Econ 573: Problem Set 1

Due date: 1/20

Spring 2025

The problem set is due **before** 11:59 PM. Instructions: give a justification to all of your answers. Make sure to submit all the relevant files. For the empirical exercise you can find the data following this link:

https://www.statlearning.com.

Please make sure that you are using the second edition of the textbook.

Part 0

This part is not for submission. You can skip it if you have a good knowledge of Python/R.

1. Install R and R Studio and familiarize yourself with basic operations in R and R notebooks.[1]
2. Reproduce the data analysis from slides.
3. Do the Lab from Chapter 2.3 of the ISL book.

Part I

Ex 1, 2, 4, 5, 6 from Chapter 2 of ISL.

Part II

Ex 8, 9, 10 from Chapter 2 of ISL.

Tip: You can generate beautiful PDF/HTML files with your data analysis from R notebooks if you click the Knit button at the top of the notebook. You should submit the output as a part of your solution.

[1] If you use Python, install it, e.g. using the Anaconda distribution and install Jupyter notebooks.

Part III

See `benjerry_start.R` for code to get you started.

1. Explore the data and visualize: what variables are interesting? Choose a few, plot them together, and tell a story.
2. Describe the regression model in the code. Improve it?
3. Take the p-values from your regression and look for evidence of association. Relate what you learn to your story from 1.