

FINAL ASSESSMENT

R FOR DATA ANALYSIS

Introduction:

The final assessment for the R for Data Analysis course is designed to evaluate your mastery of R, your ability to transform data into meaningful insights, and your capacity to effectively communicate your findings. This assessment comprises three distinct elements: a report, R code, and a presentation. The assessment is to be completed in groups of 3 or 4 people. Collaborate effectively with your group members to maximize the synergy of skills and knowledge within your team.

The assessment has been thoughtfully crafted to align with the primary objectives of the course, ensuring a comprehensive evaluation of your skills and knowledge. Please carefully review the following guidelines and instructions for each component of the assessment.

Objective 1: Mastering the Basics of Using R for Data Analysis

Our first objective is to equip you with a foundational understanding of R, enabling you to navigate the intricate landscape of data analysis. This objective aligns directly with the upcoming assessment components. As you craft your report, delve into the depths of data visualization, modelling, and analysis, showcasing the proficiency you've gained in these areas.

Objective 2: Engaging Students with Ghana Statistical Service Data

Our second objective revolves around providing you with hands-on experience in working with real-world data from the Ghana Statistical Service (GSS). This engagement not only presents an opportunity to explore the richness of GSS data but also encourages you to create a final report that utilizes R. The upcoming report component, centred on GSS data, exemplifies the practical application of this objective.

With these objectives in mind, your final assessment comprises three distinct elements, each accompanied by specific guidelines, which are presented here.

1. Report

Your report should be a reflection of your journey in this course, rooted in the objectives mentioned above. You are required to utilize GSS data for your report, thus directly engaging with data provided by the Ghana Statistical Service. Your report should vividly narrate a compelling story with this data, ensuring clarity and coherence. By doing so, you will demonstrate how you've harnessed the power of R to master data analysis fundamentals and engage with real-world datasets.

- a. The report should not include any raw code; instead, focus on clear explanations and visual representations.
- b. Structure and articulate your report in a manner that enables understanding by a diverse audience, including those without extensive technical expertise.
- c. It should be a maximum of 15 pages in length and must include essential sections like the front page, table of contents, introduction, methodology, data description, data analysis, conclusion, and discussion.
- d. Remember that longer reports are not necessarily superior; emphasis should be on the quality of tables, figures, and regression analyses, showcasing the skills acquired during the course.
- e. Include a minimum of five different plots in the report.

2. R Code

The R code component is an opportunity to demonstrate your proficiency in R and your ability to apply it to real data analysis, directly aligning with objective 1. You should provide a neatly organized folder containing your R Project, R Script, and the GSS dataset used for the report. You will hand in a zipped version of the complete folder. Through this code, you'll showcase your command over R for data wrangling, visualization, and modelling, mirroring the skills acquired during the course.

- a. Structure and comment on your code meticulously, adhering to the "tidyverse" style guide.
- b. Include all code related to the final report, as well as code for data validation and checks.
- c. Construct the code in a manner that allows others to replicate the entire analysis process.

3. Presentation

The presentation component serves as a platform to communicate the data story you've uncovered using GSS data, effectively connecting with objective 2. Prioritize conveying your findings and their significance during this concise, 15-minute presentation. In doing so, you will exemplify how real-world data engagement can lead to insightful conclusions.

- a. Comprehensive explanation of the GSS data is essential to ensure that the audience grasps its significance and context.
- b. Present your findings clearly and logically, focusing on key insights.
- c. Draw conclusions and candidly discuss any limitations encountered during the analysis.

Evaluation Criteria

Your assessment will be evaluated based on the following criteria, which inherently align with the course objectives.

- a. Proficiency in R and data analysis techniques.
- b. Clarity, coherence, and quality of the report.
- c. Organization, comments, and adherence to the "tidyverse" style guide in your R code.
- d. Effective communication of data significance and context in your presentation.
- e. Presentation of key insights and thoughtful conclusions.
- f. Transparent discussion of any limitations encountered.

Important Dates

Presentation dates: January 12th and January 19th (subject to change)

Deadline for submission of the report and R code: January 26th

Conclusion

This final assessment harmonizes with the course's overarching objectives, providing you with a platform to demonstrate your mastery of R for data analysis while engaging with real-world GSS data. Should you have any questions or require clarification, please do not hesitate to reach out to your course instructor.

Best of luck with your assessment, and we look forward to witnessing your outstanding work!