

Example for qwraps2 issue #83

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December 4, 2019

Issue 83, <https://github.com/dewittpe/qwraps2/issues/83>, There are five questions to answer:

- 1 Is there a way to set latex tables to be landscape?
- 2 Is it possible to show just one level of binary variables? For instance, if I have a variable Sex can I report just Sex: Female rather than percentages of males and females on two separate lines?
- 3 Related to 2, is it possible to skip the row-level grouping in these cases so that the row label Sex: Female is on the same line as the summary data for this variable (and not with the label on it's own row with white space)?
- 4 Are captions possible when knitting to PDF? (not rtitle style in the table itself)
- 5 Is it possible to keep the N's when using cnames in print()?

The quick answer to all these questions is yes. Details to follow.

A quick, but important note. When I started to build the tools in qwraps2 I did so to support two work flows.

1. .Rnw knitted to .tex and compiled to .pdf via pdflatex.
2. .Rmd knitted to .md and compiled to .docx or .html via pandoc

Since the target output is a pdf using L^AT_EX markup I would start by writing a .Rnw file, not a .Rmd file. One reason for this has to do with how knitr, the underlying workhorse for printing summary tables, renders .Rnw files vs .Rmd files.

To answer the questions with examples we'll need to set up the mtcars2 data set. To address the issue with escaping the underscore in the variable name, an issue noted in <https://github.com/dewittpe/qwraps2/issues/57> and <https://github.com/dewittpe/qwraps2/issues/82>, is to escape the underscore in the variable name explicitly, or to change the name/label later.

```
data(mtcars)
mtcars2 <-
  dplyr::mutate(mtcars,
    `cyl\\_factor` = factor(cyl,
                           levels = c(6, 4, 8),
                           labels = paste(c(6, 4, 8), "cylinders")),
    `cyl\\_character` = paste(cyl, "cylinders"))
```

1 Detailed Answers and Examples

1.1 L^AT_EX Tables in Landscape

Question 1 and 4 are answered here. There are multiple ways to set a L^AT_EX table into a landscape. The use the L^AT_EX package pdfscape and the environment landscape to get get Table 1.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Table 1: The caption for this table

. (N = 32)	
mpg	
minimum	10.40
median (IQR)	19.20 (15.43, 22.80)
mean (sd)	20.09 \pm 6.03
maximum	33.90
cyl_factor	
6 cylinders	7 (22)
4 cylinders	11 (34)
8 cylinders	14 (44)
wt	
minimum	1.51
median (IQR)	3.33 (2.58, 3.61)
mean (sd)	3.22 \pm 0.98
maximum	5.42

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1.2 Displaying One level of a binary variable

The default summary for factors will report all levels. To get just one level you’ll need to explicitly define the summary. For example, see Table 2.

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```
qs <-  
  mtcars2 %>%  
  dplyr::select(.data$mpg, .data$cyl\\_factor`, .data$wt) %>%  
  qsummary  
  
qs <-  
  c(  
    list("~" =  
      list("Automatic Transmissions" = ~ qwraps2::n_perc(.data[["am"]]),  
           "V-shaped Engine"          = ~ qwraps2::n_perc(.data[["vs"]]))  
    ),  
    qs)  
  
summary_table(mtcars2, qs) %>%  
  print(caption = "One row factors", booktabs = TRUE)
```

Table 2: One row factors

	mtcars2 (N = 32)
Automatic Transmissions	13 (40.62%)
V-shaped Engine	14 (43.75%)
mpg	
minimum	10.40
median (IQR)	19.20 (15.43, 22.80)
mean (sd)	20.09 \pm 6.03
maximum	33.90
cyl_factor	
6 cylinders	7 (22)
4 cylinders	11 (34)
8 cylinders	14 (44)
wt	
minimum	1.51
median (IQR)	3.33 (2.58, 3.61)
mean (sd)	3.22 \pm 0.98
maximum	5.42

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1.3 Skipping rowgrouping

Answering “Yes” might have been an over sell. As seen in Table 2 there is no row group label for the transmission and engine shape, but the structure

is still there. Aligning the row names for the row group without a label with the bold row labels is not supported within the qwraps2 code base at this time. Use of `capture.output` might be useful for fine tweaking of the output. See the subsection "Adding p-values to a summary table" in the vignette for an example of modifying the summary table after capturing the output.

1.4 Captions for the tables

Yes, use the `caption` argument in the `print` method. See the code chunks which built Table 1 and Table 2.

1.5 Keep N's when using `cnames` in `print`

No. But it is possible to keep the N, update the `colnames` of the summary table.

```
tab <- cbind(summary_table(mtcars2, qs),
             summary_table(dplyr::group_by(mtcars2, gear), qs))
colnames(tab)

## [1] "mtcars2 (N = 32)" "gear: 3 (N = 15)" "gear: 4 (N = 12)" "gear: 5 (N = 5)"

colnames(tab) %<>%
  sub("mtcars2", "Whole Data Set", .) %>%
  sub("gear:\\ (\\d)", "\\1 Forward Gears", .)

colnames(tab)

## [1] "Whole Data Set (N = 32)" "3 Forward Gears (N = 15)"
## [3] "4 Forward Gears (N = 12)" "5 Forward Gears (N = 5)"
```

The resulting table is Table 3.

Table 3: cnames edited

	Whole Data Set (N = 32)	3 Forward Gears (N = 15)	4 Forward Gears (N = 12)	5 Forward Gears (N = 5)
Automatic Transmissions	13 (40.62%)	0 (0.00%)	8 (66.67%)	5 (100.00%)
V-shaped Engine	14 (43.75%)	3 (20.00%)	10 (83.33%)	1 (20.00%)
mpg				
minimum	10.40	10.40	17.80	15.00
median (IQR)	19.20 (15.43, 22.80)	15.50 (14.50, 18.40)	22.80 (21.00, 28.08)	19.70 (15.80, 26.00)
mean (sd)	20.09 \pm 6.03	16.11 \pm 3.37	24.53 \pm 5.28	21.38 \pm 6.66
maximum	33.90	21.50	33.90	30.40
cyl_factor				
6 cylinders	7 (22)	2 (13)	4 (33)	1 (20)
4 cylinders	11 (34)	1 (7)	8 (67)	2 (40)
8 cylinders	14 (44)	12 (80)	0 (0)	2 (40)
wt				
minimum	1.51	2.46	1.61	1.51
median (IQR)	3.33 (2.58, 3.61)	3.73 (3.45, 3.96)	2.70 (2.13, 3.16)	2.77 (2.14, 3.17)
mean (sd)	3.22 \pm 0.98	3.89 \pm 0.83	2.62 \pm 0.63	2.63 \pm 0.82
maximum	5.42	5.42	3.44	3.57

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```
sessionInfo()

## R version 3.6.1 (2019-07-05)
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Ubuntu 18.04.3 LTS
##
## Matrix products: default
## BLAS: /usr/lib/x86_64-linux-gnu/openblas/libblas.so.3
## LAPACK: /usr/lib/x86_64-linux-gnu/libopenblas-p-r0.2.20.so
##
## locale:
##  [1] LC_CTYPE=en_US.UTF-8      LC_NUMERIC=C
##  [3] LC_TIME=en_US.UTF-8      LC_COLLATE=en_US.UTF-8
##  [5] LC_MONETARY=en_US.UTF-8  LC_MESSAGES=en_US.UTF-8
##  [7] LC_PAPER=en_US.UTF-8     LC_NAME=C
##  [9] LC_ADDRESS=C             LC_TELEPHONE=C
## [11] LC_MEASUREMENT=en_US.UTF-8 LC_IDENTIFICATION=C
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods    base
##
## other attached packages:
##  [1] qwraps2_0.4.2  forcats_0.4.0  stringr_1.4.0  dplyr_0.8.3
##  [5] purrr_0.3.3   readr_1.3.1    tidyr_1.0.0    tibble_2.1.3
##  [9] ggplot2_3.2.1  tidyverse_1.2.1
##
## loaded via a namespace (and not attached):
##  [1] Rcpp_1.0.3      highr_0.8       cellranger_1.1.0 pillar_1.4.2
##  [5] compiler_3.6.1  tools_3.6.1     zeallot_0.1.0  lubridate_1.7.4
##  [9] jsonlite_1.6    evaluate_0.14    lifecycle_0.1.0 nlme_3.1-142
## [13] gtable_0.3.0    lattice_0.20-38 pkgconfig_2.0.3 rlang_0.4.2
## [17] cli_1.1.0       rstudioapi_0.10 haven_2.2.0     xfun_0.11
## [21] withr_2.1.2     xml2_1.2.2      httr_1.4.1     knitr_1.26
## [25] generics_0.0.2  vctrs_0.2.0     hms_0.5.2      grid_3.6.1
## [29] tidyselect_0.2.5 glue_1.3.1      R6_2.4.1       readxl_1.3.1
## [33] modelr_0.1.5    magrittr_1.5     backports_1.1.5 scales_1.1.0
## [37] rvest_0.3.5     assertthat_0.2.1 colorspace_1.4-1 stringi_1.4.3
```



```
## [41] lazyeval_0.2.2    munsell_0.5.0     broom_0.5.2       crayon_1.3.4
```