Tutorial 6: Refactoring R Code

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Sayana Imash

Chapter 1

1. Introduction

In this tutorial, you will refactor the code into separate scripts corresponding to each section. The dataset we will use comes from the `palmerpenguins` package, which contains measurements of penguins from three species.

1.1 1.1 Load Libraries and Data

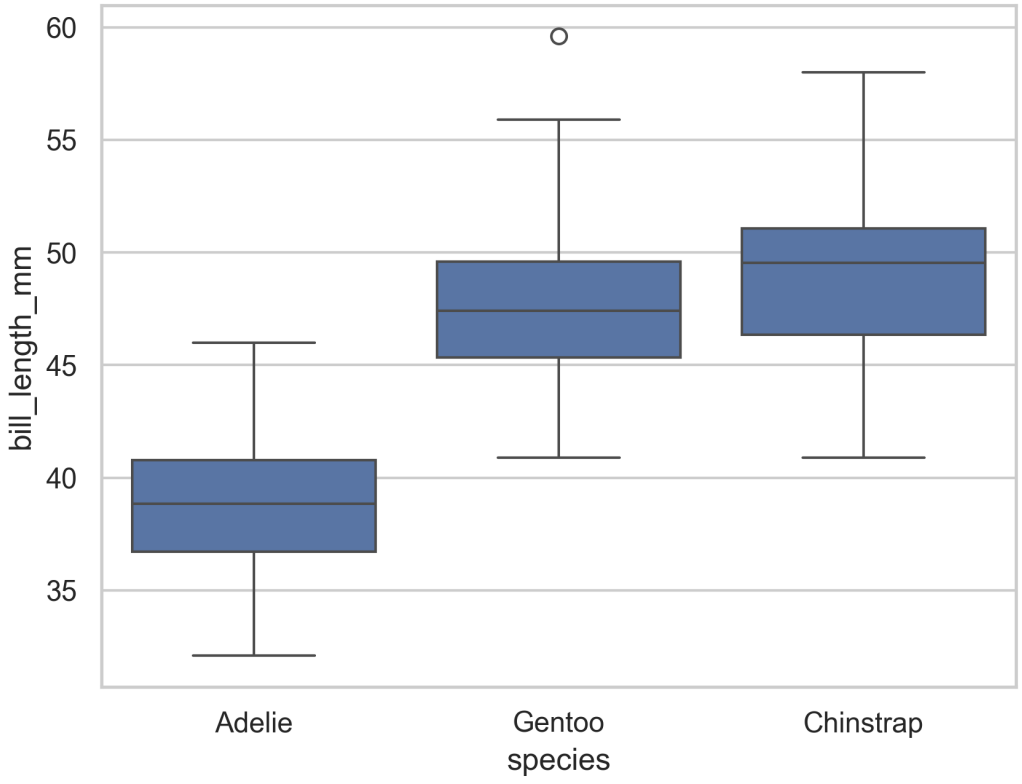
```
  species     island  bill_length_mm  bill_depth_mm  flipper_length_mm  \
0  Adelie  Torgersen            39.1           18.7              181.0
1  Adelie  Torgersen            39.5           17.4              186.0
2  Adelie  Torgersen            40.3           18.0              195.0
3  Adelie  Torgersen            36.7           19.3              193.0
4  Adelie  Torgersen            39.3           20.6              190.0

   body_mass_g     sex  year
0       3750.0    male  2007
1       3800.0  female  2007
2       3250.0  female  2007
3       3450.0  female  2007
4       3650.0    male  2007
```

Chapter 2

2. Methods

In this section, we perform exploratory data analysis (EDA) and prepare the data for modeling.



Chapter 3

3. Model

We will fit a classification model using `tidymodels` to predict the species of a penguin based on its physical characteristics.

```
              precision    recall  f1-score   support

      Adelie       0.97      1.00      0.99        37
   Chinstrap       1.00      0.94      0.97        17
      Gentoo       1.00      1.00      1.00        30

    accuracy                           0.99        84
   macro avg       0.99      0.98      0.99        84
weighted avg       0.99      0.99      0.99        84
```

Chapter 4

4. Results

We evaluate the performance of the model using the test dataset.

Chapter 5

5. Conclusion

In this tutorial, we:

- Loaded and cleaned the `palmerpenguins` dataset.
- Performed exploratory data analysis.
- Built a k-Nearest Neighbors classification model using `tidymodels`.
- Evaluated the model's performance.