1 Shiny Applications

1. Extend the Shiny app presented in class by adding a second tab containing a data table that reports summary statistics of the Old Faithful Geyser dataset. You can refer to the UI in the Buffon's needle example, which can be found here.

2. Draw the new reactive graph using the app. Can you find ways to make the app more efficient? Consider improvements such as optimizing reactive expressions or reducing the computational burden.

3. Experiment with different themes in Shiny using the following code. Observe how the output in your console changes as you modify the theme:

```
library(shiny)
library(bslib)
thematic::thematic_shiny(font = "auto")

ui <- fluidPage(
  theme = bs_theme(),
  ...
)

server <- function(input, output) {
  bs_themer()
  ...
}

shinyApp(ui, server)
```

2 More Advanced Shiny Applications

1. Develop a Shiny app with two tabs: the first to draw an histogram and the second to report summary statistics. Inputs are: number of cells, label for x-axis, title for the graph and an action button.

2. Using the 'mtcars' dataset, allow the user to select a variable.

3. Rewrite the app using Shiny modules.

4. Try the same exercise using ShinyUiEditor.

5. Structure the app into a package.