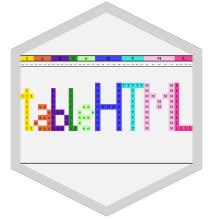


# tableHTML

Budapest-BI

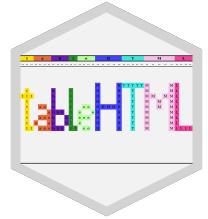
Theo Boutaris, Clemens Zauchner, Dana Jomar  
14 November 2019



# Contents

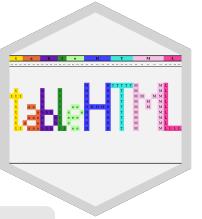
- \* Introduction
- \* Basic Options
- \* Themes
- \* Add CSS customizations
- \* Shiny

# Introduction



# Introduction: why, what, and how?

- \* While developing a [football app](#) using shiny, it was somewhat difficult to build a pretty HTML table
  - Example: drawing vertical lines every three columns seemed like a difficult task
  - even using great packages like `xtable`
- \* Development started in 2016
- \* tableHTML is a package for building CSS-ible HTML tables in an easy and intuitive way
- \* Compatible with any application that accepts HTML (e.g. shiny, rmarkdown, Outlook, PowerPoint, Word)

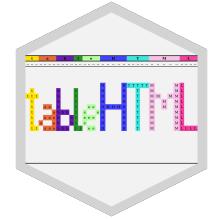


# Introduction

- \* The main function `tableHTML` converts a `data.frame` or `matrix` or any other object that can be converted into a `data.frame` into an HTML table

```
mtcars[,1:3] %>% head(2)
#          mpg cyl disp
# Mazda RX4   21   6 160
# Mazda RX4 Wag 21   6 160
```

```
<table style="border-collapse:collapse;" class=table_4805 border=1>
<thead>
<tr>
  <th id="tableHTML_header_1"> </th>
  <th id="tableHTML_header_2">mpg</th>
  <th id="tableHTML_header_3">cyl</th>
  <th id="tableHTML_header_4">disp</th>
</tr>
</thead>
<tbody>
<tr>
  <td id="tableHTML_rownames">Mazda RX4</td>
  <td id="tableHTML_column_1">21</td>
  <td id="tableHTML_column_2">6</td>
  <td id="tableHTML_column_3">160</td>
</tr>
<tr>
  <td id="tableHTML_rownames">Mazda RX4 Wag</td>
  <td id="tableHTML_column_1">21</td>
  <td id="tableHTML_column_2">6</td>
  <td id="tableHTML_column_3">160</td>
</tr>
</tbody>
</table>
```



# Introduction

- \* Using the function in RStudio will print the table in the viewer pane otherwise it will use the default browser, and
- \* the default tables are built without any CSS in order to allow for full flexibility.

The screenshot shows the RStudio interface. In the top-left pane, there are two code files: 'Untitled1.R' and 'Untitled2.R'. In the bottom-left pane, the code for 'Untitled1.R' is visible:

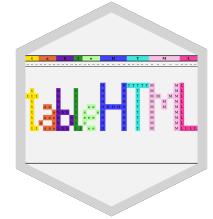
```
1 library(tableHTML)
2
3 mtcars %>%
4   head(10) %>%
5   tableHTML()
```

In the top-right pane, the R console shows the command being run:

```
> mtcars %>%
+   head(10) %>%
+   tableHTML()
> mtcars %>%
+   head(10) %>%
+   tableHTML()
> |
```

In the bottom-right pane, the 'Viewer' tab is active, displaying the generated HTML table from the 'tableHTML()' function:

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	4	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4



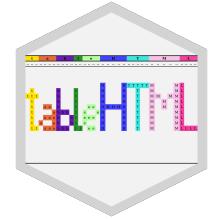
# Introduction

- \* The package was developed so that the functions can be chained with the `%>%` (pipe) operator, exported from the package `magrittr`
- \* Tables can be exported as images using `tableHTML_to_image()`

```
mtcars %>%
  tableHTML(widths = c(200, rep(50, 11))) %>%
  add_theme('scientific') %>%
  tableHTML_to_image(
    file = 'img/tableHTML_to_image.png'
  )
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
Merc 280C	17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
Merc 450SE	16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
Merc 450SL	17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
Merc 450SLC	15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
Cadillac Fleetwood	10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
Lincoln Continental	10.4	8	460	215	3	5.424	17.82	0	0	3	4
Chrysler Imperial	14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
Fiat 128	32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
Honda Civic	30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
Toyota Corolla	33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1
Toyota Corona	21.5	4	120.1	97	3.7	2.465	20.01	1	0	3	1
Dodge Challenger	15.5	8	318	150	2.76	3.52	16.87	0	0	3	2
AMC Javelin	15.2	8	304	150	3.15	3.435	17.3	0	0	3	2
Camaro Z28	13.3	8	350	245	3.73	3.84	15.41	0	0	3	4
Pontiac Firebird	19.2	8	400	175	3.08	3.845	17.05	0	0	3	2
Fiat X1-9	27.3	4	79	66	4.08	1.935	18.9	1	1	4	1
Porsche 914-2	26	4	120.3	91	4.43	2.14	16.7	0	1	5	2
Lotus Europa	30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
Ford Pantera L	15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
Ferrari Dino	19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
Maserati Bora	15	8	301	335	3.54	3.57	14.6	0	1	5	8
Volvo 142E	21.4	4	121	109	4.11	2.78	18.6	1	1	4	2

# Basic Options

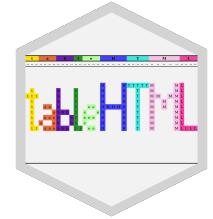


# Basic Options

- \* Right out of the bat the function `tableHTML()` offers a lot options to customize your table.
  - \* Add a CSS class `class`
  - \* Change the width of the columns `width`
  - \* Adjust the thickness of the external borders `border`

```
mtcars %>%  
  head(20) %>%  
  tableHTML(class = 'table_0034',  
            widths = c(200,  
                        rep(50, ncol(mtcars))),  
            border = 10)
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
Merc 280C	17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
Merc 450SE	16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
Merc 450SL	17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
Merc 450SLC	15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
Cadillac Fleetwood	10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
Lincoln Continental	10.4	8	460	215	3	5.424	17.82	0	0	3	4
Chrysler Imperial	14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
Fiat 128	32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
Honda Civic	30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
Toyota Corolla	33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1

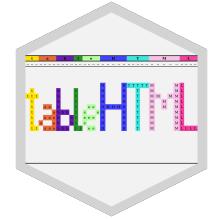


# Basic Options

- \* Right out of the bat the function `tableHTML()` offers a lot options to customize your table.
  - \* Add a second header `second_header`
  - \* Add/remove row names `rownames`
  - \* Add row groups `row_groups`

```
mtcars %>%  
  head(20) %>%  
  tableHTML(second_headers =  
    list(c(3, 4, 5),  
         c('col1', 'col2', 'col3')),  
    rownames = FALSE,  
    row_groups =  
    list(c(10, 10),  
         c('Group 1', 'Group 2')),  
    widths = c(100,  
              rep(50, ncol(mtcars))),  
    border = 10)
```

	col1		col2				col3				
	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Group 1	21	6	160	110	3.9	2.62	16.46	0	1	4	4
	21	6	160	110	3.9	2.875	17.02	0	1	4	4
	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
Group 2	17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
	16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
	17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
	15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
	10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
	10.4	8	460	215	3	5.424	17.82	0	0	3	4
	14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
	32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
	30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
	33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1



# Basic Options

- \* Right out of the bat the function `tableHTML()` offers a lot of options to customize your table.
  - \* Round numeric columns `round`
  - \* Fill missing values `replace_NA`
  - \* Add a caption above the table `caption`
  - \* Add a footer `footer`
  - \* Adjust the spacing between the cells of the table `collapse`, `spacing`

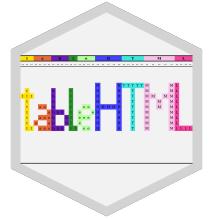
```
mtcars %>%
  head(15) %>%
  tableHTML(round=0,
            caption =
              "This is the mtcars dataset",
            footer =
              "Maybe we should've used iris",
            collapse = 'separate')
```

This is the mtcars dataset

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	4	3	16	0	1	4	4
Mazda RX4 Wag	21	6	160	110	4	3	17	0	1	4	4
Datsun 710	23	4	108	93	4	2	19	1	1	4	1
Hornet 4 Drive	21	6	258	110	3	3	19	1	0	3	1
Hornet Sportabout	19	8	360	175	3	3	17	0	0	3	2
Valiant	18	6	225	105	3	3	20	1	0	3	1
Duster 360	14	8	360	245	3	4	16	0	0	3	4
Merc 240D	24	4	147	62	4	3	20	1	0	4	2
Merc 230	23	4	141	95	4	3	23	1	0	4	2
Merc 280	19	6	168	123	4	3	18	1	0	4	4
Merc 280C	18	6	168	123	4	3	19	1	0	4	4
Merc 450SE	16	8	276	180	3	4	17	0	0	3	3
Merc 450SL	17	8	276	180	3	4	18	0	0	3	3
Merc 450SLC	15	8	276	180	3	4	18	0	0	3	3
Cadillac Fleetwood	10	8	472	205	3	5	18	0	0	3	4

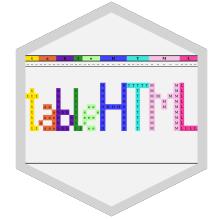
Maybe we should've used iris

# Themes



# Themes

- \* The package was built to give the users, the absolute freedom to design their own HTML tables,
- \* however, pre-defined themes are available for a fast stylization.
- \* Currently three main themes are available, and they can be added with the function `add_theme()`



# Themes

## \* scientific

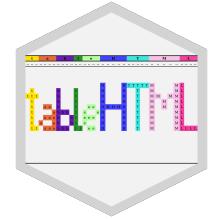
```
mtcars %>%  
  head(10) %>%  
  tableHTML() %>%  
  add_theme('scientific')
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4

## \* rshiny-blue

```
mtcars %>%  
  head(10) %>%  
  tableHTML() %>%  
  add_theme('rshiny-blue')
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4



# Themes

## \* colorize

```
mtcars %>%
  head(10) %>%
  tableHTML() %>%
  add_theme('colorize')
```

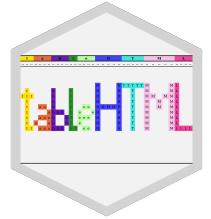
	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4

## \* colorize can also be customized, when added with the function add\_theme\_colorize()

```
mtcars %>%
  head(10) %>%
  tableHTML() %>%
  add_theme_colorize(color=c('pink3', 'yellow2'))
```

## \* colorize with customized colors

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4



# Themes

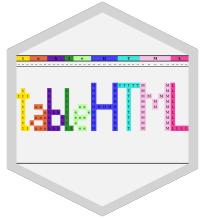
- \* Also with `add_theme_colorize` the user can choose certain rows to highlight
  - e.g.: highlight the sum of quarterly sales

```
df_q %>% head(8)
# #   Month  x1  x2  x3
# 1 Jan    2  92  90
# 2 Feb    15 14  62
# 3 Mar    49  95  76
# 4 Sum1  66 201 228
# 5 Apr    51  69  98
# 6 May    38  28  30
# 7 Jun    75  38  24
# 8 Sum2 164 135 152

df_q %>%
  tableHTML(widths = rep(50, 5),
             rownames = FALSE,
             row_groups = list(c(4, 4, 4, 4),
                               c('Q1', 'Q2', 'Q3', 'Q4'))) %>%
  add_theme_colorize(color = '#009999',
                     total_rows = c(4, 8, 12, 16))
```

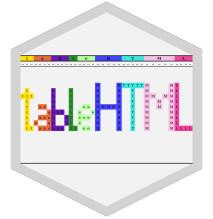
	Month	x1	x2	x3
Q1	Jan	11	7	10
	Feb	16	52	37
	Mar	93	99	11
	Sum1	120	158	58
Q2	Apr	74	76	12
	May	2	95	59
	Jun	67	93	49
	Sum2	143	264	120
Q3	Jul	57	54	33
	Aug	56	87	62
	Sep	75	73	87
	Sum3	188	214	182
Q4	Oct	46	42	41
	Nov	31	44	72
	Dec	13	25	13
	Sum4	90	111	126

# Add CSS customizations



# Add CSS customizations

- \* The `add_css_...` family of functions adds inline CSS to the HTML table.
  - `add_css_header`
  - `add_css_seconder_header`
  - `add_css_thead` (headers and second headers)
  - `add_css_tbody` (to all table apart from the headers and second headers.)
  - `add_css_table`
  - `add_css_caption`
  - `add_css_footer`
  - `add_css_row`
  - `add_css_column`
  - `add_css_conditional_column`



# Add CSS customizations

- \* The CSS code is added within the HTML table.

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa

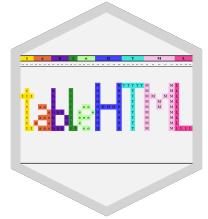
Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa

- \* stylize columns

```
iris %>%
  head(10) %>%
  tableHTML(rownames = FALSE) %>%
  add_theme('scientific') %>%
  add_css_column(
    css = list(c('background-color', 'color'),
               c('gray', 'white')),
    columns = 'Species')
```

- \* stylize rows

```
iris %>%
  head(10) %>%
  tableHTML(rownames = FALSE) %>%
  add_css_row(
    css = list(c('background-color', 'color'),
               c('purple', 'white')),
    rows = odd(1:nrow(iris)))
```



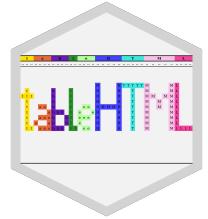
# Add CSS customizations

- \* Users can chain as many functions as needed when building the table.

```
iris %>%
  head(5) %>%
  tableHTML(rownames = FALSE,
             caption = "Wow, this is very purple",
             widths = rep(150, ncol(iris))) %>%
  add_css_thead(css = list(c('background-color', 'color'),
                           c('#5F4B8BFF', '#E69A8DFF'))) %>%
  add_css_tbody(css = list(c('background-color', 'color', 'text-align'),
                           c('#E69A8DFF', '#5F4B8BFF', 'center'))) %>%
  add_css_caption(css=list(c('font-size', 'color'), c('20', '#5F4B8BFF')))
```

Wow, this is very purple

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5	3.6	1.4	0.2	setosa

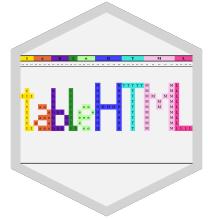


# Add CSS customizations

- \* Cool sub-family `add_css_conditional_column()`

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
Merc 280C	17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
Merc 450SE	16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
Merc 450SL	17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
Merc 450SLC	15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
Cadillac Fleetwood	10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
Lincoln Continental	10.4	8	460	215	3	5.424	17.82	0	0	3	4
Chrysler Imperial	14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
Fiat 128	32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
Honda Civic	30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
Toyota Corolla	33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1

```
mtcars %>%
  head(15) %>%
  tableHTML(widths = c(150, rep(50, 11))) %>%
  add_theme('scientific') %>%
  add_css_conditional_column(
    columns = c('mpg', 'qsec'),
    conditional = 'max',
    css = list(c('background', 'color'),
               c('#cc0000', '#ffffff')),
    same_scale = FALSE)%>%
  add_css_conditional_column(
    columns = c('mpg', 'qsec'),
    conditional = 'min',
    css = list(c('background', 'color'),
               c('#00cc00', '#ffffff')),
    same_scale = FALSE)
```

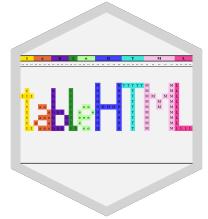


# Add CSS customizations

- \* Cool sub-family `add_css_conditional_column()`

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4	4
Mazda RX4 Wag	21	6	160	110	3.9	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
Duster 360	14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
Merc 280C	17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
Merc 450SE	16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
Merc 450SL	17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
Merc 450SLC	15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
Cadillac Fleetwood	10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
Lincoln Continental	10.4	8	460	215	3	5.424	17.82	0	0	3	4
Chrysler Imperial	14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
Fiat 128	32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
Honda Civic	30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
Toyota Corolla	33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1

```
mtcars %>%
  head(15) %>%
  tableHTML(widths = c(150, rep(50, 11))) %>%
  add_theme('scientific') %>%
  add_css_conditional_column(
    columns = c('disp'),
    conditional = 'color_rank',
    color_rank_theme = 'White-Blue')%>%
  add_css_conditional_column(
    columns = c('hp'),
    conditional = 'color_rank',
    color_rank_theme = 'White-Red' )
```



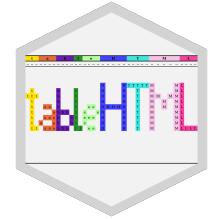
# Add CSS customizations

- \* For complex CSS-styles, it is advised to use a separate CSS file.
- \* The function `make_css()` helps create css files
- \* However this is more relevant when using tableHTML with shiny

```
make_css(list('table', c('text-align', 'font-size'), c('center', '20px')),
         list('th', c('background-color', 'height'), c('lightgreen', '30px')))

# table {
#   text-align: center;
#   font-size: 20px;
# }
#
# th {
#   background-color: lightgreen;
#   height: 30px;
```

# Shiny



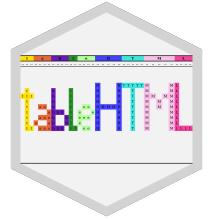
# Shiny

- \* tableHTML objects can be used in shiny with the functions `render_tableHTML` and `tableHTML_output`

```
ui <- fluidPage(  
  fluidRow(  
    column(width = 2,  
           selectInput('df', 'Select Data',  
                        choices = c('mtcars', 'iris'),  
                        selected = 'mtcars'))  
,  
    column(width = 10,  
           tableHTML_output('mytable'))  
)  
)  
server <- function(input, output){  
  my_data <- reactive(get(input$df))  
  
  output$mytable <- render_tableHTML(  
    tableHTML(my_data()[1:3] %>%  
              head(20),  
              widths = c(150, rep(75, 3))) %>%  
    add_theme('scientific'))  
)  
}  
  
shinyApp(ui, server)
```

A screenshot of a web browser window displaying a Shiny application. The URL is 127.0.0.1:4354. On the left, there is a sidebar with a dropdown menu labeled "Select Data" containing the option "mtcars". The main area shows a table with columns: mpg, cyl, and disp. The table contains 21 rows of data from the mtcars dataset, including models like Mazda RX4, Datsun 710, and Toyota Corolla, along with their respective mpg, cyl, and disp values.

	mpg	cyl	disp
Mazda RX4	21	6	160
Mazda RX4 Wag	21	6	160
Datsun 710	22.8	4	108
Hornet 4 Drive	21.4	6	258
Hornet Sportabout	18.7	8	360
Valiant	18.1	6	225
Duster 360	14.3	8	360
Merc 240D	24.4	4	146.7
Merc 230	22.8	4	140.8
Merc 280	19.2	6	167.6
Merc 280C	17.8	6	167.6
Merc 450SE	16.4	8	275.8
Merc 450SL	17.3	8	275.8
Merc 450SLC	15.2	8	275.8
Cadillac Fleetwood	10.4	8	472
Lincoln Continental	10.4	8	460
Chrysler Imperial	14.7	8	440
Fiat 128	32.4	4	78.7
Honda Civic	30.4	4	75.7
Toyota Corolla	33.9	4	71.1



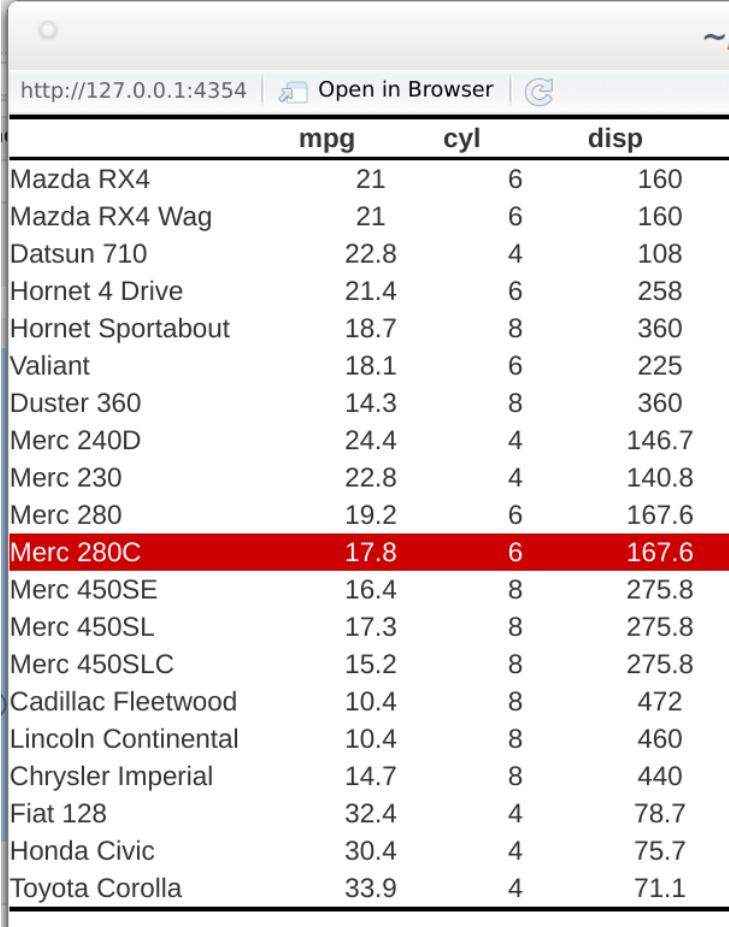
# Shiny

## \* Creating and using external css files with `make_css()`

```
make_css(list('tr:hover',
              c('background-color', 'color'),
              c('#cc0000', 'white')),
          file = '../mycss.css')

ui <- fluidPage(
  fluidRow(
    includeCSS('../mycss.css'),
    tableHTML_output('mytable')
  )
)

server <- function(input, output){
  output$mytable <- render_tableHTML(
    tableHTML(mtcars[1:3] %>%
      head(20),
      widths = c(150, rep(75, 3))) %>%
    add_theme('scientific'))
}
shinyApp(ui, server)
```



A screenshot of a web browser window showing a Shiny application. The URL bar shows 'http://127.0.0.1:4354'. Below the address bar, there are buttons for 'Open in Browser' and a refresh icon. The main content area displays a table of car data from the 'mtcars' dataset. The table has three columns: 'mpg', 'cyl', and 'disp'. The row for 'Merc 280C' is highlighted with a red background, while all other rows have a white background with black text. The table is styled using CSS rules defined in the 'mycss.css' file.

	mpg	cyl	disp
Mazda RX4	21	6	160
Mazda RX4 Wag	21	6	160
Datsun 710	22.8	4	108
Hornet 4 Drive	21.4	6	258
Hornet Sportabout	18.7	8	360
Valiant	18.1	6	225
Duster 360	14.3	8	360
Merc 240D	24.4	4	146.7
Merc 230	22.8	4	140.8
Merc 280	19.2	6	167.6
Merc 280C	17.8	6	167.6
Merc 450SE	16.4	8	275.8
Merc 450SL	17.3	8	275.8
Merc 450SLC	15.2	8	275.8
Cadillac Fleetwood	10.4	8	472
Lincoln Continental	10.4	8	460
Chrysler Imperial	14.7	8	440
Fiat 128	32.4	4	78.7
Honda Civic	30.4	4	75.7
Toyota Corolla	33.9	4	71.1

- \* If you need help using the package, there is a `tableHTML` tag on stackoverflow:  
<https://stackoverflow.com/questions/tagged/tablehtml>
- \* If you find any bugs please report them on the issues page on github.  
<https://github.com/LyzandeR/tableHTML/issues>

# Thank You