Module 2 – lesson 04: Document Elements

Let's continue working with the same R markdown document “module2\_rmd1.Rmd”. Log into your Github account, open RStudio, and open the RStudio project for “Module2\_rmd1”.

Now we’re going to learn to insert:

* + - Images; photos; or pictures
    - Videos or animations
    - And footnotes

Images

We do not have to use R code to add images in your document. You can also bring in external images. Let’s use the picture called sunstar.png – the read ahead materials had instructions on how to download this picture. For now, let’s put this picture in the same directory as your R markdown document. If you want to see this in your document, you can use the simple R markdown syntax ![alt text](filename)

Let’s create a new header in our document

## Insert Images

Here is an image inserted

![sunstar](sunstar.png)

You can also insert images off the web by linking directly to them via their web-address URL

Here is the R logo

![Rlogo](https://www.r-project.org/logo/Rlogo.svg)

NOTE!! The image with the web-address will NOT compile correctly for the KNIT to WORD and KNIT to PDF because the image is not stored locally. If you want this image for a DOC or PDF formatted file, you will need to download the image and store it locally when you “KNIT” the final document. Then use the same syntax as you just did for sunstar.png. So, delete this section before you KNIT to WORD or KNIT to PDF.

Videos and animations

If you want to include a video, you can embed one and view it in an HTML document. Let’s work again with the sunstar graphic as an animated GIF and as an MP4 video. The read ahead materials had instructions on how to download both the animated GIF “sunstar.gif” and video “sunstar.mp4” into a subfolder in your project called “sunstar”. Since these are in a directory called “sunstar” in your project folder, you need to include the folder name when you list the filename. The syntax for embedding videos and animated GIFs is similar to how images are inserted.

## Insert an Animated GIF and Video

![sunstar](sunstar/sunstar.gif)

![sunstar](sunstar/sunstar.mp4)

KNIT to HTML to see the results. You may need to open the saved html file in a separate browser window to see the embedded MP4 video. These videos will not work if you KNIT to WORD – the document will compile but these sections will be blank. If you try running KNIT to PDF you will get an error. Videos and Animated GIFs only work in HTML format – at least using this approach. New functions and methods are created daily, so there is probably a way to embed videos and animated GIFs in other formats if you look for it.

In the final HTML document, you’ll notice that the animated GIF plays over and over again. But the MP4 file is embedded with a built-in video. This is a simple introduction to videos and only scratches the surface. There is an R package called vebmedr which allows embedding of videos like YouTube in your HTML documents. Learn more at <http://ijlyttle.github.io/vembedr/>

Footnotes

Finally, you might want to include a footnote in your document. The syntax for inserting a footnote is square brackets with an up arrow ^ inserted. You can add footnotes in one of two ways.

First – you can add the notation in the text where you want the index number. And then at the END of the document you have to provide the content you want displayed with the footnote index.

Second, you can use what is called an inline note. With an inline note you don’t have to remember to add the footnote references at the end. Let’s add the following to your document using both methods.

## Insert text with some footnotes

Here is a footnote reference,[^1] and another.[^longnote]

Here is an inline note.^[Inlines notes are easier to write, since you don't have to pick an identifier and move down to type the note.]

[^1]: Here is the footnote.

[^longnote]: Here's one with multiple blocks.

Save your document and KNIT to HTML to view your document.

Finally, let’s make sure to back everything up and save your changes to your Github repository.

Open Git Bash and change to the directory for your Github repository created for “Module2\_rmd1” – so go to:

C:\RepTemplates\Module2\_rmd1

Once in that directory, type in the following 4 Git commands to check the status of your local files compared to your Github cloud repository; add or stage the modified files; commit your changes; and then push the changes to your Github cloud repository.

git status

git add .

git commit –m “inserting multiple elements to my RMD file”

git push