Examples with {flextable}

November 23, 2021

Print a Plain Dataframe

```
df <- penguins %>%
  head(n =10)

df %>% flextable()
```

```
## Warning: Warning: fonts used in ‘flextable‘ are ignored because the ‘pdflatex‘
## engine is used and not ‘xelatex‘ or ‘lualatex‘. You can avoid this warning
## by using the ‘set_flextable_defaults(fonts_ignore=TRUE)‘ command or use a
## compatible engine by defining ‘latex_engine: xelatex‘ in the YAML header of the
## R Markdown document.
```

species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex	year
Adelie	Torgersen	39.1	18.7	181	3,750	male	2,007
Adelie	Torgersen	39.5	17.4	186	3,800	female	2,007
Adelie	Torgersen	40.3	18.0	195	3,250	female	2,007
Adelie	Torgersen						2,007
Adelie	Torgersen	36.7	19.3	193	3,450	female	2,007
Adelie	Torgersen	39.3	20.6	190	3,650	male	2,007
Adelie	Torgersen	38.9	17.8	181	3,625	female	2,007
Adelie	Torgersen	39.2	19.6	195	4,675	male	2,007
Adelie	Torgersen	34.1	18.1	193	3,475		2,007
Adelie	Torgersen	42.0	20.2	190	4,250		2,007

{gtsummary} Example: Default Print Engine

Example where we don't specify print engine:

```
penguins %>%
  tbl_summary() %>%
  bold_labels() %>%
  italicize_levels()
```

```
## Table printed with `knitr::kable()`, not {gt}. Learn why at
## http://www.danieldsjoberg.com/gtsummary/articles/rmarkdown.html
## To suppress this message, include `message = FALSE` in code chunk header.
```

Characteristic	**N = 344**
Species	
Adelie	152 (44%)
Chinstrap	68 (20%)
Gentoo	124 (36%)
Island	
Biscoe	168 (49%)
Dream	124 (36%)
Torgersen	52 (15%)
Bill Length Mm	44.5 (39.2, 48.5)
Unknown	2
Bill Depth Mm	17.30 (15.60, 18.70)
Unknown	2
Flipper Length Mm	197 (190, 213)
Unknown	2
Body Mass G	4,050 (3,550, 4,750)
Unknown	2
Sex	
female	165 (50%)
male	168 (50%)
Unknown	11
Year	
2007	110 (32%)
2008	114 (33%)
2009	120 (35%)

{gtsummary} Example: Specify Print Engine

```
penguins %>%
  tbl_summary() %>%
  bold_labels() %>%
  italicize_levels() %>%
  as_flex_table()
```

```
## Warning: Warning: fonts used in ‘flextable‘ are ignored because the ‘pdflatex‘
## engine is used and not ‘xelatex‘ or ‘lualatex‘. You can avoid this warning
## by using the ‘set_flextable_defaults(fonts_ignore=TRUE)‘ command or use a
## compatible engine by defining ‘latex_engine: xelatex‘ in the YAML header of the
## R Markdown document.
```

Characteristic	N = 344[1]
Species	
Adelie	152 (44%)
Chinstrap	68 (20%)
Gentoo	124 (36%)
Island	
Biscoe	168 (49%)
Dream	124 (36%)
Torgersen	52 (15%)
Bill Length Mm	44.5 (39.2, 48.5)
Unknown	2
Bill Depth Mm	17.30 (15.60, 18.70)
Unknown	2
Flipper Length Mm	197 (190, 213)
Unknown	2
Body Mass G	4,050 (3,550, 4,750)
Unknown	2
Sex	
female	165 (50%)
male	168 (50%)
Unknown	11
Year	
2007	110 (32%)
2008	114 (33%)
2009	120 (35%)

[1]n (%); Median (IQR)

{gtsummary} Example: With Compact Theme

```
theme_gtsummary_compact()
```

```
## Setting theme ‘Compact‘
```

```
penguins %>%
  tbl_summary() %>%
  bold_labels() %>%
  italicize_levels() %>%
  as_flex_table()
```

```
## Warning: Warning: fonts used in ‘flextable‘ are ignored because the ‘pdflatex‘
## engine is used and not ‘xelatex‘ or ‘lualatex‘. You can avoid this warning
## by using the ‘set_flextable_defaults(fonts_ignore=TRUE)‘ command or use a
## compatible engine by defining ‘latex_engine: xelatex‘ in the YAML header of the
## R Markdown document.
```

Characteristic	N = 344[1]
Species	
Adelie	152 (44%)
Chinstrap	68 (20%)
Gentoo	124 (36%)
Island	
Biscoe	168 (49%)
Dream	124 (36%)
Torgersen	52 (15%)
Bill Length Mm	44.5 (39.2, 48.5)
Unknown	2
Bill Depth Mm	17.30 (15.60, 18.70)
Unknown	2
Flipper Length Mm	197 (190, 213)
Unknown	2
Body Mass G	4,050 (3,550, 4,750)
Unknown	2
Sex	
female	165 (50%)
male	168 (50%)
Unknown	11
Year	

[1]n (%); Median (IQR)

Characteristic	N = 344[1]
2007	110 (32%)
2008	114 (33%)
2009	120 (35%)

[1]n (%); Median (IQR)

```
reset_gtsummary_theme()
```

{gtsummary} Example: Add Title

```
penguins %>%
  tbl_summary() %>%
  bold_labels() %>%
  italicize_levels()  %>%
  as_flex_table() %>%
  add_header_row(values = "Title", colwidths = 2)
```

```
## Warning: Warning: fonts used in ‘flextable‘ are ignored because the ‘pdflatex‘
## engine is used and not ‘xelatex‘ or ‘lualatex‘. You can avoid this warning
## by using the ‘set_flextable_defaults(fonts_ignore=TRUE)‘ command or use a
## compatible engine by defining ‘latex_engine: xelatex‘ in the YAML header of the
## R Markdown document.
```

Title	
Characteristic	N = 344[1]
Species	
Adelie	152 (44%)
Chinstrap	68 (20%)
Gentoo	124 (36%)
Island	
Biscoe	168 (49%)
Dream	124 (36%)
Torgersen	52 (15%)
Bill Length Mm	44.5 (39.2, 48.5)
Unknown	2
Bill Depth Mm	17.30 (15.60, 18.70)
Unknown	2

[1]n (%); Median (IQR)

Title	
Characteristic	N = 344[1]
Flipper Length Mm	197 (190, 213)
Unknown	2
Body Mass G	4,050 (3,550, 4,750)
Unknown	2
Sex	
female	165 (50%)
male	168 (50%)
Unknown	11
Year	
2007	110 (32%)
2008	114 (33%)
2009	120 (35%)

[1]n (%); Median (IQR)

{gtsummary} Example: Highlight Specific Values

```
x <- penguins %>%
  tbl_summary(by = species) %>%
  add_p() %>%
  bold_labels() %>%
  italicize_levels() %>%
  as_flex_table() %>%
  add_header_row(values = "Title", colwidths = 5)

# To inspect internals of gt object you can do:
# x$body$dataset

x$body$dataset <- x$body$dataset %>%
  mutate(new_cond = parse_number(stat_1))

x %>%
  flextable::bg(
    i = .$body$dataset$new_cond >= 50,
    j = "stat_1",
    bg = "purple"
  ) %>%
  flextable::bg(
    i = .$body$dataset$p.value <= 0.05,
#    j = "label",
    bg = "red"
```

```
  )
```

```
## Warning: Warning: fonts used in ‘flextable‘ are ignored because the ‘pdflatex‘
## engine is used and not ‘xelatex‘ or ‘lualatex‘. You can avoid this warning
## by using the ‘set_flextable_defaults(fonts_ignore=TRUE)‘ command or use a
## compatible engine by defining ‘latex_engine: xelatex‘ in the YAML header of the
## R Markdown document.
```

Title				
Characteristic	Adelie, N = 152[1]	Chinstrap, N = 68[1]	Gentoo, N = 124[1]	p-value[2]
Island				<0.001
Biscoe	44 (29%)	0 (0%)	124 (100%)	
Dream	56 (37%)	68 (100%)	0 (0%)	
Torgersen	52 (34%)	0 (0%)	0 (0%)	
Bill Length Mm	38.8 (36.8, 40.8)	49.5 (46.3, 51.1)	47.3 (45.3, 49.5)	<0.001
Unknown	1	0	1	
Bill Depth Mm	18.40 (17.50, 19.00)	18.45 (17.50, 19.40)	15.00 (14.20, 15.70)	<0.001
Unknown	1	0	1	
Flipper Length Mm	190 (186, 195)	196 (191, 201)	216 (212, 221)	<0.001
Unknown	1	0	1	
Body Mass G	3,700 (3,350, 4,000)	3,700 (3,488, 3,950)	5,000 (4,700, 5,500)	<0.001
Unknown	1	0	1	
Sex				>0.9
female	73 (50%)	34 (50%)	58 (49%)	
male	73 (50%)	34 (50%)	61 (51%)	
Unknown	6	0	5	
Year				0.5
2007	50 (33%)	26 (38%)	34 (27%)	
2008	50 (33%)	18 (26%)	46 (37%)	
2009	52 (34%)	24 (35%)	44 (35%)	

[1]n (%); Median (IQR)

[2]Pearson's Chi-squared test; Kruskal-Wallis rank sum test

{gtsummary} Example: Merged Tables with Spanning Headers

```
sum <- penguins %>%
  select(species, island, sex) %>%
  tbl_summary(by = species) %>%
  add_p()


reg <- glm(species ~ island + sex,
           family = binomial(), data = penguins) %>%
  tbl_regression(exponentiate = TRUE)
```

```
## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred
```

```
## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred

## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred
```

```
reg2 <- penguins %>%
  # species limited to certain islands
  select(-island) %>%
  tbl_uvregression(
  method = glm,
  y = species,
  exponentiate = TRUE,
  method.args = list(family = binomial())
)

x <- tbl_merge(list(sum, reg, reg2),
          tab_spanner =
            c("**Summary Statistics**", "**Univariate***",
              "**Multivariate***")) %>%

  as_flex_table()

# another spanner

x
```

```
## Warning: Warning: fonts used in ‘flextable‘ are ignored because the ‘pdflatex‘
## engine is used and not ‘xelatex‘ or ‘lualatex‘. You can avoid this warning
## by using the ‘set_flextable_defaults(fonts_ignore=TRUE)‘ command or use a
## compatible engine by defining ‘latex_engine: xelatex‘ in the YAML header of the
## R Markdown document.
```

	Summary Statistics			
Characteristic	Adelie, N = 152[1]	Chinstrap, N = 68[1]	Gentoo, N = 124[1]	p-value[2]
Island				<0.001
Biscoe	44 (29%)	0 (0%)	124 (100%)	
Dream	56 (37%)	68 (100%)	0 (0%)	
Torgersen	52 (34%)	0 (0%)	0 (0%)	
Sex				>0.9
female	73 (50%)	34 (50%)	58 (49%)	
male	73 (50%)	34 (50%)	61 (51%)	
Unknown	6	0	5	
Bill Length Mm				

[1]n (%)

[2]Pearson's Chi-squared test

[3]OR = Odds Ratio, CI = Confidence Interval

	Summary Statistics			
Characteristic	Adelie, N = 152[1]	Chinstrap, N = 68[1]	Gentoo, N = 124[1]	p-value[2]
Bill Depth Mm				
Flipper Length Mm				
Body Mass G				
Year				

[1]n (%)

[2]Pearson's Chi-squared test

[3]OR = Odds Ratio, CI = Confidence Interval

Add Footnotes

Note: need to specify `part = header` to get in header

```
x <- penguins %>%
  head(n = 10) %>%
  flextable()

x %>%
  footnote(.,
           i = 1,
           j = "island",
            part = "header",
           value = as_paragraph("Custom Footnote"))
```

```
## Warning: Warning: fonts used in ‘flextable‘ are ignored because the ‘pdflatex‘
## engine is used and not ‘xelatex‘ or ‘lualatex‘. You can avoid this warning
## by using the ‘set_flextable_defaults(fonts_ignore=TRUE)‘ command or use a
## compatible engine by defining ‘latex_engine: xelatex‘ in the YAML header of the
## R Markdown document.
```

species	island[1]	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex	year
Adelie	Torgersen	39.1	18.7	181	3,750	male	2,007
Adelie	Torgersen	39.5	17.4	186	3,800	female	2,007
Adelie	Torgersen	40.3	18.0	195	3,250	female	2,007
Adelie	Torgersen						2,007
Adelie	Torgersen	36.7	19.3	193	3,450	female	2,007

[1]Custom Footnote

species	island[1]	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g	sex	year
Adelie	Torgersen	39.3	20.6	190	3,650	male	2,007
Adelie	Torgersen	38.9	17.8	181	3,625	female	2,007
Adelie	Torgersen	39.2	19.6	195	4,675	male	2,007
Adelie	Torgersen	34.1	18.1	193	3,475		2,007
Adelie	Torgersen	42.0	20.2	190	4,250		2,007

[1]Custom Footnote

Saving Quickly

```
save_as_docx(x, path = here::here("outputs",
                                  "flextable-quick-table.docx"), pr_section = NULL)


#save_as_html()
#save_as_image()
```