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# Chapter 1

## Introduction

This file documents the `knitLatex` package. The purpose of this package is to provide  $\text{\LaTeX}$  helpers designed to work with the `knitr` package. The package provides functions. Three of which, `xTab`, `sTab`, and `lTab` create `table`, `supertabular`, and `longtable` environments in  $\text{\LaTeX}$  respectively. The fourth function `knitr_sethooks` serves two purposes. First, it fixes a well-known bug in `knitr` which occurs when using custom hooks in a “`results=‘asis’`” environment. Secondly, `knitr_sethooks` provides a custom command called ‘`com`’. When “`com=TRUE`” is set in a chunk, the resulting chunk is turned into a  $\text{\LaTeX}$  command which can be referenced by the chunk label. For example, the chunk “`<<mychuck>>`” can be referenced with `\mychuck` anywhere in the document and the resultant  $\text{\LaTeX}$  will be the same as what normally would have appeared in the spot of the chunk.

The examples in the following chapters show the `knitr` chunk as a comment, followed by the code in the chunk with the results as they would appear in a  $\text{\LaTeX}$  document. It is not the purpose of this file to document all the options available within each function, but rather to show how they can be used (with and without “`com = TRUE`”) in a  $\text{\LaTeX}$  document. For a more detailed description of the options available, consult the individual vignettes (entitled ‘`xTab`’, ‘`sTab`’ and ‘`lTab`’), as well as the individual documentations (i.e. ‘`?xTab`’, ‘`?sTab`’, and ‘`?lTab`’).

## Chapter 2

# Preamble

The preamble to this document is as follows:

```
\usepackage{longtable,supertabular,hyperref}

#<<setup, include=FALSE>>=
# devtools::load_all is required to load the package because it is still in
# development. For the user, you simply need require(knitLatex)
devtools::load_all('~/.ignore/knitLatex', export_all=FALSE)
knitr_sethooks()
cars <- mtcars[1:10,1:5]
megacars <- rbind(mtcars, mtcars, mtcars)

#<<mylongtable, echo=FALSE, com=TRUE, results='asis'>>=
lTab(megacars,
      label = 'tab:mylongtable',
      caption.head = 'My Long Table')

#<<mysupertabular, echo=FALSE, com=TRUE, results='asis'>>=
sTab(megacars,
      label = 'tab:mysupertabular',
      caption.top = 'My Supertabular')

#<<myplot, echo = FALSE, com=TRUE, fig.cap='my plot', results = 'asis'>>=
boxplot(mpg ~ gear, megacars)

@
```

## Chapter 3

### xTab

This chapter demonstrates a table environment. Because we set the label option as ‘tab:mytable’ we can type the following:

```
observe table \ref{tab:mytable} on page \pageref{tab:mytable}.
```

and produce this:

observe table 3.1 on page 4.

```
#<<mytable, results = 'asis'>>=  
xTab(cars, label='tab:mytable', caption.bottom='My Table')
```

mpg	cyl	disp	hp	drat
21	6	160	110	3.9
21	6	160	110	3.9
22.8	4	108	93	3.85
21.4	6	258	110	3.08
18.7	8	360	175	3.15
18.1	6	225	105	2.76
14.3	8	360	245	3.21
24.4	4	146.7	62	3.69
22.8	4	140.8	95	3.92
19.2	6	167.6	123	3.92

Table 3.1: My Table

## Chapter 4

# sTab

This chapter demonstrates a supertabular environment created with sTab. The following table was produced in the preamble with this code (uncommented, of course):

```
#<<mysupertabular, echo=FALSE, com=TRUE, results='asis'>>=
sTab(megacars,
     label = 'tab:mysupertabular',
     caption.top = 'My Supertabular')
```

We then produce the table with the following command:

```
\mysupertabular
```

Table 4.1: My Supertabular

mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
21	6	160	110	3.9	2.62	16.46	0	1	4	4
21	6	160	110	3.9	2.875	17.02	0	1	4	4
22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
10.4	8	472	205	2.93	5.25	17.98	0	0	3	4

mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
10.4	8	460	215	3	5.424	17.82	0	0	3	4
14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1
21.5	4	120.1	97	3.7	2.465	20.01	1	0	3	1
15.5	8	318	150	2.76	3.52	16.87	0	0	3	2
15.2	8	304	150	3.15	3.435	17.3	0	0	3	2
13.3	8	350	245	3.73	3.84	15.41	0	0	3	4
19.2	8	400	175	3.08	3.845	17.05	0	0	3	2
27.3	4	79	66	4.08	1.935	18.9	1	1	4	1
26	4	120.3	91	4.43	2.14	16.7	0	1	5	2
30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
15	8	301	335	3.54	3.57	14.6	0	1	5	8
21.4	4	121	109	4.11	2.78	18.6	1	1	4	2
21	6	160	110	3.9	2.62	16.46	0	1	4	4
21	6	160	110	3.9	2.875	17.02	0	1	4	4
22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
10.4	8	460	215	3	5.424	17.82	0	0	3	4
14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1
21.5	4	120.1	97	3.7	2.465	20.01	1	0	3	1
15.5	8	318	150	2.76	3.52	16.87	0	0	3	2
15.2	8	304	150	3.15	3.435	17.3	0	0	3	2
13.3	8	350	245	3.73	3.84	15.41	0	0	3	4

mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
19.2	8	400	175	3.08	3.845	17.05	0	0	3	2
27.3	4	79	66	4.08	1.935	18.9	1	1	4	1
26	4	120.3	91	4.43	2.14	16.7	0	1	5	2
30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
15	8	301	335	3.54	3.57	14.6	0	1	5	8
21.4	4	121	109	4.11	2.78	18.6	1	1	4	2
21	6	160	110	3.9	2.62	16.46	0	1	4	4
21	6	160	110	3.9	2.875	17.02	0	1	4	4
22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
10.4	8	460	215	3	5.424	17.82	0	0	3	4
14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1
21.5	4	120.1	97	3.7	2.465	20.01	1	0	3	1
15.5	8	318	150	2.76	3.52	16.87	0	0	3	2
15.2	8	304	150	3.15	3.435	17.3	0	0	3	2
13.3	8	350	245	3.73	3.84	15.41	0	0	3	4
19.2	8	400	175	3.08	3.845	17.05	0	0	3	2
27.3	4	79	66	4.08	1.935	18.9	1	1	4	1
26	4	120.3	91	4.43	2.14	16.7	0	1	5	2
30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
15	8	301	335	3.54	3.57	14.6	0	1	5	8
21.4	4	121	109	4.11	2.78	18.6	1	1	4	2

## Chapter 5

### lTab

This chapter demonstrates a longtable environment create with lTab. The following table was produced in the preamble with this code (uncommented, of course):

```
#<<mylongtable, echo=FALSE, com=TRUE, results='asis'>>=
lTab(megacars,
     label = 'tab:mylongtable',
     caption.head = 'My Long Table')
```

We then produce the table with the following command:

```
\mylongtable
```

Table 5.1: My Long Table

mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
21	6	160	110	3.9	2.62	16.46	0	1	4	4
21	6	160	110	3.9	2.875	17.02	0	1	4	4
22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
10.4	8	460	215	3	5.424	17.82	0	0	3	4



Table 5.1: My Long Table

mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1
21.5	4	120.1	97	3.7	2.465	20.01	1	0	3	1
15.5	8	318	150	2.76	3.52	16.87	0	0	3	2
15.2	8	304	150	3.15	3.435	17.3	0	0	3	2
13.3	8	350	245	3.73	3.84	15.41	0	0	3	4
19.2	8	400	175	3.08	3.845	17.05	0	0	3	2
27.3	4	79	66	4.08	1.935	18.9	1	1	4	1
26	4	120.3	91	4.43	2.14	16.7	0	1	5	2
30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
15	8	301	335	3.54	3.57	14.6	0	1	5	8
21.4	4	121	109	4.11	2.78	18.6	1	1	4	2
21	6	160	110	3.9	2.62	16.46	0	1	4	4
21	6	160	110	3.9	2.875	17.02	0	1	4	4
22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
10.4	8	460	215	3	5.424	17.82	0	0	3	4
14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1
21.5	4	120.1	97	3.7	2.465	20.01	1	0	3	1
15.5	8	318	150	2.76	3.52	16.87	0	0	3	2
15.2	8	304	150	3.15	3.435	17.3	0	0	3	2
13.3	8	350	245	3.73	3.84	15.41	0	0	3	4
19.2	8	400	175	3.08	3.845	17.05	0	0	3	2
27.3	4	79	66	4.08	1.935	18.9	1	1	4	1
26	4	120.3	91	4.43	2.14	16.7	0	1	5	2

Table 5.1: My Long Table

mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
15	8	301	335	3.54	3.57	14.6	0	1	5	8
21.4	4	121	109	4.11	2.78	18.6	1	1	4	2
21	6	160	110	3.9	2.62	16.46	0	1	4	4
21	6	160	110	3.9	2.875	17.02	0	1	4	4
22.8	4	108	93	3.85	2.32	18.61	1	1	4	1
21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
18.7	8	360	175	3.15	3.44	17.02	0	0	3	2
18.1	6	225	105	2.76	3.46	20.22	1	0	3	1
14.3	8	360	245	3.21	3.57	15.84	0	0	3	4
24.4	4	146.7	62	3.69	3.19	20	1	0	4	2
22.8	4	140.8	95	3.92	3.15	22.9	1	0	4	2
19.2	6	167.6	123	3.92	3.44	18.3	1	0	4	4
17.8	6	167.6	123	3.92	3.44	18.9	1	0	4	4
16.4	8	275.8	180	3.07	4.07	17.4	0	0	3	3
17.3	8	275.8	180	3.07	3.73	17.6	0	0	3	3
15.2	8	275.8	180	3.07	3.78	18	0	0	3	3
10.4	8	472	205	2.93	5.25	17.98	0	0	3	4
10.4	8	460	215	3	5.424	17.82	0	0	3	4
14.7	8	440	230	3.23	5.345	17.42	0	0	3	4
32.4	4	78.7	66	4.08	2.2	19.47	1	1	4	1
30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
33.9	4	71.1	65	4.22	1.835	19.9	1	1	4	1
21.5	4	120.1	97	3.7	2.465	20.01	1	0	3	1
15.5	8	318	150	2.76	3.52	16.87	0	0	3	2
15.2	8	304	150	3.15	3.435	17.3	0	0	3	2
13.3	8	350	245	3.73	3.84	15.41	0	0	3	4
19.2	8	400	175	3.08	3.845	17.05	0	0	3	2
27.3	4	79	66	4.08	1.935	18.9	1	1	4	1
26	4	120.3	91	4.43	2.14	16.7	0	1	5	2
30.4	4	95.1	113	3.77	1.513	16.9	1	1	5	2
15.8	8	351	264	4.22	3.17	14.5	0	1	5	4
19.7	6	145	175	3.62	2.77	15.5	0	1	5	6
15	8	301	335	3.54	3.57	14.6	0	1	5	8
21.4	4	121	109	4.11	2.78	18.6	1	1	4	2

## Chapter 6

# Figure

Even though the `knitLatex` package is primarily designed to be used with  $\text{\LaTeX}$  tables, here is an example of using the ‘com’ hook with a figure.

```
#<<myplot, echo = FALSE, com=TRUE, fig.cap='my plot', results = 'asis'>>=  
boxplot(mpg ~ gear, megacars)
```

With a figure, “com = TRUE” can only be used with “results = ‘asis’”. To use the regular figure environment, you must use a traditional in-line chunk as demonstrated in the following example. Note that there is not visible difference between this figure and the previous one. This is because I have not defined the `knitrout` environment. If I had, this figure would be displayed accordingly.

```
#<<myotherplot, fig.cap = 'my other plot'>>=  
boxplot(mpg ~ gear, megacars)
```

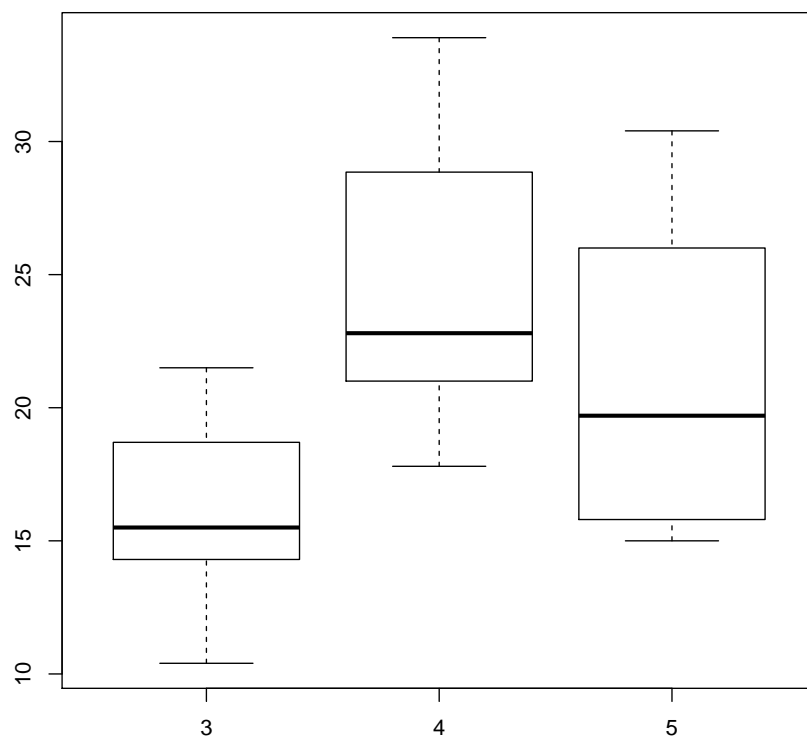


Figure 6.1: my plot

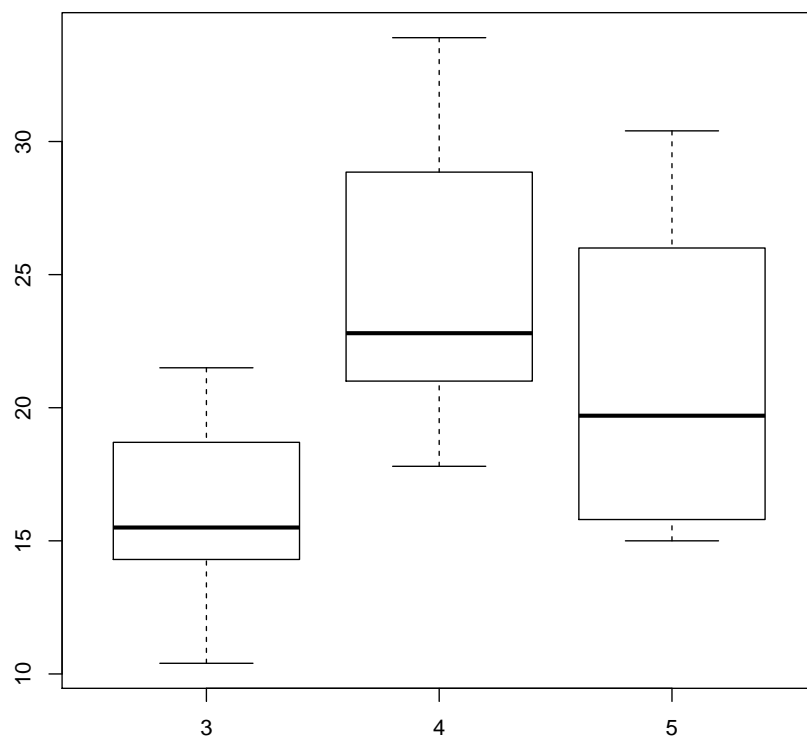


Figure 6.2: my other plot