

# Communication with RMarkdown

Business Science

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## RMarkdown

Is amazing.

## What can RMarkdown be used for?

1. HTML Reports & PDF Reports
2. HTML Slide Decks & PowerPoint
3. Interactive Dashboards
4. Books with `bookdown`
5. Websites with `blogdown`

## Key Resources

- RMarkdown Website with Gallery
- Key Reference: RMarkdown - The Definitive Guide
- PDF Printing Setup: `tinytex`

```
# PDF Knitting Setup: https://yihui.name/tinytex/  
# install.packages("tinytex")  
# tinytex::install_tinytex()
```

## How Rmarkdown Works

### Header 1

### Header 2

### Header 3

## Working with Text

Free-form text.

Make text **bold**.

Make text *italics*.

Make text ***bold + italics***.

Talk about code - the `tidyverse` is awesome

### Unordered List:

- Item 1
- Item 2

### Ordered List:

1. First point
2. Second point
3. More points

## Tabset

### Tab 1

This is Tab 1

### Tab 2

This is Tab 2

## Images



Figure 1: PSU Logo



Figure 2: PSU Logo

## Code

Read in data and print to HTML. Notice effect of `df_print: paged` option for HTML.

- Try changing to `df_print: default`, or `kable` or `tibble`. PDF prints normally.
- Try changing `results = "hide"`.

```
# Import stock prices
stocks <- tq_get(c("TSLA", "AMZN"),
                 get = "stock.prices",
                 from = "2016-01-01",
                 to = "2017-01-01")

stocks
```

We can do data manipulations too. Try changing the YAML `code_folding` option from `none` to `hide` to `show`.

```
stocks %>%
  select(symbol, date, adjusted)
```

## Plots

Plotting works as expected. Try changing:

- `out.height`, `out.width` and Knitting

### Static plots:

```
g <- ggplot(data = stocks) +  
  geom_point(mapping = aes(x = volume, y = adjusted, color = symbol))  
g
```

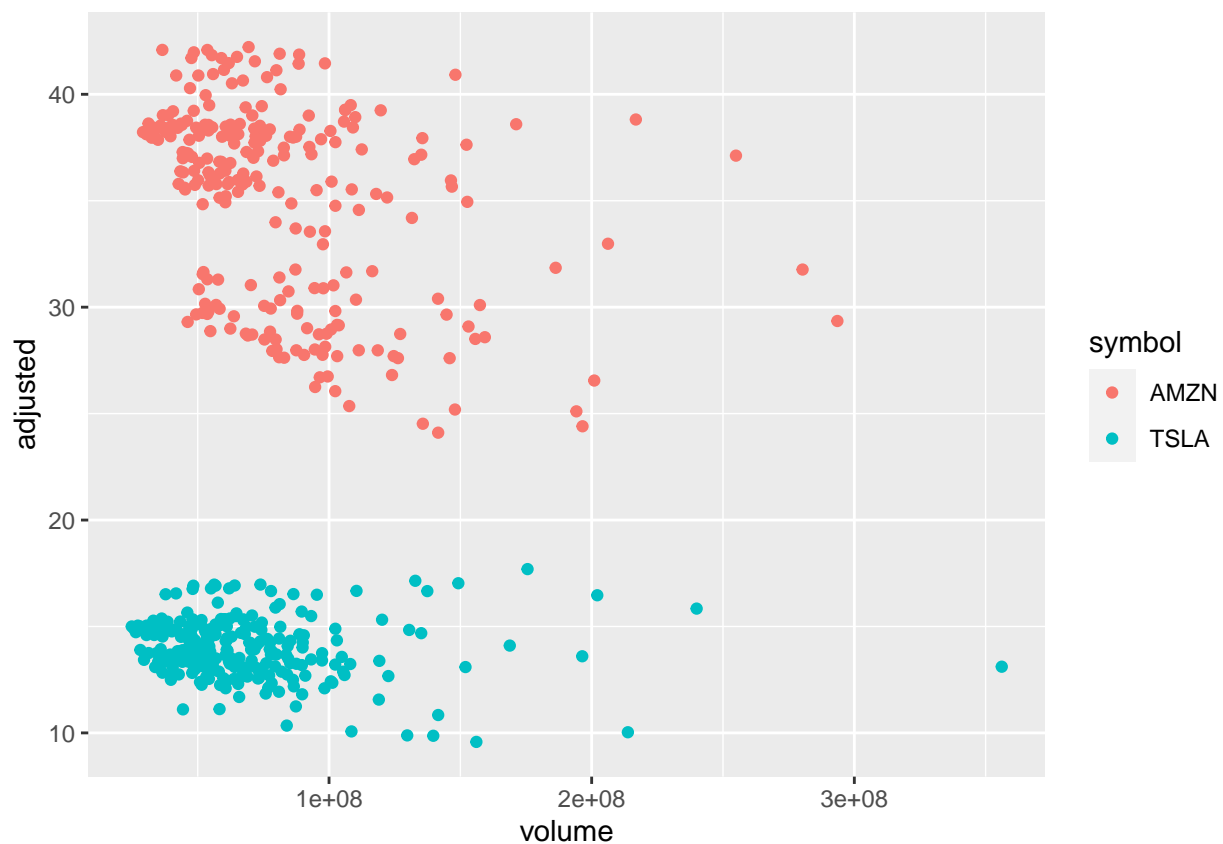


Figure 3: Revenue by Category

### Interactive plots:

- Use `ggplotly()`.

```
ggplotly(g)
```

# Tables

## Static Tables:

- knitr package - `knitr::kable()` - Simple to use, great with PDF
- gt package - Not on CRAN yet, but really good for static tables

```
stocks %>% head() %>% knitr::kable()
```

symbol	date	open	high	low	close	volume	adjusted
TSLA	2016-01-04	15.38133	15.42533	14.60000	14.89400	102406500	14.89400
TSLA	2016-01-05	15.09067	15.12600	14.66667	14.89533	47802000	14.89533
TSLA	2016-01-06	14.66667	14.67000	14.39867	14.60267	56686500	14.60267
TSLA	2016-01-07	14.27933	14.56267	14.24467	14.37667	53314500	14.37667
TSLA	2016-01-08	14.52400	14.69600	14.05133	14.06667	54421500	14.06667
TSLA	2016-01-11	14.26733	14.29667	13.53333	13.85667	61371000	13.85667

## Dynamic Tables:

- Can print tables without additional formatting in HTML with the `df_print: paged` option in YAML
- Potential Gotcha: Note that this will not print with format in PDF

```
stocks
```

# Footnotes

This is some text with a Footnote<sup>1</sup>. This is a second Footnote<sup>2</sup>.

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<sup>1</sup>Citation for Footnote 1

<sup>2</sup>Citatin for Footnote 2