus 🌐	MaritalStatus 🗘	NumChildren	Age $^{\circ}$	н
1	2014	1	Working fulltime	Divorced	0	53.000000	
2	2014	2	Working fulltime	Married	0	26.000000	
3	2014	3	Unempl, laid off	Divorced	1	59.000000	
4	2014	4	Working parttime	Married		56.00000	
5	2014	5	Retired	Married	Confirm	Remove Obje	ct
6	2014	6	Working fulltime	Married			
7	2014	7	No answer	Married		Are you sur the environ	
•	2014	0	Arte al de ar E. Hatara	a described		undone.	
hov	ving 1 to 8	of 2,540) entries			🗌 Include h	id
Con	sole Te	rminal >	¢				
~/	\Rightarrow						
Гhе		mp/Rtmp eadr)	urce packages a pbwU0xs/downloa v("project/data n specificatior	aded_packages'			

File	e Ed	it Code	View Plots	Session Build	Debug Profile	Tools He	lp								
0	• 💣	- 66	🔋 📥 🍌 Go ta	o file/function	🔡 🔹 Addins 👻									R 3.4.2 •	
n	imbus	× G	SS × GSS1 ×	band ×					Environment	History	Connect	ions			
) 5	🛛 🖓 Filt	er				Q,] (😭 🔒 🔛	Import Datase	et • 🛛 🎻			E List	• @ •
-	Year	° ID °	LaborStatus 🌼	MaritalStatus 🍦	NumChildren [‡]	Age 🌼	HighestSchoolCompleted $\ ^{\circ}$ S	ie: I	🜗 Global Env	vironment 👻				Q,	
1	2014	1	Working fulltime	Divorced	0	53.000000	16		Data						
2	2014	2	Working fulltime	Married	0	26.00000	16		D babynames	s 1858	8689 ob	s. of 5	variable	es	
3	2014	3	Unempl, laid off	Divorced	1	59.000000	13		D band			2 variat			
4	2014	4	Working parttime	Married		56 00000	16		D GSS				ariables		
5	5 2014 5 Retired Married Confirm Remove Objects						ects		Plots			Viewer			
6	2014	6	Working fulltime	Married		Are you sure you want to remove all objects							Rename	🎂 More 🗸	C
7	2014	7	No answer	Married		the environment? This operation cannot be									
_	0 2014 0 Membran fullations Membran					undone.					▲ Name Size Modified				
Show	ing 1 t	o 8 of 2,54	0 entries			🗌 Include h	nidden objects		proj	ect					
Cons ~/ @		Terminal	×			(Yes No		R						
> li > ba Pars cols na ba)	brary ind <- ied wi i(ime =	/tmp/Rtm (readr) read_cs th colum col_char col_char	ource packages a pbwU0xs/downloa ov("project/data n specification cacter(), cacter()	aded_packages'											

Your History is always preserved



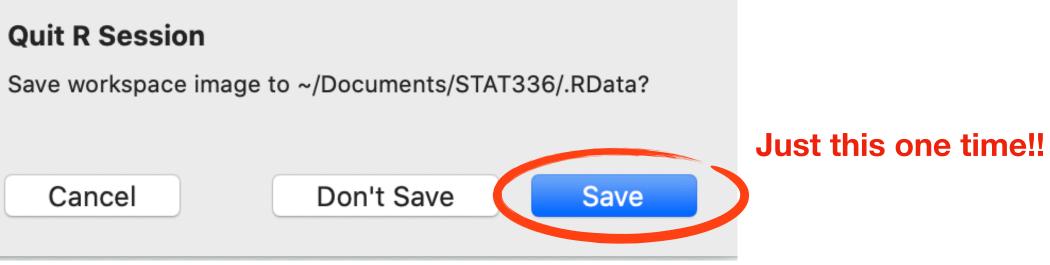
)						
,				R	3.4.2 •	
orry,	<pre>labs(x = "no install.pack install.pack library(read</pre>	To Console 📑 ame") kages("nycfli kages("nycfli	.ghts") .ghts13")			
ory is ved	First Plots Image: New Fordur Image: New Fordur<	Upload	Viewer Image: Delete		More • Modified	

Now, quit RStudio and this one time say Save



Quit R Session

Cancel

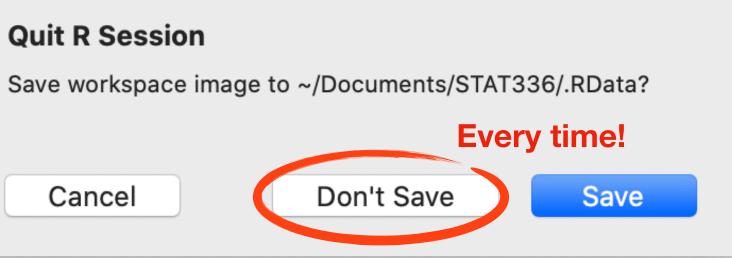


Going forward, always say Don't Save



Quit R Session

Cancel



You also might want to close windows

New	File	e/function	🔠 🖌 Addins 🗸					R 3.4.2 •
								N STILL 1
💣 Оре		band ×			_		Environment History Connections	
Rec	ent Files				Q		😅 🔚 🖙 Import Dataset 👻 🔏	🗏 List 🖌 🖂
Imp	ort Dataset	laritalStatus 🌼	NumChildren	Age 🌼	HighestSchoolCompleted $$	Se:	🛑 Global Environment 👻	Q,
- Save	#S	vivorced	0	53.000000	16			
Save	As	1arried	0	26.000000	16		Environment is empty	
Save	All \\\\\\	vivorced	1	59.000000	13		Livitonnent is empty	
📥 Prin	t	1arried	2	56.000000	16			
Class		1arried	3	74.000000	17		Files Plats Packages Hole Viewer	_
Clas	て光W e All	Aarried	1	56.000000	17		Files Plots Packages Help Viewer Image: Second sec	
Clos	e All 企業W Micxcept Current 企業W	farried	2	63.000000	12			
	Contraction of Contraction of Contraction	4		24.000000	17	1	A Name Size	 Modified
Showing 1	to 8 of 2,540 entries						project	Modified
5	T 1						$\square \square R$	
Console	Terminal ×							
~/ 🖘					4	5		
The dow	loaded source packages ar							
libro	'/tmp/RtmpbwU0xs/download	led_packages'						
	'y(readr) <- read_csv("project/data/	(hand csv")						
	with column specification:							
cols(
	<pre>col_character(),</pre>							
name :	<pre>col_character()</pre>							