Learning Objectives: Document

- **Publish an HTML document**
- **Publish a PDF document**
- **Publish a Microsoft Word document**

definition

Assumptions

- Learners are comfortable reading and importing CSV data sets, extracting relevant data into data frames, and printing that data to the console.
- Learners are comfortable using ggplot2 to create visualization charts.

HTML

Publishing in HTML

Each output format is associated with an R function. You can either write `foo` or `pkg::foo`. If you omit `pkg`, the default is assumed to be rmarkdown. It's important to know the name of the function that makes the output because that's where you get help. For example, to figure out what parameters you can set with `html_document`, look at `?rmarkdown::html_document`.

To override the default parameter values, you need to use an expanded `output` field. For example, if you wanted to render an `html_document` with a floating table of contents, you'd use:

```
output:
  html_document:
    toc: true
    toc_float: true
```

You can even render to multiple outputs by supplying a list of formats:

```
output:
  html_document:
    toc: true
    toc_float: true
  pdf_document: default
```

Note the special syntax if you don't want to override any of the default options.

PDF

Publishing a PDF

````
---
title: "Diamond sizes"
date: 2016-08-25
output: html_document
---

```{r setup, include = FALSE}
library(ggplot2)
library(dplyr)

smaller <- diamonds %>%
  filter(carat <= 2.5)
```
````

We have data about `r nrow(diamonds)` diamonds. Only `r nrow(diamonds) - nrow(smaller)` are larger than 2.5 carats. The distribution of the remainder is shown below:

````
```{r, echo = FALSE}
smaller %>%
  ggplot(aes(carat)) +
  geom_freqpoly(binwidth = 0.01)
```
````

MS Word

Publishing a Word Document

The previous chapter focused on the default `html_document` output. There are a number of basic variations on that theme, generating different types of documents:

- `pdf_document` makes a PDF with LaTeX (an open source document layout
  system), which you'll need to install. RStudio will prompt you if you don't already have it.
- `word_document` for Microsoft Word documents (`.docx`).
- `odt_document` for OpenDocument Text documents (`.odt`).
- `rtf_document` for Rich Text Format (`.rtf`) documents.
- `md_document` for a Markdown document. This isn't typically useful by itself, but you might use it if, for example, your corporate CMS or lab wiki uses markdown.
- `github_document`: this is a tailored version of `md_document` designed for sharing on GitHub.

Remember, when generating a document to share with decision makers, you can turn off the default display of code by setting global options in the setup chunk:

```
knitr::opts_chunk$set(echo = FALSE)
```

For `html_documents` another option is to make the code chunks hidden by default, but visible with a click:

```
output:
  html_document:
    code_folding: hide
```