University of Central Florida
College of Business

QMB 6912
Capstone Project in Business Analytics

Problem Set #9

Due Date: Sunday, 9 April 2023, at 11:59 PM.

Go to the course Webpage, and find the following files:

(1) `Heckman1979.pdf`; (2) `Amemiya1984.pdf`; (3) `LeeTrost1978.pdf`.

Download and read them; write a one-page summary of each research paper.

Finally, in a fourth essay, explain what sample selection is. Explain how it could be important in determining what can be observed in data concerning the sale of homes. Focus on the characteristics of the homes that get sold to each type of buyer and the relevance of certain characteristics of homes in determining the value in each market. Finally, relate the structure of this market to a particular type of sample selection models, among the ones listed in Table 1 of `Amemiya1984.pdf`.

As before, create the following directory structure, separate from your existing work:

- `Text/`

- `Paper/`

- `Misc/`

Prepare and compile your work in LATEX and include separate `.tex` scripts for each of the essays described above and store them in the `Text/` folder. Use a main `.tex` script `Paper.tex` to input the text from each of the `.tex` scripts for the essays. Do not include the preamble nor the `\begin{document}` nor `\end{document}` in the scripts in the `Text` folder; include those only once in the main script `Paper.tex`, in which you will use a command such as

`\input{../Text/my_essay_script.tex}`

to extract the text.

As usual, in a file called `README.md`, which should also live in the directory containing the above folders, provide the instructions concerning how to run the executable shell script `DoWork.sh` (in the same directory) that will execute the code that builds your report, which will live in the subdirectory `Paper/`. Put anything else in the subdirectory `Misc/`. I should then be able to replicate your report simply by typing

- `$ ./DoWork.sh`

on the command line of a terminal window.

To provide you a template, which makes preparation easier for you and grading easier for me, I have placed sample LATEX and R code in the GitHub repository for the course: `QMB6912S23`, under my GitHub username `LeeMorinUCF`; pull this repository and use these files a framework within which to create the answers for this problem set. Push the files to a folder on your GitHub repository and I will pull your submissions to my computer for grading.

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