Dayananda Sagar University Bengaluru

ASSIGNMENT #1

Instructions

Task

1. Look at the graph in the picture:

Figure 1: https://ourworldindata.org/grapher/fatal-airliner-accidents-hijacking-incidents
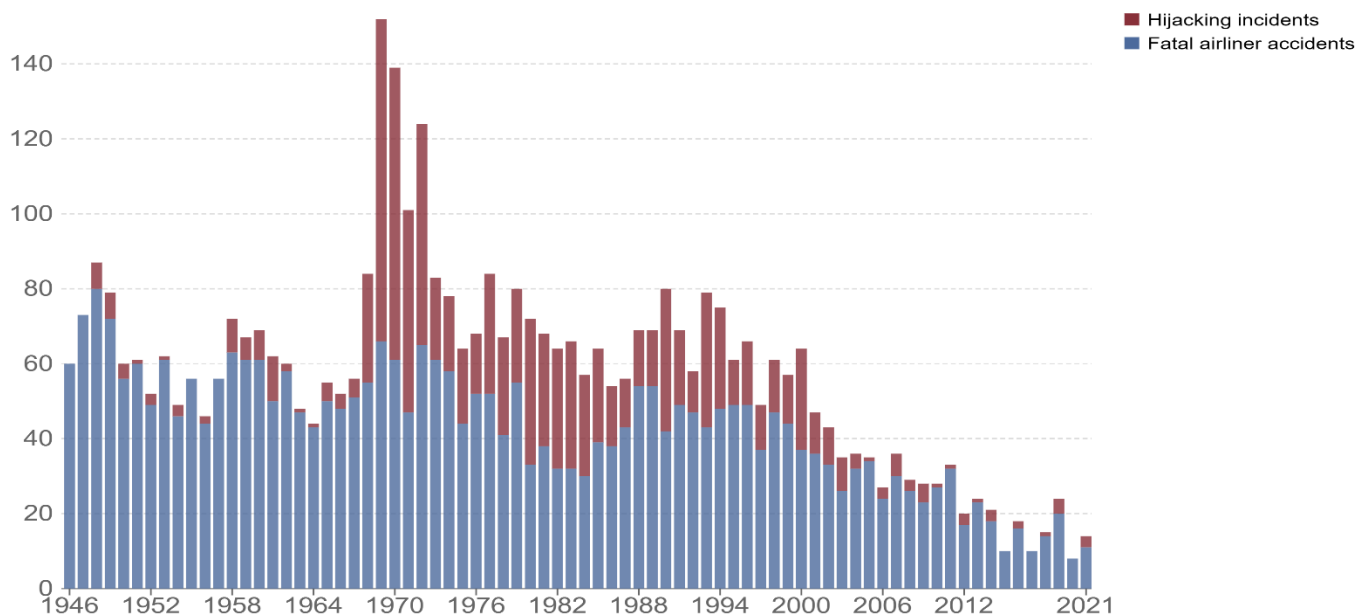
2. Your task is to reproduce this picture in R and explain it in a well-crafted HTML report created using RStudio/Quarto.

3. The data file is attached on the Assignments Page. It is also available here: https://ourworldindata.org/grapher/fatal-airliner-accidents-hijacking-incidents?tab=table

Workflow

1. Fire up Rstudio. Create a new PROJECT. Ensure you name the Project "Your_Name_A1". E.g "Arvind_A1". Open your Project in a new Rstudio Session.

2. Once inside your R Project, create a new Quarto document. Name it Your_Name_A1.qmd. E.g. "Arvind_A1.qmd". Set up the YAML as needed for HTML report creation.

3. Load the R packages you need: mosaic, tidyverse, ggformula and others from class. Do not use R packages not introduced in class.

4. Read in the data, rename variables as needed.

5. Introduce the data set: its dimensions, variables, what they mean.

6. Recreate the graph in the picture using code in R. Mention and justify any decisions you might have made in creating this graph. I repeat: Do not use R packages not introduced in class.

7. Include code that you tried and which "did not work," with possible reasons; (Use "eval=FALSE" in your code chunk to show up errored code)

8. Add explanations and interpretations from the graph.

9. Add comments as to what you **not able to achieve** in your code. E.g the kind of plot, the sizes, or the colours etc. Comment on why this might have happened. And on how it might affect your interpretations.

10. NOTE: your .qmd file MUST render to HTML as a readable report. (That is the first thing I will look for). Check for this BEFORE you submit.

What to Submit

1. A **.zip** file that contains your ENTIRE A1 R Project FOLDER. It should contain your .qmd file, your CSV file containing your data, both named appropriately so it will readable in your code. (There may be other files too, created by R). I will demonstrate this in class.

2. NOTE: I will **not** edit your code. I will simply open your project, and run your code and render it. This IS a test of your ability to code, to look through the help files for each package, and use commands to suit your purpose.

Assessment

Total Marks: 30

1. Presentation: Structure of your quarto doc; code chunks; labels, choice of variable names, the Graph; title for graph; colours; annotations; .qmd Rendering; Organization of your Document; File Naming; Data CSV

2. Content: Flow of information in your Quarto doc; Introduction of dataset; Explanation of Graph; Comments in Code; Explanation and insights, Conclusions.

3. Originality:

   ○ Including code which "did not work," with possible reasons;

   ○ Is the code your own? Or "leveraged" from the web? (I have ways of finding out ;-D)

   ○ Use of ChatGPT is permitted, but I will ask for an explanation of your code over 1-on-1 review call if I feel that is necessary.

4. Adherence to Deadline:

Delay	Total (out of)
None	30
<=1 wk	26
<=3wk	20
>= 3wk	0

=X=