

kableExtra 在 bookdown 项目中的使用

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第一章 表格

这是一个稍微复杂一点的经典表格样式，常出现在论文或期刊的数值模拟比较部分¹

```
library(dplyr)
library(kableExtra)
db <- mtcars[, 1:7]
db2 <- cbind(rownames(db), db)
colnames(db2) <- c("Methods", rep(c("Bias", "RMSE"), 3), "")
if (knitr::is_latex_output()) {
  kable(db2,
    format = "latex", booktabs = TRUE, escape = T, row.names = F,
    longtable = T, caption = " 第 1 种类型的统计表格样式",
    linesep = c("", "", "", "", "", "\\midrule")
  ) %>%
  kable_styling(
    latex_options = c("hold_position", "repeat_header"),
    full_width = F, position = "center", repeat_header_method = "replace",
    repeat_header_text = " 续表??"
  ) %>%
  add_header_above(c(" ",
    "$\\\\sigma^2$" = 2, "$\\\\phi$" = 2,
    "$\\\\tau^2$" = 2, "$r=\\\\delta/\\\\phi$" = 1
  ), escape = F) %>%
  footnote(
    general_title = " 注: ", title_format = "italic", threeparttable = T,
    general = "* 星号表示的内容可以很长"
  )
} else {
  kable(db2,
    format = "html", booktabs = TRUE, escape = T, row.names = F,
```

¹<https://arxiv.org/abs/1711.00437>

```

caption = " 第 1 种类型的统计表格样式"
) %>%
kable_styling(
  bootstrap_options = c("basic"),
  full_width = F, position = "center"
) %>%
add_header_above(c("",
  "$\\sigma^2$" = 2, "$\\phi$" = 2,
  "$\\tau^2$" = 2, "$r=\\delta/\\phi$" = 1
), escape = F) %>%
footnote(
  general_title = " 注: ", title_format = "italic", threeparttable = T,
  general = "* 星号表示的内容很长"
)
}

```

表 1.1: 第 1 种类型的统计表格样式

Methods	σ^2		ϕ		τ^2		$r = \delta/\phi$
	Bias	RMSE	Bias	RMSE	Bias	RMSE	
Mazda RX4	21.0	6	160.0	110	3.90	2.620	16.46
Mazda RX4 Wag	21.0	6	160.0	110	3.90	2.875	17.02
Datsun 710	22.8	4	108.0	93	3.85	2.320	18.61
Hornet 4 Drive	21.4	6	258.0	110	3.08	3.215	19.44
Hornet Sportabout	18.7	8	360.0	175	3.15	3.440	17.02
Valiant	18.1	6	225.0	105	2.76	3.460	20.22
Duster 360	14.3	8	360.0	245	3.21	3.570	15.84
Merc 240D	24.4	4	146.7	62	3.69	3.190	20.00
Merc 230	22.8	4	140.8	95	3.92	3.150	22.90
Merc 280	19.2	6	167.6	123	3.92	3.440	18.30
Merc 280C	17.8	6	167.6	123	3.92	3.440	18.90
Merc 450SE	16.4	8	275.8	180	3.07	4.070	17.40
Merc 450SL	17.3	8	275.8	180	3.07	3.730	17.60
Merc 450SLC	15.2	8	275.8	180	3.07	3.780	18.00
Cadillac Fleetwood	10.4	8	472.0	205	2.93	5.250	17.98
Lincoln Continental	10.4	8	460.0	215	3.00	5.424	17.82
Chrysler Imperial	14.7	8	440.0	230	3.23	5.345	17.42

表 1.1: 续表??

Methods	Bias	RMSE	Bias	RMSE	Bias	RMSE	
Fiat 128	32.4	4	78.7	66	4.08	2.200	19.47
Honda Civic	30.4	4	75.7	52	4.93	1.615	18.52
Toyota Corolla	33.9	4	71.1	65	4.22	1.835	19.90
Toyota Corona	21.5	4	120.1	97	3.70	2.465	20.01
Dodge Challenger	15.5	8	318.0	150	2.76	3.520	16.87
AMC Javelin	15.2	8	304.0	150	3.15	3.435	17.30
Camaro Z28	13.3	8	350.0	245	3.73	3.840	15.41
Pontiac Firebird	19.2	8	400.0	175	3.08	3.845	17.05
Fiat X1-9	27.3	4	79.0	66	4.08	1.935	18.90
Porsche 914-2	26.0	4	120.3	91	4.43	2.140	16.70
Lotus Europa	30.4	4	95.1	113	3.77	1.513	16.90
Ford Pantera L	15.8	8	351.0	264	4.22	3.170	14.50
Ferrari Dino	19.7	6	145.0	175	3.62	2.770	15.50
Maserati Bora	15.0	8	301.0	335	3.54	3.570	14.60
Volvo 142E	21.4	4	121.0	109	4.11	2.780	18.60

注:

* 星号表示的内容可以很长

- `striped` 默认使用浅灰色, `stripe_color` 可以用来指定颜色 `stripe_color="white"`, 它只在 LaTeX 下工作, HTML 下更改颜色需要设置 CSS, 可以不使用 `striped` 改变默认的白底设置
- `threeparttable = TRUE` 处理超长的注解标记,
- `add_header_above` 函数内的 `escape = F` 用来处理数学公式,
- `longtable = T` 表格很长时需要分页, 因此使用续表,
- `hold_position` 使用了 `[!h]` 控制浮动
- 对于数学符号前要四个反斜杠这一点, 作者今后会改变, 只需要两个反斜杠, 与 HTML 格式表格保持一致 <https://github.com/haozhu233/kableExtra/issues/120>
- 对某些数据用不同颜色高亮 Selecting and colouring single table cells with **kableExtra** in R markdown `cell_spec` <https://stackoverflow.com/questions/50118394>

其实 Pandoc's Markdown 本身也支持不少表格样式², 比如

²<http://pandoc.org/MANUAL.html#tables>

表 1.2: 没有编号的可以跨行的表格.

First	row	12.0	Example of a row that spans multiple lines.
Second	row	5.0	Here's another one. Note the blank line between rows.

1.1 软件信息

```
xfun::session_info(packages = c("rmarkdown", "bookdown", "kableExtra"),
  dependencies = FALSE)
```

```
## R version 3.5.2 (2017-01-27)
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Ubuntu 14.04.5 LTS
##
## Locale:
##   LC_CTYPE=en_US.UTF-8      LC_NUMERIC=C
##   LC_TIME=en_US.UTF-8      LC_COLLATE=en_US.UTF-8
##   LC_MONETARY=en_US.UTF-8  LC_MESSAGES=en_US.UTF-8
##   LC_PAPER=en_US.UTF-8     LC_NAME=C
##   LC_ADDRESS=C             LC_TELEPHONE=C
##   LC_MEASUREMENT=en_US.UTF-8 LC_IDENTIFICATION=C
##
## Package version:
##   bookdown_0.9      kableExtra_1.0.1 rmarkdown_1.11
##
## Pandoc version: 2.2.3.2
```