Overview

You should work on these problems in the designated lab times. Please use the TA as support when completing your work. Submit your R script to Canvas for grading.

Use help(function) or ?function to look up a particular function.

Comments

You must comment your code. Your comments must correspond to each numbered subproblem below. <u>Failure to comment your code will result in -50% grade for the worksheet</u>. For example:

```
# 1

data <- load_data("file")
```

You are encouraged to use the pipe |> in your work. If you do so, then combine your comments. For example, the comment for problems 1-3 would be:

```
#1-3

data <- load_data("file") |> transform1() |> transform2()
```

Submission

1. Save your work to an R script, worksheet_1.R.
2. Upload the file to Canvas for grading.

Part 1 – Getting the data [2 pts]

Download the worksheet data file "bc_trade.xlsx" from Canvas. This file is in Excel xlsx format. We will use the readxl package to load the file. The readxl package is included with the tidyverse but it needs to be loaded separately.

1. Load the libraries: readxl and tidyverse
2. Use read_xlsx() to load the data, skipping the first 5 lines of input (see ?read_xlsx) [1 pt]
3. Rename column 1 to 'month' and column 3 to 'energy'. [1 pt]

Part 2 – Time series graphics [3 pts]

4. Create a vector of colour codes. Set months matching June, July, and August to "firebrick", and all other months to "#cccccc". [1 pt]
5. Create a bar graph of the energy column, using Month as x-values. Give your chart a title and label both axes. Use the colour codes from #4 to colour your bars and set bar spacing to 0. Your final graphic should look like Figure 1 below. [2 pt]
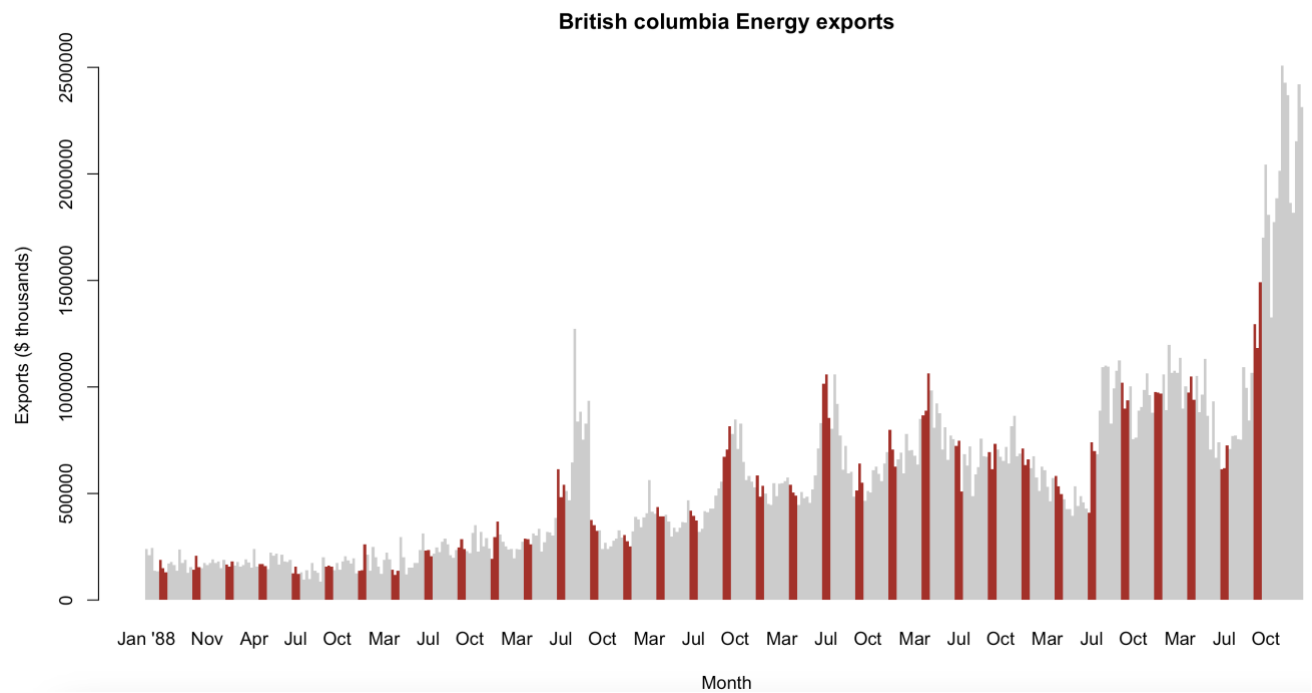
British columbia Energy exports

Figure 1. British Columbia trade exports (in thousands $) for 1988-2022. Source: https://www2.gov.bc.ca

Rubric

Section	Points		
Part 1	2 pts All requirements satisfied	1 pts Some requirements satisfied	0 pts No marks
Part 2	3 pts All requirements satisfied	1.5 pts Some requirements satisfied	0 pts No marks
			Total points: 5