OSD2025 Quarto demo with knitr engine

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Add a heading in your document

This is a sentence with some **bold text**, *italic text*, `code`, and a link.

Figure 1: The Quarto logo

See Figure 1 for the Quarto logo. Equation 1 gives the formula for the population mean:

$$\mu = \frac{\sum x}{N} \tag{1}$$

Section shows how to add R or Python code chunks.

The palmerpenguins package was developed by Horst, Hill, and Gorman (2020). We will create a document using Quarto (Allaire et al. 2025) and R (R Core Team 2024) or Python (Van Rossum and Drake 2009).

This sentence ends with a footnote.[1]

Add R/Python code chunks

Add R code

[1]This is an example footnote.

```r
library(palmerpenguins) # for data
library(tidyverse)      # for data wrangling and visualization
library(knitr)          # for tables

library(IRdisplay)

#install.packages("palmerpenguins", repos = "http://cran.us.r-project.org")

ggplot(data = penguins,
       aes(x = flipper_length_mm, y = bill_length_mm)) +
       geom_point(aes(color = species, shape = species))
```

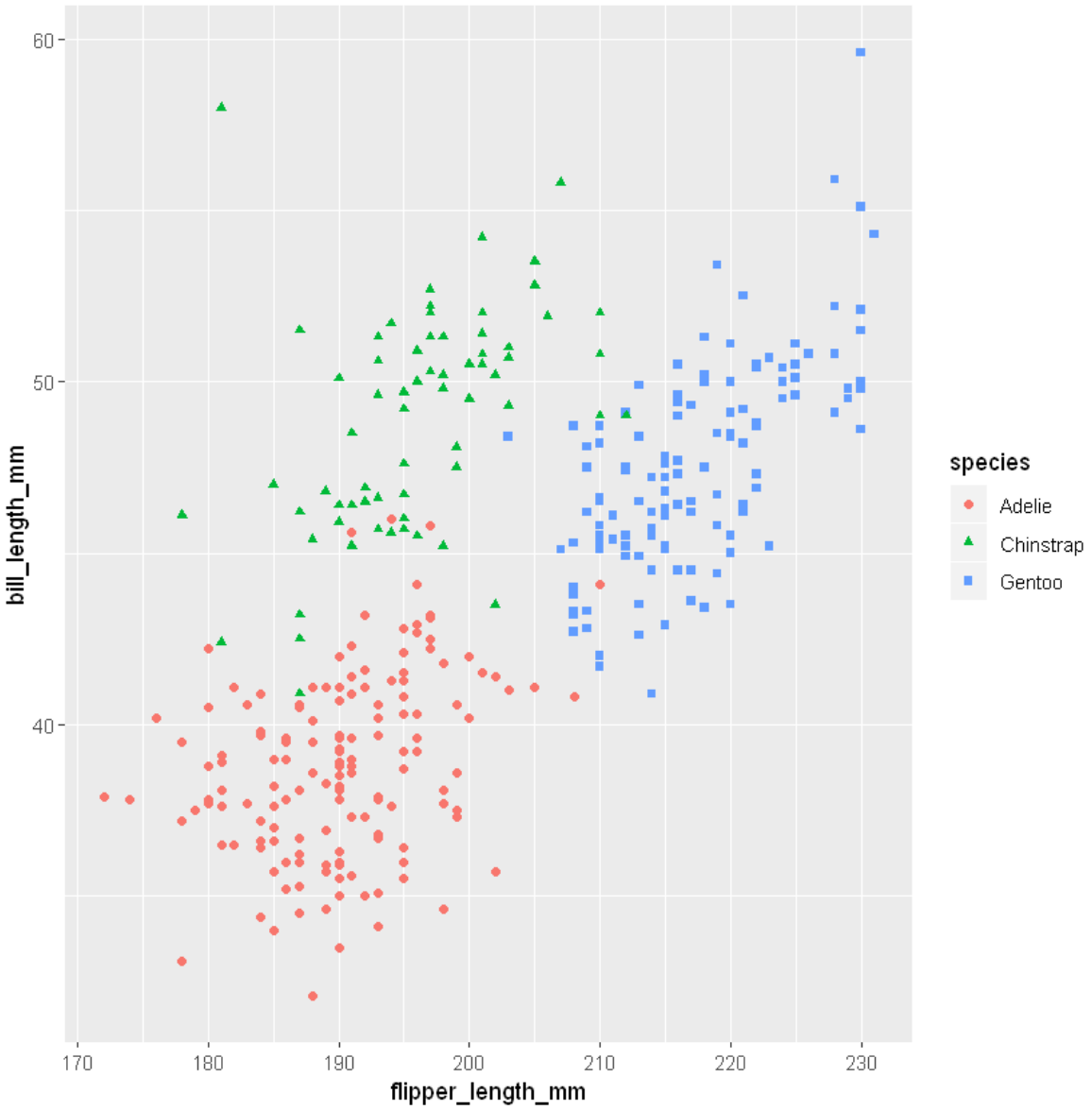

Figure 2: Scatterplot of flipper and bill lengths in R

Add inline code

The palmerpenguins package contains data for `{r} nrow(penguins)` penguins.

Add tables

Table 1 and Table 2, show different table options in Quarto.

Markdown

```
| fruit  | price |
|--------|-------|
| apple  | 2.05  |
| pear   | 1.37  |
| orange | 3.09  |

: Fruit prices {#tbl-md .striped .hover}
```

Table 1: Fruit prices

fruit	price
apple	2.05
pear	1.37
orange	3.09

R

```
penguins %>%
  group_by(species) %>%
  summarise(
    `Mean bill length` = mean(bill_length_mm, na.rm = T) %>% round(2),
    `Min bill length` = min(bill_length_mm, na.rm = T) %>% round(2),
    `Max bill length` = max(bill_length_mm, na.rm = T) %>% round(2),
    `Mean flipper length` = mean(flipper_length_mm, na.rm = T) %>% round(2),
    `Min flipper length` = min(flipper_length_mm, na.rm = T) %>% round(2),
    `Max flipper length` = max(flipper_length_mm, na.rm = T) %>% round(2),
    `Correlation, r` = cor(flipper_length_mm, bill_length_mm, use = "complete") %>% round(2)
    )
```

Table 2: Summary statistics for flipper and bill lengths

species	Mean bill length	Min bill length	Max bill length	Mean flipper length	Min flipper length	Max flipper length	Correlation, r
Adelie	38.79	32.1	46.0	189.95	172	210	0.33
Chinstrap	48.83	40.9	58.0	195.82	178	212	0.47
Gentoo	47.50	40.9	59.6	217.19	203	231	0.66

References

Allaire, J. J., Charles Teague, Carlos Scheidegger, Yihui Xie, Christophe Dervieux, and Gordon Woodhull. 2025. "Quarto." https://doi.org/10.5281/zenodo.5960048.

Horst, Allison M, Alison Presmanes Hill, and Kristen B Gorman. 2020. *Allisonhorst/Palmerpenguins: V0.1.0*. Zenodo. https://doi.org/10.5281/ZENODO.3960218.

R Core Team. 2024. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Van Rossum, Guido, and Fred L. Drake. 2009. *Python 3 Reference Manual*. Scotts Valley, CA: CreateSpace.