

# Communication with RMarkdown

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## 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()
```

## Write with Markdown

### Header 1

### Header 2

### Header 3

Plain text.

Type **bold**.

Type *italics*.

Type ***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

## Code



Figure 1: PSU Logo



Figure 2: PSU Logo

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

```
## # A tibble: 504 x 8
##   symbol date      open high  low close  volume adjusted
##   <chr> <date>    <dbl> <dbl> <dbl> <dbl>    <dbl>    <dbl>
## 1 TSLA  2016-01-04  15.4  15.4  14.6  14.9  102406500    14.9
## 2 TSLA  2016-01-05  15.1  15.1  14.7  14.9   47802000    14.9
## 3 TSLA  2016-01-06  14.7  14.7  14.4  14.6   56686500    14.6
## 4 TSLA  2016-01-07  14.3  14.6  14.2  14.4   53314500    14.4
## 5 TSLA  2016-01-08  14.5  14.7  14.1  14.1   54421500    14.1
## 6 TSLA  2016-01-11  14.3  14.3  13.5  13.9   61371000    13.9
## 7 TSLA  2016-01-12  14.1  14.2  13.7  14.0   46378500    14.0
## 8 TSLA  2016-01-13  14.1  14.2  13.3  13.4   61896000    13.4
## 9 TSLA  2016-01-14  13.5  14    12.9  13.7   97360500    13.7
## 10 TSLA 2016-01-15  13.3  13.7  13.2  13.7   83679000    13.7
## # ... with 494 more rows
```

## 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
```

### Interactive plots:

- Use `ggplotly()`.

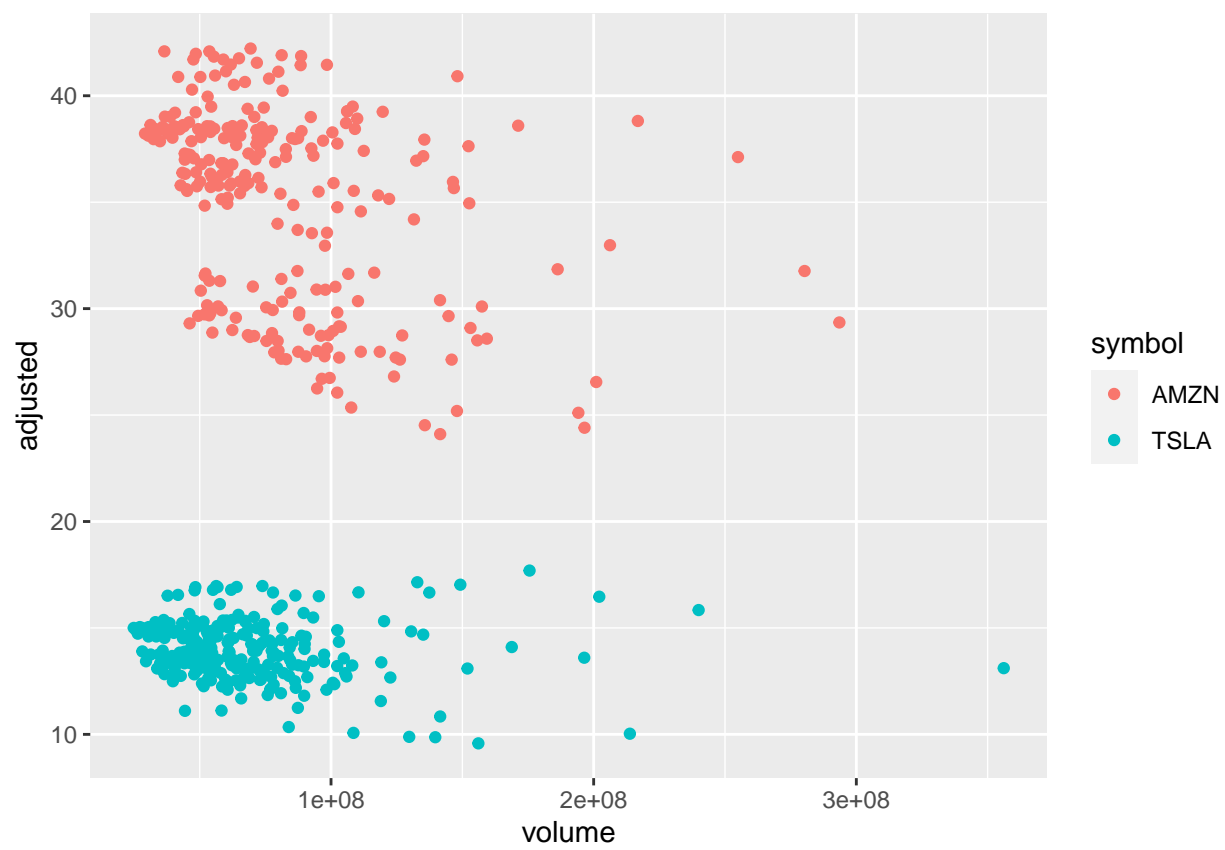


Figure 3: Revenue by Category

```
ggplotly(g)
```

## Tables

### Static Tables:

- knitr package - `knitr::kable()` - Simple to use, great with PDF

```
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:

- Potential Gotcha: Note that this will not print with format in PDF

```
stocks
```

```
## # A tibble: 504 x 8
##   symbol date      open  high  low close  volume adjusted
##   <chr> <date>    <dbl> <dbl> <dbl> <dbl>    <dbl>    <dbl>
## 1 TSLA  2016-01-04  15.4  15.4  14.6  14.9  102406500    14.9
## 2 TSLA  2016-01-05  15.1  15.1  14.7  14.9   47802000    14.9
## 3 TSLA  2016-01-06  14.7  14.7  14.4  14.6   56686500    14.6
## 4 TSLA  2016-01-07  14.3  14.6  14.2  14.4   53314500    14.4
## 5 TSLA  2016-01-08  14.5  14.7  14.1  14.1   54421500    14.1
## 6 TSLA  2016-01-11  14.3  14.3  13.5  13.9   61371000    13.9
## 7 TSLA  2016-01-12  14.1  14.2  13.7  14.0   46378500    14.0
## 8 TSLA  2016-01-13  14.1  14.2  13.3  13.4   61896000    13.4
## 9 TSLA  2016-01-14  13.5  14    12.9  13.7   97360500    13.7
## 10 TSLA 2016-01-15  13.3  13.7  13.2  13.7   83679000    13.7
## # ... with 494 more rows
```

## 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