TU Dortmund

Introductory Case Studies

Project x: topic of project

Lecturers:
Prof. Dr. Jörg Rahnenführer
Dr. Philipp Adämmer
Dr. Andrea Bommert
M. Sc. Hendrik Dohme

Author: author name

Group number: x

Group members: name1, name2, name3, name4

April 16, 2021

Contents

1 Introduction

In each section, we first provide bulleted lists with the content for the corresponding section according to the reporting guidelines. Please remove these lists in your report.

- short general introduction to the topic
- brief description of content and goal of the project
- brief explanation of the approach to problem solving (in terms of content and methodology)
- possible short presentation of the central results
- overview of the individual sections

This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text.

2 Problem statement

- description of the dataset
  - context and method of data collection (planned experiment, observational study, questionnaire etc.)
  - type and size of the sample (complete survey, stratification, etc.)
  - description of all variables (meaning, units, etc.)
  - discussion of data quality (missing values, measurement scale (nominal, ordinal, numerical etc.), measurement accuracy, etc.)
- description of the objectives of the project (both content-related and statistical objectives)

2.1 Subsection 1

This report deals with the analysis of the data set of Henderson and Velleman (1981). The data was extracted from the 1974 Motor Trend US magazine, and comprises fuel

consumption and 10 aspects of automobile design and performance for 32 automobiles (Henderson and Velleman, 1981).

This is your text. This is your text.

2.2 Subsection 2

This is your text. This is your text.

3 Statistical methods

- description of the statistical methods, models, etc. that are used, including their properties and the assumptions on which they are based (mathematical formulas are also required here)
- details of the tools that are used (software including version number, statistical tables, etc.)

3.1 Subsection 1

This is a formula:

$$\sum_{k=1}^{n} k = \frac{n(n+1)}{2}.$$

You can also use equations in-line with the text: The arithmetic mean $\bar{x} := \frac{1}{n}\sum_{i=1}^{n} x_i$ is a measure of central tendency.

3.2 Subsection 2

This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text.

3.3 Subsection 3

This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text.

The statistical software R (R Development Core Team, 2020), version 4.0.3 was used for analysis.

4 Statistical analysis

- if required, checks of the underlying assumptions of the statistical methods used
- detailed presentation of the results, illustrated with tables and figures
- interpretation of the results with regard to the problem statement

This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text.

4.1 Subsection 1

Figure 1 shows a scatter plot.

This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text.

Figure 2 shows a figure consisting of two subfigures. Figure 2(a) shows a bar plot and Figure 2(b) shows another bar plot.

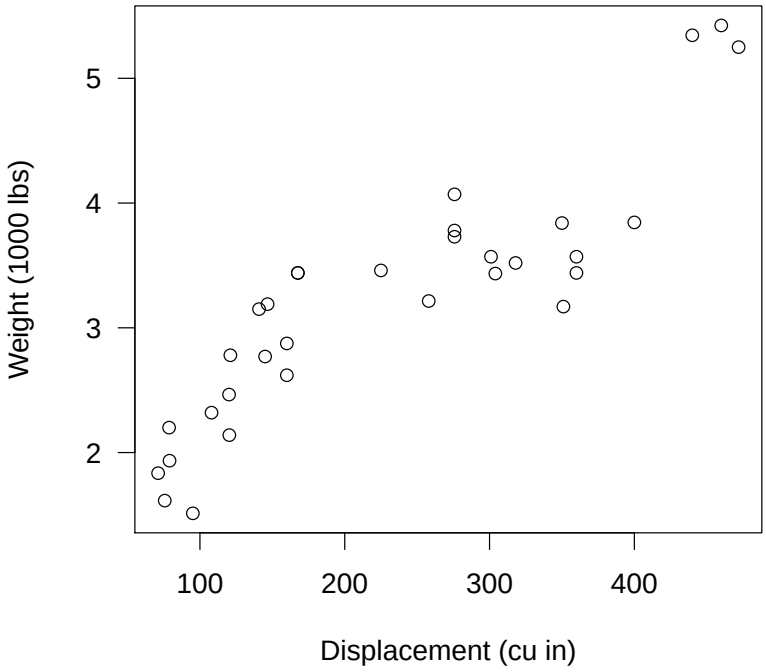


Figure 1: A scatter plot. For figures, the caption belongs below the figure.

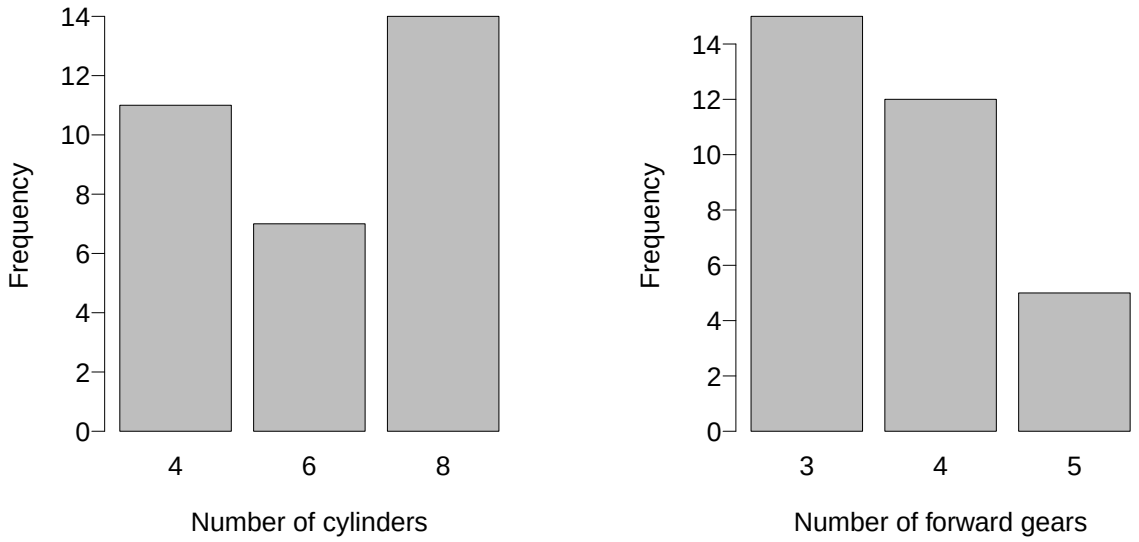
4.2 Subsection 2

Table 1 summarizes the most important results.

Table 1: For tables, the caption belongs above the table.

Column 1	Column 2	Column 3
Group 1	2	3
Group 2	5	6

This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text.



(a) Number of cylinders (b) Number of forward gears

Figure 2: A figure with two subfigures.

5 Summary

- short repetition (restatement) of the research question and the data material of the project
- brief presentation of the most important results
- discussion of the results (possible conclusions, warning of misinterpretations, etc.)
- outlook (open questions, possible further investigations, etc.)

This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text. This is your text.

Bibliography

Harold V. Henderson and Paul F. Velleman. Building multiple regression models interactively. *Biometrics*, 37(2):391–411, 1981. ISSN 0006341X, 15410420. URL http://www.jstor.org/stable/2530428.

R Development Core Team. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria, 2020.

Appendix

A Additional figures

B Additional tables