

Upping your R Markdown game

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Outline

- Day 2
 - 10am - 12pm - Upping Your RMD Game 🖥️



Tables

Tables

- Tables are always a bit of a pain...
- By default, R Markdown prints out tables the same way R does, which is not that pretty
- Quick fix: `knitr::kable()`
- Another quick fix, especially for printing out the entire data frame is `DT::datatable()`

Your turn

- Open `sd-burritos-tables.Rmd`, knit, and review the `datatable()` output
- Update this output such that
 - Only **Location**, **Burrito**, **Reviewer**, and **overall** rating are displayed
 - Only 5 observations are shown on each page
 - Searching functionality is turned off
 - Dropdown menu for how many observations to show is 5, 10, and 50
- The following two resources might be useful:
 - DataTables reference: <https://datatables.net/reference/option/>
 - dtable package reference: <https://rstudio.github.io/DT/>



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Other table-making packages

We're not going to go through these in detail but they're good to have on your radar:

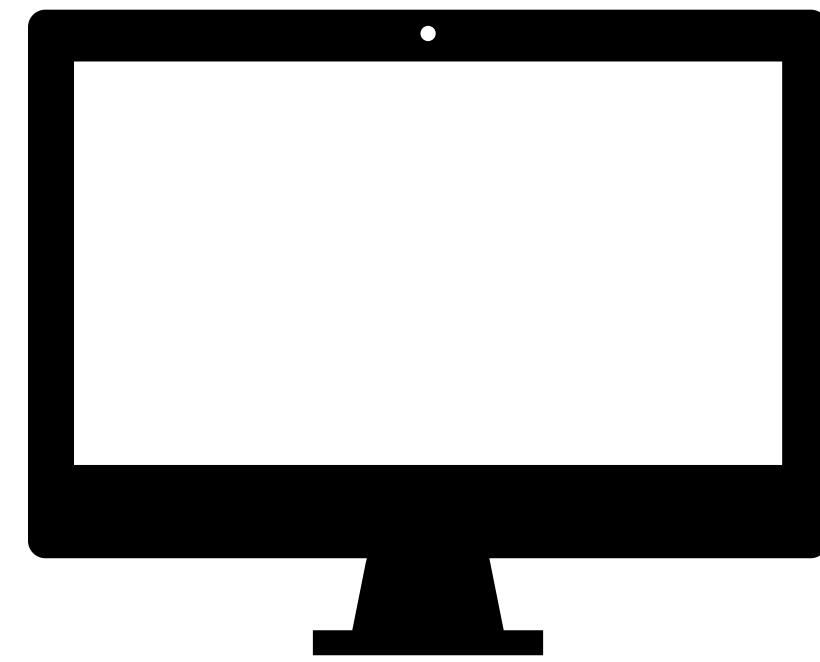
- kableExtra
- xtable
- stargazer
- pander
- tables
- ascii

Bibliography and citation

Graphs and charts

- R Markdown is as flexible as R
- You can use any of your favorite methods for rendering graphics.
 - I love ggplot2 and ggmap for PDFs
 - Plotly and leaflet are amazing tools for HTML documents.





DEMO

List references in YAML

references:

- id: Kaggle18

title: Burritos in San Diego

author:

- family: Cole

given: Scott

URL: 'https://www.kaggle.com/srcole/burritos-in-san-diego'

type: article

issued:

year: 2018

month: 1



Use bibliography file

- You can specify a bibliography file using the `bibliography` field in the YAML
- This can be a `.bib` file, or take on a variety of other formats:

Format	File extension
MODS	.mods
BibLaTeX	.bib
BibTeX	.bibtex
RIS	.ris
EndNote	.enl
EndNote XML	.xml
ISI	.wos
MEDLINE	.medline
Copac	.copac
JSON citeproc	.json

Source: http://rmarkdown.rstudio.com/authoring_bibliographies_and_citations.html



Citation syntax

- Each citation must have a key, composed of @ + the citation identifier from the database
- Two styles:
 - [`@Kaggle18`]: (Cole 2018)
 - `@Kaggle18`: Cole (2018)
- Separate multiple citations with semicolons

Your turn

- Add a reference to the `rmarkdown` package in the `bibliography.bib` file.
- Add a citation to it in the `sd-burritos-bibcit.Rmd` file.
- Knit the document to confirm the citation appears as expected.



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Templates



Templates

- We have already used some templates (xaringan and tufte)
- Many other packages come with similar templates
- Templates can also be useful for teaching purposes
- The **rticles** package is a rich source of templates for authoring scientific articles for various journals

Your turn

- **Before you start:** Make sure the rarticles package is installed and loaded.
- Go to New File ➡ R Markdown... ➡ From Template, and then choose the template for the R Journal (unless another journal's name catches your eye)
- Knit the document without any changes to observe the look and the pieces of meted you would need to fill in to make it your own.



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Parametrized reports

(aka first dip into interactivity)



Parametrized reports

- Parameters are useful when you want to re-render the same report with distinct values for various key inputs, for example:
 - Running a report specific to a department or geographic region
 - Running a report that covers a specific period in time
 - Running multiple versions of a report for distinct sets of core assumptions
- Declare parameter name, type, and default value in the YAML
- Change parameter values by passing to the `rmarkdown::render` function

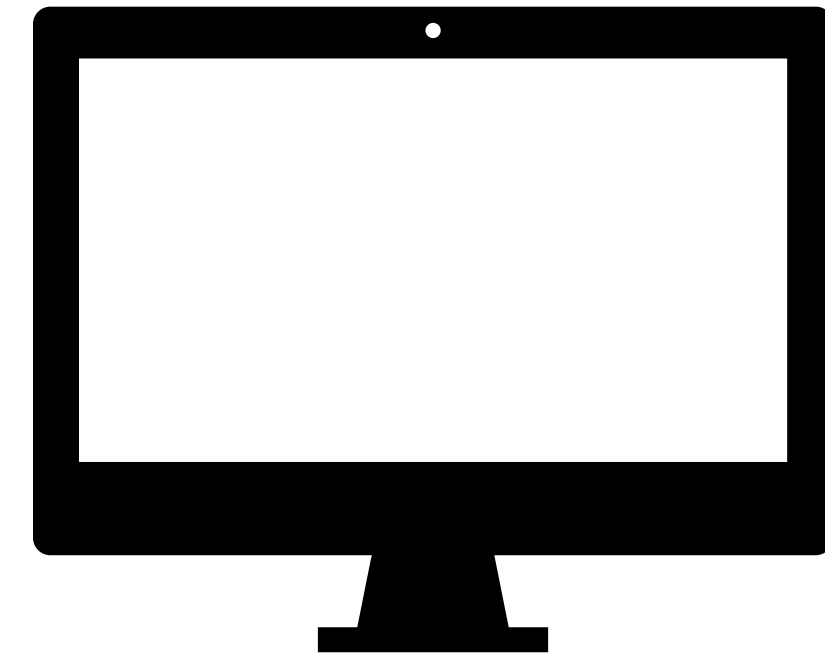
sd-burritos-parametrized.Rmd

OPTION 1

```
rmarkdown::render("sd-burritos-parametrized.Rmd",  
params = list(Reviewer = "Scott"))
```

OPTION 2

```
rmarkdown::render("sd-burritos-parametrized.Rmd",  
params = "ask"))
```



DEMO



Your turn

- Add another parameter to the YAML of `sd-burritos-parametrized.Rmd` to subset the data based on another attribute (e.g. burrito type or date reviewed).
- Make the appropriate adjustments to the R code in the document to take into account this new variable.
- Render the document with this parameter in place.

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