Including LaTeX statements

Han Oostdijk

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This line inserted with the *include-before2* yaml option

Including LaTeX statements in an R Markdown document

Creating a pdf document with the R package **rmarkdown** is done with the following steps:

- package **knitr** is used to convert the *Rmd* document to an *md* document by 'replacing' all R code by its results
- **pandoc** is called to convert the *md* document to a *tex* document
- the *tex* document is converted to a *pdf* file with a **TeX toolset** such as MikTex, Tex Live

This document describes some options in *R Markdown* that we have to include LaTeX statements in the *tex document*. They are listed in Table 1. With the current default **pandoc** template (default-1.17.0.2.tex) the options marked with A and B are available. The template default-1.17.0.2-hoqc.tex adds to these the options under C.

Table 1: Options for including tex statements in *rmarkdown* document

	A	B	C
	in_header	header-includes	header-includes2
	before_body	include-before	include-before2
	after-body	include-after	include-after2
remarks:			
	yaml on pdf level with '*includes:*'	yaml on global level	yaml on global level
	points to tex file	contains tex lines	contains tex lines
	overwrites B	overwritten by A	**not** overwritten by A

The name of the options indicate where the LaTeX statements will be placed. The 'header' options will be placed at the end of the header (or preamble) and the other options at the start or the end of the text (or body) section of the *tex* document. The remarks in the table indicate briefly the difference between the A, B and C versions.

With the A version the user can point to files containing the LaTeX statements. This is useful when the same statements are often used or when there are a lot of them. Because the **knitr** step is completed before the running of the **tex** step it is possible to create the inputs dynamically by R code (as is shown in the *Rmd* code of this document).
The *yaml* specification (on pdf level) in the *Rmd* code (two different methods of specification are shown) point to the file with LaTeX statements where the B and C versions contain the statements themselves. And be aware that a A specification overrules the statements in a similar B (but not a C) specification.

The B and C version are the same apart from the fact that C specifications can be used alongside A. The specification have to be given on the global level and not on pdf level. An example of using the A and C version together is shown in this document and visible in the *yaml* metadata block that is listed in the next section (with the help of the *myknit* functionality described in the *flexknit* entry).

yaml used in this document

```
---
knit:  (function (...) { source('myknit.r'); myknit(...) })
title: "Including \\LaTeX \\ statements"
author: "Han Oostdijk"
date: "file created : r format(Sys.time(), '%d%b%Y')"
output:
  pdf_document:
    keep_tex: yes
```

```
    latex_engine: pdflatex
    template: default-1.17.0.2-hoqc.tex
    includes:
      in_header:  hoqc_inh.tex
      before_body:
        - hoqc_bef.tex
      after_body: hoqc_aft.tex
  html_document: default
classoption: portrait
header-includes2 : [
# how to get a comment (%) in the tex file  ??
  '\renewcommand*{\familydefault}{\sfdefault}'
  , '\usepackage[scaled]{DejaVuSansMono}'
  , '\usepackage[margin=0.5in]{geometry}'
  ]
include-before2 : [
    '\textbf{\large This line inserted with the \textit{include-before2} yaml option}'
  ]
include-after2 : [
    '\textbf{\large This line inserted with the \textit{include-after2} yaml option}'
  ]
hoqc_output: './output/include_latex'
hoqc_yaml: yaml.txt
linkcolor: blue
---
```

Listing of the *in_header* file used in this document

```
% hoqc start inserted hoqc_inh.tex in header (preamble) (via yaml 'in_header:')
% not used here
% hoqc end   inserted hoqc_inh.tex (via yaml 'in_header:')
```

Session Info

```
R version 3.4.1 (2017-06-30)
Platform: x86_64-w64-mingw32/x64 (64-bit)
Running under: Windows 10 x64 (build 16299)

Matrix products: default

locale:
[1] LC_COLLATE=English_United States.1252
[2] LC_CTYPE=English_United States.1252
[3] LC_MONETARY=English_United States.1252
[4] LC_NUMERIC=C
[5] LC_TIME=English_United States.1252

attached base packages:
[1] stats     graphics  grDevices utils     datasets  methods   base

other attached packages:
[1] stringr_1.2.0 magrittr_1.5  fs_1.1.0

loaded via a namespace (and not attached):
 [1] compiler_3.4.1   backports_1.1.2  rprojroot_1.3-2  htmltools_0.3.6
 [5] tools_3.4.1      yaml_2.1.16      Rcpp_0.12.14     rmarkdown_1.8.10
 [9] stringi_1.1.6    knitr_1.19       digest_0.6.14    evaluate_0.10.1
```

This line inserted with the *include-after2* yaml option