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Preface

This is a Quarto book.

To learn more about Quarto books visit https://quarto.org/docs/books.

1 Introduction

This is a book created from markdown and executable code.

See Knuth (1984) for additional discussion of literate programming.

2 Shinylive in Quarto example

This is a Shinylive application embedded in a Quarto doc.

The plot below allows you to control parameters used in the sine function. Experiment with the *period*, *amplitude*, and *phase shift* to see how they affect the graph.

```
#| standalone: true
#| viewerHeight: 420

from shiny import App, render, ui
import numpy as np
import matplotlib.pyplot as plt

app_ui = ui.page_fluid(
    ui.layout_sidebar(
        ui.panel_sidebar(
            ui.input_slider("period", "Period", 0.5, 2, 1, step=0.01),
            ui.input_slider("amplitude", "Amplitude", 0, 2, 1, step=0.25),
            ui.input_slider("shift", "Phase shift", 0, 2, 0, step=0.1),
        ),
        ui.panel_main(
            ui.output_plot("plot"),
        ),
    ),
)


def server(input, output, session):
    @output
    @render.plot(alt="Sine function")
    def plot():
        t = np.arange(0.0, 4.0, 0.01)
        s = input.amplitude() * np.sin(
            (2 * np.pi / input.period()) * (t - input.shift() / 2)
        )
        fig, ax = plt.subplots()
```

```
        ax.set_ylim([-2, 2])
        ax.plot(t, s)
        ax.grid()


app = App(app_ui, server)
```

3 Summary

In summary, this book has no content whatsoever.

References

Knuth, Donald E. 1984. "Literate Programming." *Comput. J.* 27 (2): 97–111. https://doi.org/10.1093/comjnl/27.2.97.