

## knitr

*Created By Josh Hewitt on Saturday, October 18, 2014 3:09:23 PM MDT*

knitr is a really cool R package that lets you write R and LaTeX code in the same file. Its big advantages are in convenience and organization. The package helps you take a single file (with R and LaTeX code) and turn it into a LaTeX pdf that includes the results of your R code. This package is really helpful for statistics homeworks, but you could also use it on bigger projects as well. Once you get comfortable with knitr, here are some big benefits of using it for homeworks that involve statistical computations:

- **Tables and figures can be updated automatically** - knitr builds a pdf that includes tables and figures based on your latest code. You don't have to worry about fixing your code and forgetting to copy over all of your latest results (unless you also use caching with knitr)... you know, the ones with the right answers.
- **You can automatically include code in your homework submission** - knitr lets you automatically include the code you used in the assignment you hand in. It's convenient because this is one less thing you have to keep track of when getting ready to submit your homework.
- **One file to rule them all** - You can write your code and HW write-up in the same file. I find this convenient, but I recognize not everyone will agree.

I'm not aware of any good tutorials online (despite searching), but here is a list of some solid resources, mostly from the knitr homepage:

- the help file - <http://yihui.name/knitr/options> - documentation of main knitr settings
- "minimal examples" - <http://yihui.name/knitr/demo/minimal/> - short examples that help show syntax for knitr
- stackoverflow (via google searches) - lots of people get great answers to both easy and hard questions about knitr, R, and latex on stackoverflow. It's easiest to find the relevant pages on stackoverflow by searching google and looking for the stackoverflow pages.
- "knitr with latex" - [http://kbroman.org/knitr\\_knutshell/pages/latex.html](http://kbroman.org/knitr_knutshell/pages/latex.html) - for quick intro info., especially how to get set up with or without RStudio (note: the instructions are really short because they assume you already have latex and r and know how to use both)
- knitr showcase - <http://yihui.name/knitr/demo/showcase/> - for some worked examples and links to more information

The following two urls link to the knitr/latex script and homework template I used in the presentation, as well as the pdf output:

[knitr\\_presentation.Rnw](#)

[knitr\\_presentation.pdf](#)

