

STAT 221: Filename (e.g., HW 1)

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Wednesday, July 20, 2016

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

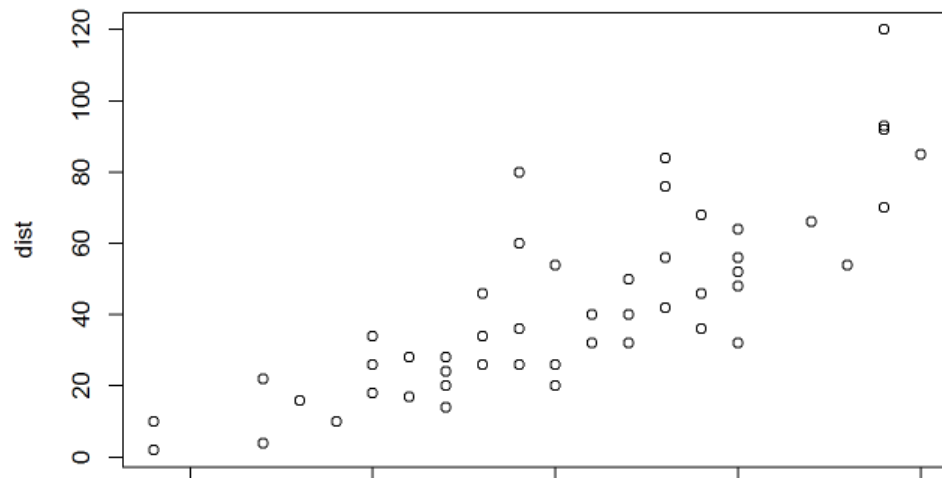
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed      dist
## Min.   : 4.0    Min.   : 2.00
## 1st Qu.:12.0    1st Qu.: 26.00
## Median :15.0    Median : 36.00
## Mean   :15.4    Mean   : 42.98
## 3rd Qu.:19.0    3rd Qu.: 56.00
## Max.   :25.0    Max.   :120.00
```

You can also embed plots, for example:

```
plot(cars)
```

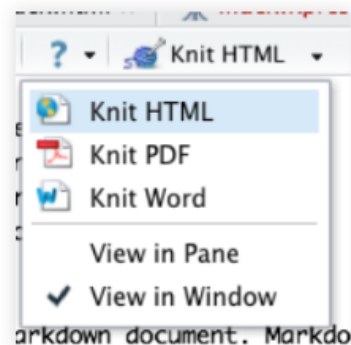


What is Markdown?

- Markdown is a particular type of markup language.
- Markup languages are designed produce documents from plain text.

knitr + markdown + pandoc = rmarkdown

- `rmarkdown` is a new package from RStudio that merges a lot of technologies in an exciting way.
- In fact, in RStudio now, you integrate R code into your Markdown document and render as HTML/pdf/Word in the click of a button!



Markdown syntax

```
#Header 1
      =====
##Header 2
      -----
### Header 3

This is regular
text.

> This is a
blockquote.
>
> This is the
second paragraph
in the blockquote.
>
> ## This is an
H2 in a blockquote
```

Resulting HTML

```
<h1>Header 1</h1>
<h2>Header 2</h2>
<h3>Header 3</h3>

<p>This is regular
text.</p>

<blockquote>
<p>This is a
blockquote.</p>

<p>This is the second
paragraph in the
blockquote.</p>

<h2>This is an H2 in a
blockquote</h2>
</blockquote>
```



Header 1

Header 2

Header 3

This is regular text.

This is a blockquote.

This is the second paragraph in the blockquote.

This is an H2 in a blockquote

Markdown syntax

Here we have an unordered list.

- * Item 1
- * Item 2
 - * Item 2a
 - * Item 2b

Here we have an ordered list

1. Item 1
2. Item 2
 - * Item 2a
 - * Item 2b

Resulting HTML

```
<p>Here we have an
unordered list.</p>
<ul>
<li>Item 1</li>
<li>Item 2
<ul>
<li>Item 2a</li>
<li>Item 2b</li>
</ul></li>
</ul>
<p>Here we have an
ordered list</p>
<ol>
<li>Item 1</li>
<li>Item 2
<ul>
<li>Item 2a</li>
<li>Item 2b</li>
```



Here we have an unordered list.

- Item 1
- Item 2
 - Item 2a
 - Item 2b

Here we have an ordered list

Item 1

Item 2

- Item 2a
- Item 2b

Markdown syntax

```
What if we want
to italicize or
bold?

* In a list, I
may want to
  italicize or
  bold this way.

I can also
include inline
`code` or

...

blocks of code


```
code
```



Or even a [link]
(http://google.com)
```

Resulting HTML

```
<p>What if we want to
<em>italicize</em> or
<strong>bold</strong>?
</p>
<ul>
<li>In a list, I may
want to
  <em>italicize</em> or
  <strong>bold</strong>
  this way.</li>
</ul>
<p>I can also include
inline
<code>code</code> or
</p>
<pre><code>blocks of
code</code></pre>
<p>Or even a <a
```


What if we want to *italicize* or **bold**?

- In a list, I may want to *italicize* or **bold** this way.

I can also include inline `code` or

```
blocks of code
```

Or even a [link](#)

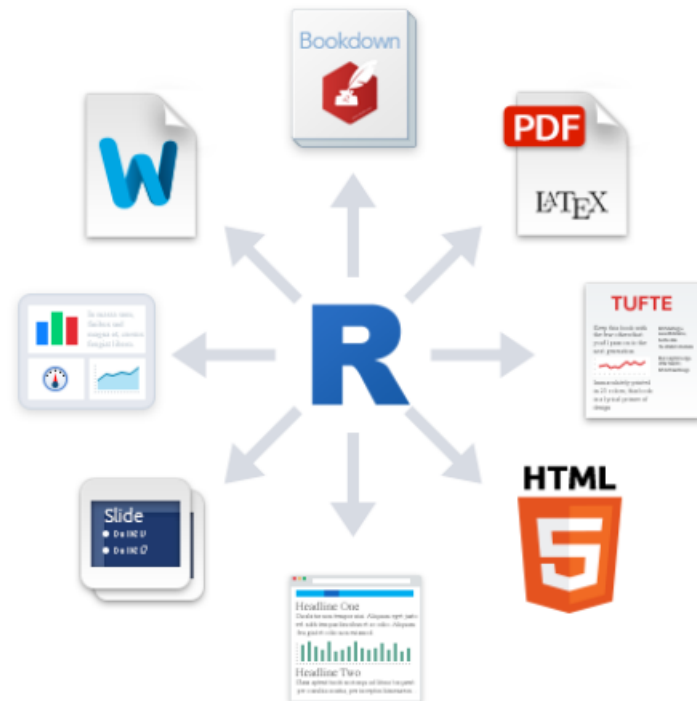
R Markdown

Dynamic Documents for R

R Markdown is an authoring format that enables easy creation of dynamic documents, presentations, and reports from R. It combines the core syntax of [markdown](#) (an easy to write plain text format) with embedded R code chunks that are run so their output can be included in the final document.

R Markdown documents are fully reproducible (they can be automatically regenerated whenever underlying R code or data changes).

R Markdown has many available output formats including [HTML](#), [PDF](#), [MS Word](#), [Beamer](#), [HTML5 slides](#), [Tufte handouts](#), [notebooks](#), [books](#), [dashboards](#), and [websites](#).



Getting Started

 [Quick Tour](#)

 [R Markdown Cheat Sheet](#)

File menu options:

- New File
 - R Script
 - R Markdown...
 - Text File
 - C++ File
 - R Sweave
 - R HTML
 - R Presentation
 - R Documentation
- New Project...
- Open File... ⌘O
- Reopen with Encoding...
- Recent Files
- Open Project...
- Open Project in New Window...
- Recent Projects
- Save ⌘S
- Save As...
- Save with Encoding... ⌘⌘S
- Save All ⌘⌘S
- Knit ⌘K
- Print...
- Close ⌘W
- Close All ⌘⌘W
- Close Project
- Quit RStudio...

Console output:

```
~/Desktop/github/local/rwrks/07-r-knitr - gh-pages - RStudio
Type 'license()' or 'licence()' for d
Natural language support but runnin
R is a collaborative project with man
Type 'contributors()' for more inform
or R pa
```

File type selection dialog:

- Document
- Presentation
- Shiny
- From Template

File creation dialog:

Title:

Author:

Default Output Format:

- HTML
Recommended format for authoring (you can switch to PDF or Word output anytime).
- PDF
PDF output requires TeX (MiKTeX on Windows, MacTeX 2013+ on OS X, TeX Live 2013+ on Linux).
- Word
Previewing Word documents requires an installation of MS Word (or Libre/Open Office on Linux).

OK Cancel

Code editor content:

```
1 1:1 (Top Level)
2 titl
3 aut
4 date
5 outp
6 ---
7 Save
8 This
9 , PL
10 .rst
11 Where
12 cont
13 embe
14 sum
15
16 You can also embed plots, for example:
17
```

Environment: RStudio+knitr+markdown = aweso...