Problem Set 4
STAT-S 520

Due on February 6th, 2023

Instructions:

- Submit your answers in Canvas.
- Your answers can be typed and/or handwritten, as long as your final submission (for the first 4 questions) is a single PDF file with answers in proper order.
- You are allowed to collaborate with your classmates as long as you write your own solutions.

Questions:

1. ISI Section 4.5 Exercise 12

2. ISI Section 4.5 Exercise 14

3. ISI Section 4.5 Exercise 15

4. ISI Section 5.6 Exercise 2

5. Using code learned in class and reading SIDS sections 3.1 - 3.4, create an R script and compile it as a .pdf (or .html if .pdf is giving troubles) and use the `bechdel` data set as follows:

   a. Obtain the mean and standard deviation of the domestic gross `domgross`, separated by whether a film has passed the Bechdel test (use variable `binary` for this purpose).
   b. Obtain boxplots of the domestic gross separated by whether or not a film has passed the Bechdel test.
   c. Obtain the total number of films for different periods (use variable `period_code`)

(Optional) you can compile your entire problem set solutions as a single document, if you wish.

Reading assignments

For Tuesday:

- Re-read (or read for the first time) ISI Chapter 5, Sections 5.1 - 5.3 (pp. 117 - 127)
- ISI Chapter 5, Sections 5.4 (pp. 128 - 132)

For Thursday:

- SIDS Section 3.5 - 3.8