Exercise 1: Beautiful Tables with knitr::kable()

Beamer Presentation Practice

Your Name

Introduction

Exercise Overview

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- Format tables using `knitr::kable()` and `kableExtra`
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- Use multiple column layouts
- Add callout blocks and formatting

Dataset

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Task: Load the necessary packages and prepare the data.

```
# Load required packages
library(knitr)
library(kableExtra)
library(dplyr)

# Preview the data
head(mtcars)
```

Basic Tables

Task 1: Simple Table

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```
# Your code here
```

Task 2: Formatted Column Names

Improve the table from Task 1 by:

- Renaming columns to be more descriptive
- Aligning columns appropriately
- Adding horizontal lines

Hint: Use `col.names` argument in `kable()`
Column suggestions: - Miles/gallon - Cylinders - Displacement - Horsepower

Question

Does your table overflow the slide width? If so, how can you fix it?

Advanced Formatting

Task 3: Grouped Data Summary

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Requirements:

- Use `dplyr` for data manipulation
- Format the table with `kableExtra::kable_styling()`
- Add appropriate column names

Task 4: Conditional Formatting

Create a table with conditional formatting:

Instructions:

- Show cars with `mpg`, `hp`, and `wt`
- Highlight rows where `mpg > 25`
- Use different colours for high vs. low horsepower
- Add a footnote explaining the highlighting

Multi-Column Layouts

Task 5: Side-by-Side Comparison

Create two tables side by side:

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Show summary statistics for automatic cars (`am == 0`)

Manual Transmission

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Hint: Create two separate tables and use column layout

Challenge Tasks

Task 6: Complex Table Styling

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- Striped rows for better readability
- Bordered cells
- Custom font size

Task 7: Top Performers Table

Create a table showcasing the top 5 most fuel-efficient cars:

Requirements:

1. Select relevant columns
2. Sort by `mpg` (descending)
3. Add row numbers
4. Highlight the #1 car using bold text and red color
5. Use `kable_paper` theme

Bonus Challenge

Task 8: Incremental Table

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Hint: You may need to create multiple versions of the table or use pauses strategically.

Wrap Up

Summary

Today you practised:

- Basic table creation with `knitr::kable()`
- Advanced formatting with `kableExtra`
- Conditional formatting and styling
- Multi-column table layouts
- Integrating tables into Beamer presentations

Tips for Success

Do's

- Keep tables simple and readable
- Use appropriate decimal places
- Add meaningful captions
- Align numbers consistently

Don'ts

- Avoid cluttered tables
- Don't use too many colours
- Avoid tiny font sizes
- Don't overuse borders