Please delete all the cursive text before submission. It is here just for your reference.

Further: data set – DS, research question – RQ

The mark (**x words**) after each subchapter states the word count limit. This indicates the expected amount of information which you can exceed by 10% without losing the mark.

7COM1079-0901-2024 - Team Research and Development Project

Final report title: Is there a difference in the mean of Death between two countries Guatemala and South Africa?

Group ID: A159

Dataset number: DS097

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***Please make sure*** *the document spelled correctly (including image labels, section headings, and table of contents). Please use correct punctuation.*

*Make sure your report is grammatically correct.*

University of Hertfordshire

Hatfield, 2024

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# Introduction

## Problem statement and research motivation **(100 words)**

Research Question: Is there a difference in the mean of Death between two countries Guatemala and South Africa?

This study aims to determine whether there is a significant difference in the mean death rates between Guatemala and South Africa. With the comparison of these two countries, we seek to explore difference in mortality patterns, which may be caused from variations in healthcare systems, socio-economic conditions, and disease occurrence.

Research Motivation:

Understanding differences in death rates between countries like Guatemala and South Africa might help better understand global health inequalities. South Africa, heavily burdened by HIV/AIDS, and Guatemala, with high maternal and child mortality, represent unique health challenges. Analysing these differences can guide policymakers in addressing mortality determinants and improving public health outcomes.

(World Bank Group, 2020)

## The data set **(75 words)**

## Research question (50 words). Explain how you are going to answer your RQ. (50 words)

## Null hypothesis and alternative hypothesis (H0/H1) **(100 words)**

# Background research

## Research papers (at least 3 relevant to your topic / DS) (200 words)

* *Was the data set used for some research papers?* *Reference at least 3 relevant research papers to your topic / DS.*

## Why RQ is of interest (research gap and future directions according to the literature) **(100 word**s)

# Visualisation

## Appropriate plot for the RQ output of an R script (NOT a screenshot) (**50 words)**

* *Explain the choice of the plot.*
* *Anything on the plot from R is not counted towards word count limit*
* *Make sure that the plot is from output of an R script (NOT a screenshot)*
* *Make sure that the plot has a caption or title, X and Y-axis labels, legend if appropriate and units.*
* *Make sure the title or caption and axis labels are informative.*

## Additional information relating to understanding the data (optional) (**50 words)**

* *Per plot: explain the purpose and insights.*

## Useful information for the data understanding (**50 words)**

* *Summarise key observations from the plot.*

# Analysis

## Statistical test used to test the hypotheses and output (**75 words)**

* *Explain the choice of the test.*
* *Make sure the test is appropriate for the RQ and data.*

## The null hypothesis is rejected /not rejected based on the p-value (**100 words)** *(interpret the results)*

# Evaluation – group’s experience at 7COM1079

## What went well **(75 words)**

## Points for improvement **(75 words)**

## Group’s time management (**50 words)**

## Project’s overall judgement (**50 words)**

## Note any changes to group since submission of Assignment 1. Add new or amended GitHub Ids for new members (75 words, write only if applies to your group arrangements)

## Comment on the GitHub log output (50 words)

*Please comment on the GitHub log output, and refer to it as being placed into**Appendix B.*

*From your Git log, select the three most significant commits during this project and include the following for each:*

1. ***Commit Message:*** *[Insert Commit Message] Brief explanation of the broader impact of the change*
2. ***Commit Message:*** *[Insert Commit Message] Brief explanation of the broader impact of the change*
3. ***Commit Message:*** *[Insert Commit Message] Brief explanation of the broader impact of the change*

# Conclusions

## Results explained (**75 words)**

## Interpretation of the results (75 words)

* *Interpretation of what the results mean in terms of your RQ and the effect this may have on your population and the wider context of your topic.*

## Reasons and/or implications for future work, limitations of your study (**50 words)**

# Reference list (not included in the work count)

Harvard (author, date) format.

# Appendices

1. R code used for analysis and visualisation ***(not included in the word count)***

Analysis.R code with the appropriate statistics to test the hypotheses.

* ***No word count****, but ensure the code is without redundant lines, well-commented and produces the correct output.*
* *Make sure it runs (look in Rscript.log for output from a statistical test)*
* *It should compute appropriate statistics to test the hypotheses*

1. GitHub log output.